

## Overview

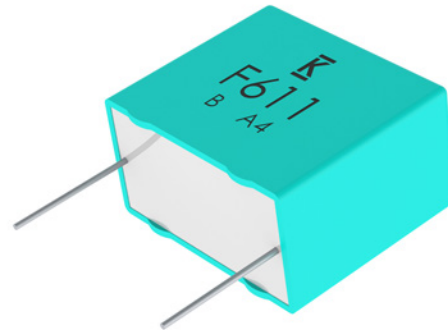
The F611 and F612 are constructed of metallized wound or stacked polyester film capacitor with radial leads of tinned wire. Radial leads are electrically welded to the contact metal layer on the ends of the capacitor winding. The capacitor is encapsulated in a self-extinguishing material meeting the requirements of UL 94V-0.

## Applications

Typical applications include blocking, coupling, decoupling, bypassing, and interference suppression in low voltage applications such as automotive. Not for use with the mains.

## Benefits

- Voltage range: 50 – 1,000 VDC
- Capacitance range: 0.001 – 180  $\mu$ F
- Lead spacing: 5 – 37.5 mm
- Capacitance tolerance:  $\pm 10\%$ ,  $\pm 20\%$ ,  $\pm 5\%$  on request
- Climatic category: 55/105/56, IEC 60068-1
- Tape & Reel packaging in accordance with IEC 60286-2
- RoHS compliant and lead-free terminations
- Operating temperature range of  $-55^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$



## Part Number System

| F               | 611                                                  | J                                                                              | F                   | 104                                                                                    | M                                                 | 050                                                                                                  | C                          |
|-----------------|------------------------------------------------------|--------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------------------------------------|----------------------------|
| Capacitor Class | Series                                               | Lead Spacing (mm)                                                              | Size Code           | Capacitance Code (pF)                                                                  | Capacitance Tolerance                             | Rated Voltage (VDC)                                                                                  | Packaging                  |
| F = Film        | Metallized polyester<br>611 = Wound<br>612 = Stacked | J = 5.0<br>K = 7.5<br>A = 10.0<br>B = 15.0<br>D = 22.5<br>F = 27.5<br>R = 37.5 | See Dimension Table | First two digits represent significant figures. Third digit specifies number of zeros. | J = $\pm 5\%$<br>K = $\pm 10\%$<br>M = $\pm 20\%$ | 050 = 50<br>063 = 63<br>100 = 100<br>160 = 160<br>250 = 250<br>400 = 400<br>630 = 630<br>1K0 = 1,000 | See Ordering Options Table |

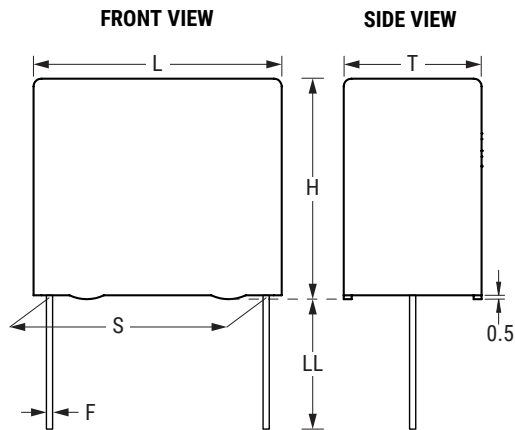
## Ordering Options Table

| Lead Spacing<br>Nominal<br>(mm) | Type of Leads and Packaging                 | Lead Length<br>(mm)        | Lead and<br>Packaging<br>Code |
|---------------------------------|---------------------------------------------|----------------------------|-------------------------------|
| 5                               | <b>Standard lead and packaging options:</b> |                            |                               |
|                                 | Bulk – short leads                          | 4 +2/-0                    | C                             |
|                                 | Bulk – long leads                           | 17 +0/-1                   | A                             |
|                                 | Tape & Reel (standard reel)                 | H <sub>0</sub> = 18.5 ±0.5 | L                             |
|                                 | <b>Other lead and packaging options:</b>    |                            |                               |
|                                 | Bulk – maximum length leads                 | 20 +5/-0                   | ALL0L                         |
|                                 | Ammo pack                                   | H <sub>0</sub> = 18.5 ±0.5 | R                             |
| 7.5                             | <b>Standard lead and packaging options:</b> |                            |                               |
|                                 | Bulk – short leads                          | 4 +2/-0                    | C                             |
|                                 | Bulk – long leads                           | 17 +0/-1                   | A                             |
|                                 | Tape & Reel (standard reel)                 | H <sub>0</sub> = 18.5 ±0.5 | L                             |
|                                 | <b>Other lead and packaging options:</b>    |                            |                               |
|                                 | Bulk – maximum length leads                 | 20 +5/-0                   | ALL0L                         |
|                                 | Ammo pack                                   | H <sub>0</sub> = 18.5 ±0.5 | R                             |
| 10                              | <b>Standard lead and packaging options:</b> |                            |                               |
|                                 | Bulk (bag) – short leads                    | 4 +2/-0                    | C                             |
|                                 | Bulk (bag) – long leads                     | 17 +0/-1                   | A                             |
|                                 | Tape & Reel (standard reel)                 | H <sub>0</sub> = 18.5 ±0.5 | L                             |
|                                 | <b>Other lead and packaging options:</b>    |                            |                               |
|                                 | Bulk (bag) – maximum length leads           | 20 +5/-0                   | ALL0L                         |
|                                 | Ammo pack                                   | H <sub>0</sub> = 18.5 ±0.5 | R                             |
| 15                              | <b>Standard lead and packaging options:</b> |                            |                               |
|                                 | Bulk (bag) – short leads                    | 4 +2/-0                    | C                             |
|                                 | Bulk (bag) – long leads                     | 17 +0/-1                   | A                             |
|                                 | Tape & Reel (standard reel)                 | H <sub>0</sub> = 18.5 ±0.5 | L                             |
|                                 | Pizza pack                                  | 4 +2/-0                    | Z                             |
|                                 | <b>Other lead and packaging options:</b>    |                            |                               |
|                                 | Bulk (bag) – maximum length leads           | 25 +5/-0                   | ALR0L                         |
|                                 | Ammo pack                                   | H <sub>0</sub> = 18.5 ±0.5 | R                             |
|                                 | Tape & Reel (large reel)                    | H <sub>0</sub> = 18.5 ±0.5 | P                             |

## Ordering Options Table cont.

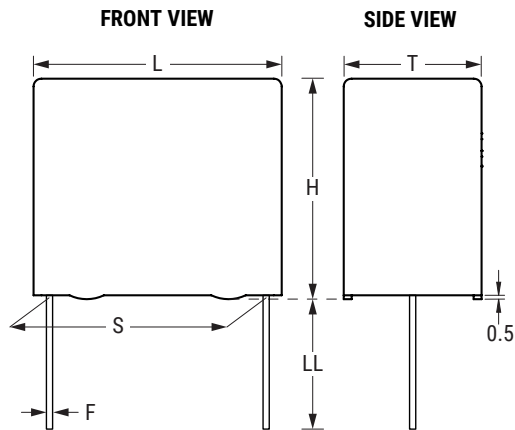
| Lead Spacing<br>Nominal<br>(mm) | Type of Leads and Packaging                 | Lead Length<br>(mm)  | Lead and<br>Packaging<br>Code |
|---------------------------------|---------------------------------------------|----------------------|-------------------------------|
| 22.5                            | <b>Standard lead and packaging options:</b> |                      |                               |
|                                 | Pizza – long leads                          | 17 +0/-1             | ZLH0J                         |
|                                 | Pizza pack                                  | 4 +2/-0              | Z                             |
|                                 | <b>Other lead and packaging options:</b>    |                      |                               |
|                                 | Tape & Reel (standard reel)                 | $H_0 = 18.5 \pm 0.5$ | L                             |
|                                 | Tape & Reel (large reel)                    | $H_0 = 18.5 \pm 0.5$ | P                             |
|                                 | Ammo pack                                   | $H_0 = 18.5 \pm 0.5$ | R                             |
| 27.5                            | <b>Standard lead and packaging options:</b> |                      |                               |
|                                 | Pizza – long leads                          | 17 +0/-1             | ZLH0J                         |
|                                 | Pizza pack                                  | 4 +2/-0              | Z                             |
| 37.5                            | <b>Standard lead and packaging options:</b> |                      |                               |
|                                 | Pizza – long leads                          | 17 +0/-1             | ZLH0J                         |
|                                 | Pizza pack                                  | 4 +2/-0              | Z                             |

## Dimensions – Millimeters



| Size Code                                                      | S       |           | T       |           | H       |           | L       |           | F       |           |
|----------------------------------------------------------------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
|                                                                | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance |
| JF                                                             | 5.0     | ±0.4      | 2.5     | +0/-0.5   | 6.5     | +0/-0.5   | 7.2     | +0/-0.5   | 0.5     | ±0.05     |
| JG                                                             | 5.0     | ±0.4      | 3.5     | +0/-0.5   | 7.5     | +0/-0.5   | 7.2     | +0/-0.5   | 0.5     | ±0.05     |
| JM                                                             | 5.0     | ±0.4      | 4.5     | +0/-0.5   | 9.5     | +0/-0.5   | 7.2     | +0/-0.5   | 0.5     | ±0.05     |
| JQ                                                             | 5.0     | ±0.4      | 5.0     | +0/-0.5   | 10.0    | +0/-0.5   | 7.2     | +0/-0.5   | 0.5     | ±0.05     |
| JT                                                             | 5.0     | ±0.4      | 6.0     | +0/-0.5   | 11.0    | +0/-0.5   | 7.2     | +0/-0.5   | 0.5     | ±0.05     |
| JU                                                             | 5.0     | ±0.4      | 7.2     | +0/-0.5   | 13.0    | +0/-0.5   | 7.2     | +0/-0.5   | 0.5     | ±0.05     |
| KE                                                             | 7.5     | ±0.4      | 2.5     | +0/-0.5   | 6.0     | +0/-0.5   | 10.0    | +0/-0.5   | 0.6     | ±0.05     |
| KF                                                             | 7.5     | ±0.4      | 3.0     | +0/-0.5   | 8.0     | +0/-0.5   | 10.0    | +0/-0.5   | 0.6     | ±0.05     |
| KG                                                             | 7.5     | ±0.4      | 4.0     | +0/-0.5   | 8.0     | +0/-0.5   | 10.0    | +0/-0.5   | 0.6     | ±0.05     |
| KH                                                             | 7.5     | ±0.4      | 4.0     | +0/-0.5   | 9.0     | +0/-0.5   | 10.0    | +0/-0.5   | 0.6     | ±0.05     |
| KJ                                                             | 7.5     | ±0.4      | 5.0     | +0/-0.5   | 10.5    | +0/-0.5   | 10.0    | +0/-0.5   | 0.6     | ±0.05     |
| KM                                                             | 7.5     | ±0.4      | 6.0     | +0/-0.5   | 12.0    | +0/-0.5   | 10.5    | +0/-0.5   | 0.6     | ±0.05     |
| AG                                                             | 10.0    | ±0.4      | 4.0     | +0/-0.5   | 9.0     | +0/-0.5   | 13.0    | +0/-0.5   | 0.6     | ±0.05     |
| AK                                                             | 10.0    | ±0.4      | 5.0     | +0/-0.5   | 11.0    | +0/-0.5   | 13.0    | +0/-0.5   | 0.6     | ±0.05     |
| AP                                                             | 10.0    | ±0.4      | 6.0     | +0/-0.5   | 12.0    | +0/-0.5   | 13.0    | +0/-0.5   | 0.6     | ±0.05     |
| AO                                                             | 10.0    | ±0.4      | 7.0     | +0/-0.5   | 17.0    | +0/-0.5   | 13.0    | +0/-0.5   | 0.6     | ±0.05     |
| BB                                                             | 15.0    | ±0.4      | 4.0     | +0/-0.5   | 10.0    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BC                                                             | 15.0    | ±0.4      | 5.0     | +0/-0.5   | 11.0    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BE                                                             | 15.0    | ±0.4      | 5.5     | +0/-0.5   | 12.5    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BG                                                             | 15.0    | ±0.4      | 6.0     | +0/-0.5   | 12.0    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BK                                                             | 15.0    | ±0.4      | 7.5     | +0/-0.5   | 13.5    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BP                                                             | 15.0    | ±0.4      | 8.5     | +0/-0.5   | 14.5    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BS                                                             | 15.0    | ±0.4      | 10.0    | +0/-0.5   | 16.0    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| BY                                                             | 15.0    | ±0.4      | 11.0    | +0/-0.5   | 19.0    | +0/-0.5   | 18.0    | +0/-0.5   | 0.8     | ±0.05     |
| DB                                                             | 22.5    | ±0.4      | 6.0     | +0/-0.5   | 14.5    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DI                                                             | 22.5    | ±0.4      | 7.0     | +0/-0.5   | 16.0    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DH                                                             | 22.5    | ±0.4      | 8.0     | +0/-0.5   | 16.0    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DJ                                                             | 22.5    | ±0.4      | 8.5     | +0/-0.5   | 17.0    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DM                                                             | 22.5    | ±0.4      | 9.0     | +0/-0.5   | 18.5    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| Note: See Ordering Options Table for lead length (LL) options. |         |           |         |           |         |           |         |           |         |           |

## Dimensions – Millimeters cont.



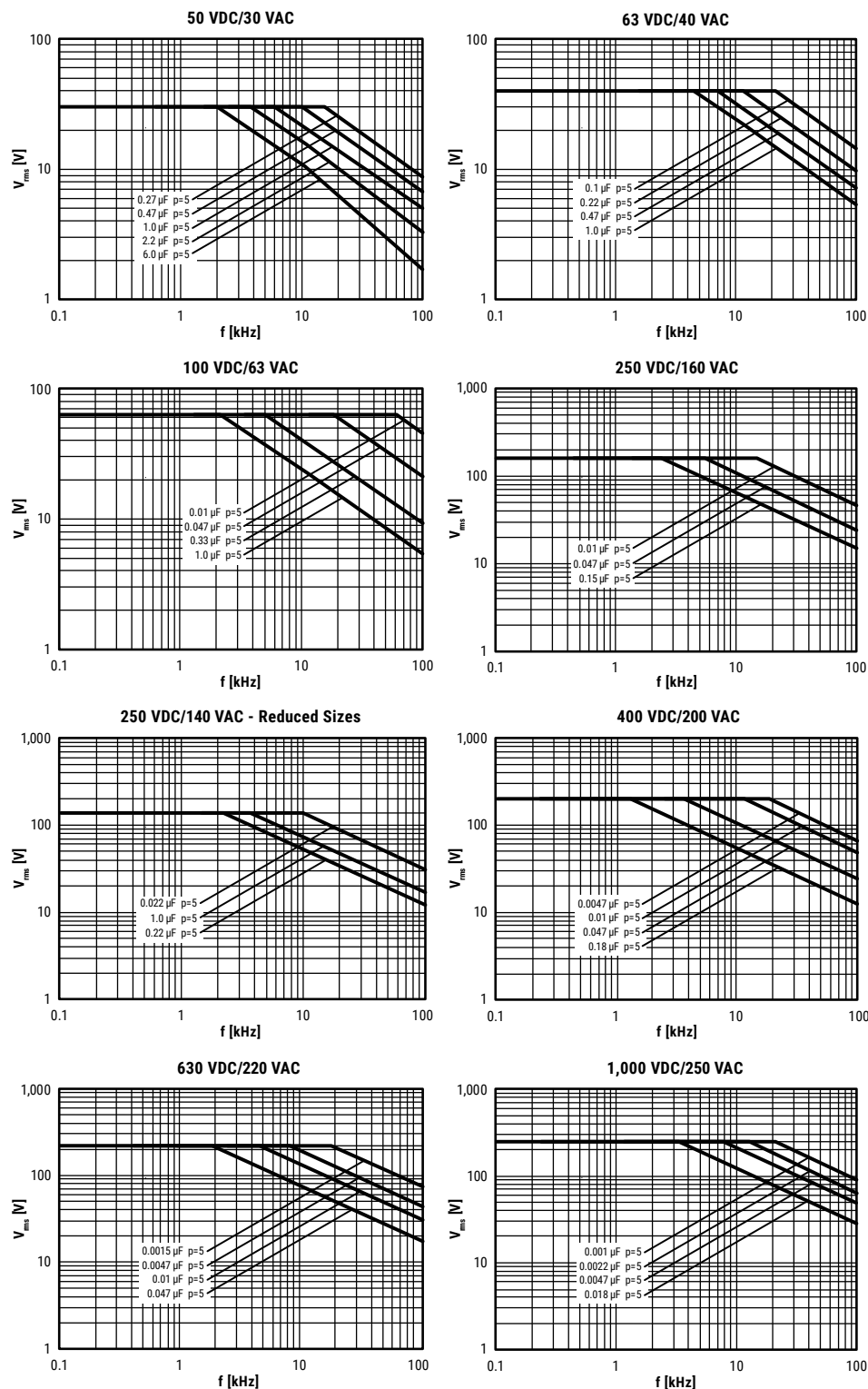
| Size Code                                                      | S       |           | T       |           | H       |           | L       |           | F       |           |
|----------------------------------------------------------------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|---------|-----------|
|                                                                | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance | Nominal | Tolerance |
| DO                                                             | 22.5    | ±0.4      | 10.0    | +0/-0.5   | 18.5    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DP                                                             | 22.5    | ±0.4      | 11.0    | +0/-0.5   | 20.0    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DU                                                             | 22.5    | ±0.4      | 13.0    | +0/-0.5   | 22.0    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| DY                                                             | 22.5    | ±0.4      | 15.5    | +0/-0.5   | 24.5    | +0/-0.5   | 26.0    | +0/-0.5   | 0.8     | ±0.05     |
| FB                                                             | 27.5    | ±0.4      | 9.0     | +0/-0.7   | 17.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| FC                                                             | 27.5    | ±0.4      | 11.0    | +0/-0.7   | 20.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| FI                                                             | 27.5    | ±0.4      | 13.0    | +0/-0.7   | 25.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| FN                                                             | 27.5    | ±0.4      | 14.0    | +0/-0.7   | 28.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| FR                                                             | 27.5    | ±0.4      | 17.5    | +0/-0.7   | 28.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| FS                                                             | 27.5    | ±0.4      | 19.0    | +0/-0.7   | 29.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| FY                                                             | 27.5    | ±0.4      | 22.0    | +0/-0.7   | 37.0    | +0/-0.7   | 31.5    | +0/-0.7   | 0.8     | ±0.05     |
| RB                                                             | 37.5    | ±0.4      | 11.0    | +0/-0.7   | 22.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RF                                                             | 37.5    | ±0.4      | 13.0    | +0/-0.7   | 24.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RH                                                             | 37.5    | ±0.4      | 15.0    | +0/-0.7   | 26.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RC                                                             | 37.5    | ±0.4      | 16.0    | +0/-0.7   | 28.5    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RD                                                             | 37.5    | ±0.4      | 19.0    | +0/-0.7   | 32.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RP                                                             | 37.5    | ±0.4      | 21.0    | +0/-0.7   | 38.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RO                                                             | 37.5    | ±0.4      | 24.0    | +0/-0.7   | 44.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| RU                                                             | 37.5    | ±0.4      | 30.0    | +0/-0.7   | 45.0    | +0/-0.7   | 41.0    | +0/-0.7   | 1.0     | ±0.05     |
| Note: See Ordering Options Table for lead length (LL) options. |         |           |         |           |         |           |         |           |         |           |

## Performance Characteristics

|                                    |                                                                                                                                                                                  |             |               |                     |               |                |               |             |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------|---------------------|---------------|----------------|---------------|-------------|
| Rated voltage V <sub>R</sub> , VDC | 50                                                                                                                                                                               | 63          | 100           | 160                 | 250           | 400            | 630           | 1,000       |
| Rated voltage V <sub>R</sub> , VAC | 30                                                                                                                                                                               | 40          | 63            | 90                  | 160/140       | 200            | 220           | 250         |
| Capacitance range, μF              | 0.33 – 15.0                                                                                                                                                                      | 0.1 – 180.0 | 0.001 – 180.0 | 0.18 – 120.0        | 0.0068 – 82.0 | 0.001 – 33.0   | 0.0012 – 12.0 | 0.001 – 5.6 |
| Capacitance tolerance              | ±10%, ±20%, ±5% on request                                                                                                                                                       |             |               |                     |               |                |               |             |
| Temperature range                  | –55°C to +105°C                                                                                                                                                                  |             |               |                     |               |                |               |             |
| Voltage derating                   | Above +85°C DC and AC voltage derating is 1.25%/°C                                                                                                                               |             |               |                     |               |                |               |             |
| Rated temperature                  | +85°C                                                                                                                                                                            |             |               |                     |               |                |               |             |
| Climatic Category                  | IEC60068–1, 55/105/56                                                                                                                                                            |             |               |                     |               |                |               |             |
|                                    | –55 to +105°C (For +125°C, please consult KEMET)                                                                                                                                 |             |               |                     |               |                |               |             |
|                                    | Average relative humidity ≤ 75%                                                                                                                                                  |             |               |                     |               |                |               |             |
|                                    | RH = 95% for 30 days per year                                                                                                                                                    |             |               |                     |               |                |               |             |
|                                    | RH = 85% for further days limited by average value per year                                                                                                                      |             |               |                     |               |                |               |             |
| Test voltage                       | 1.6 x V <sub>R</sub> VDC for 2 seconds (p. > 5 mm)<br>1.4 x V <sub>R</sub> VDC for 2 seconds (p. = 5 mm)                                                                         |             |               |                     |               |                |               |             |
| Capacitance drift                  | Maximum 2% after a two year storage period, at a temperature of +10°C to +40°C and a relative humidity of 40% to 60%                                                             |             |               |                     |               |                |               |             |
| Reliability                        | Operational life > 200,000 hours                                                                                                                                                 |             |               |                     |               |                |               |             |
|                                    | Failure rate < 3 FIT, T = +40°C, V = 0.5 x V <sub>R</sub>                                                                                                                        |             |               |                     |               |                |               |             |
|                                    | Failure criteria: open circuit, short circuit, cap change > 10%, DF two times the catalog limits, IR < 50 MΩ                                                                     |             |               |                     |               |                |               |             |
| Maximum pulse steepness            | dV/dt according to Table 1. For peak-to-peak voltages lower than rated voltage (Vpp < V <sub>R</sub> ), the specified dV/dt can be multiplied by the factor V <sub>R</sub> /Vpp. |             |               |                     |               |                |               |             |
| Temperature coefficient            | +400 (±200) ppm/°C at 1 kHz                                                                                                                                                      |             |               |                     |               |                |               |             |
| Self inductance                    | Approximately 6 nH/cm for the total length of capacitor winding and the leads                                                                                                    |             |               |                     |               |                |               |             |
| Dissipation factor tanδ            | Maximum Values at +23°C                                                                                                                                                          |             |               |                     |               |                |               |             |
|                                    |                                                                                                                                                                                  | C ≤ 0.1 μF  |               | 0.1 μF < C ≤ 1.0 μF |               | C > 1.0 μF     |               |             |
| Lead spacing 5 mm                  | 1 kHz                                                                                                                                                                            | 0.8%        |               | 0.8%                |               | 0.8%           |               |             |
|                                    | 10 kHz                                                                                                                                                                           | 1.2%        |               | 1.2%                |               | 1.5%           |               |             |
|                                    | 100 kHz                                                                                                                                                                          | 2.5%        |               |                     |               |                |               |             |
| Lead spacing 7.5 – 37.5 mm         | 1 kHz                                                                                                                                                                            | 0.8%        |               | 0.8%                |               | 1.2%           |               |             |
|                                    | 10 kHz                                                                                                                                                                           | 1.5%        |               | 1.5%                |               |                |               |             |
|                                    | 100 kHz                                                                                                                                                                          | 3.0%        |               |                     |               |                |               |             |
| Insulation resistance              | Measured at +20°C, according to IEC 60384–2                                                                                                                                      |             |               |                     |               |                |               |             |
|                                    | Minimum Values Between Terminals                                                                                                                                                 |             |               |                     |               |                |               |             |
|                                    |                                                                                                                                                                                  |             |               | C ≤ 0.33 μF         |               | C > 0.33 μF    |               |             |
|                                    | V <sub>R</sub> ≤ 100 VDC                                                                                                                                                         |             |               | 15,000 MΩ           |               | 5,000 MΩ • μF  |               |             |
|                                    | V <sub>R</sub> > 100 VDC                                                                                                                                                         |             |               | 30,000 MΩ           |               | 10,000 MΩ • μF |               |             |

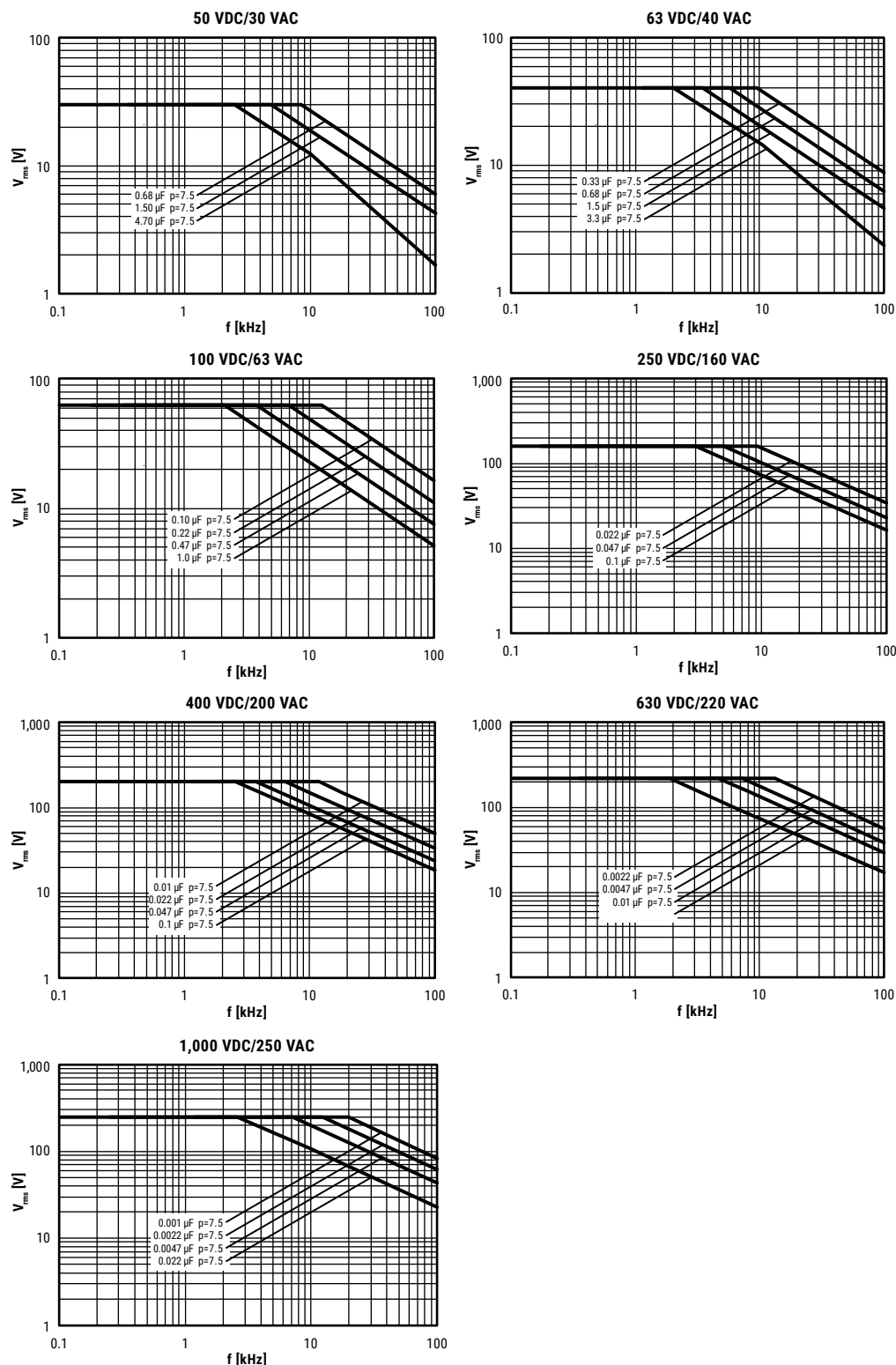
## Maximum Voltage ( $V_{rms}$ ) vs. Frequency (sinusoidal wave-form/ $T_h \leq 40^\circ\text{C}$ )

Lead spacing 5.0 mm



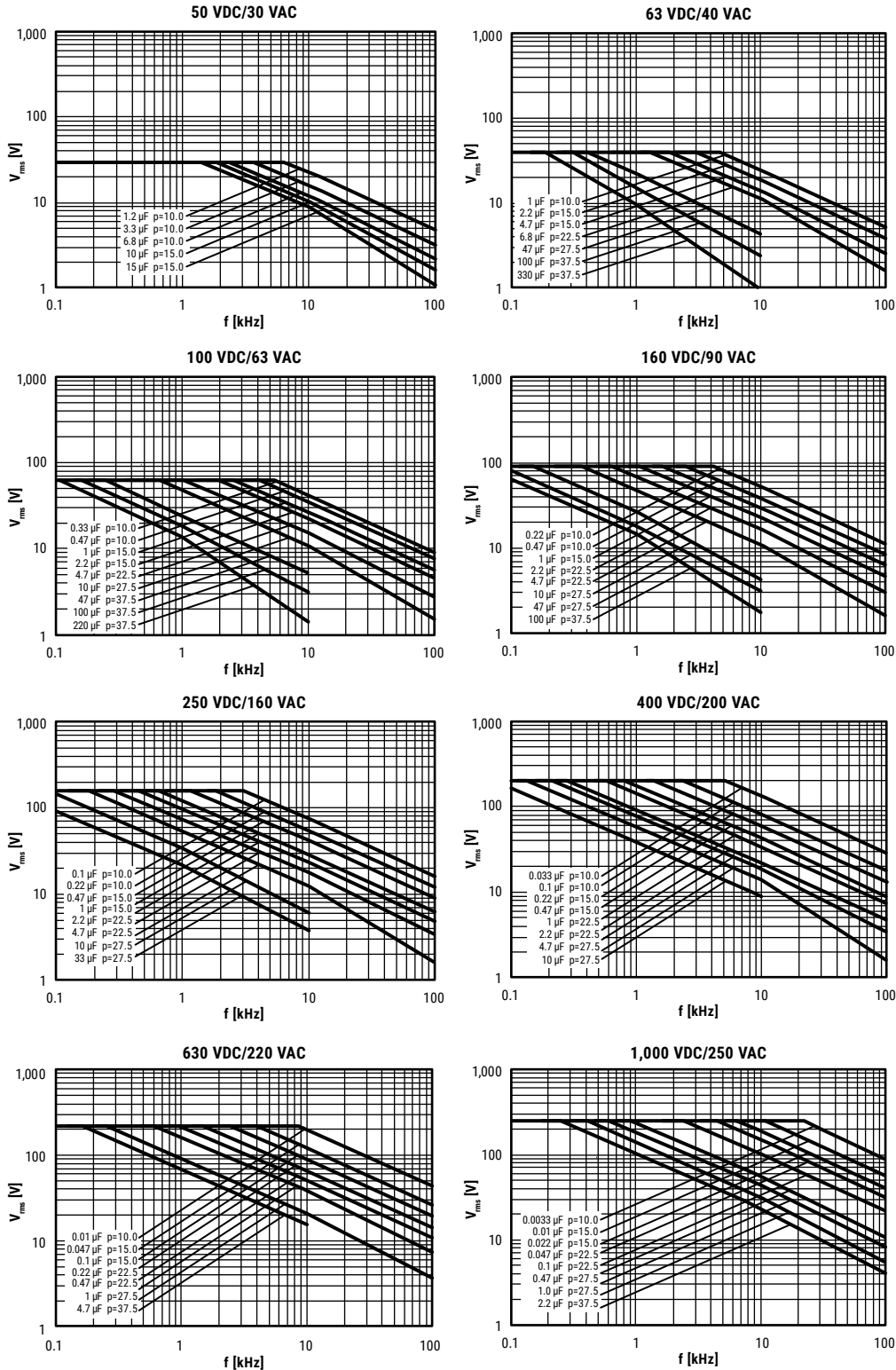
## Maximum Voltage ( $V_{rms}$ ) vs. Frequency (sinusoidal wave-form/ $T_h \leq 40^\circ\text{C}$ )

Lead spacing 7.5 mm



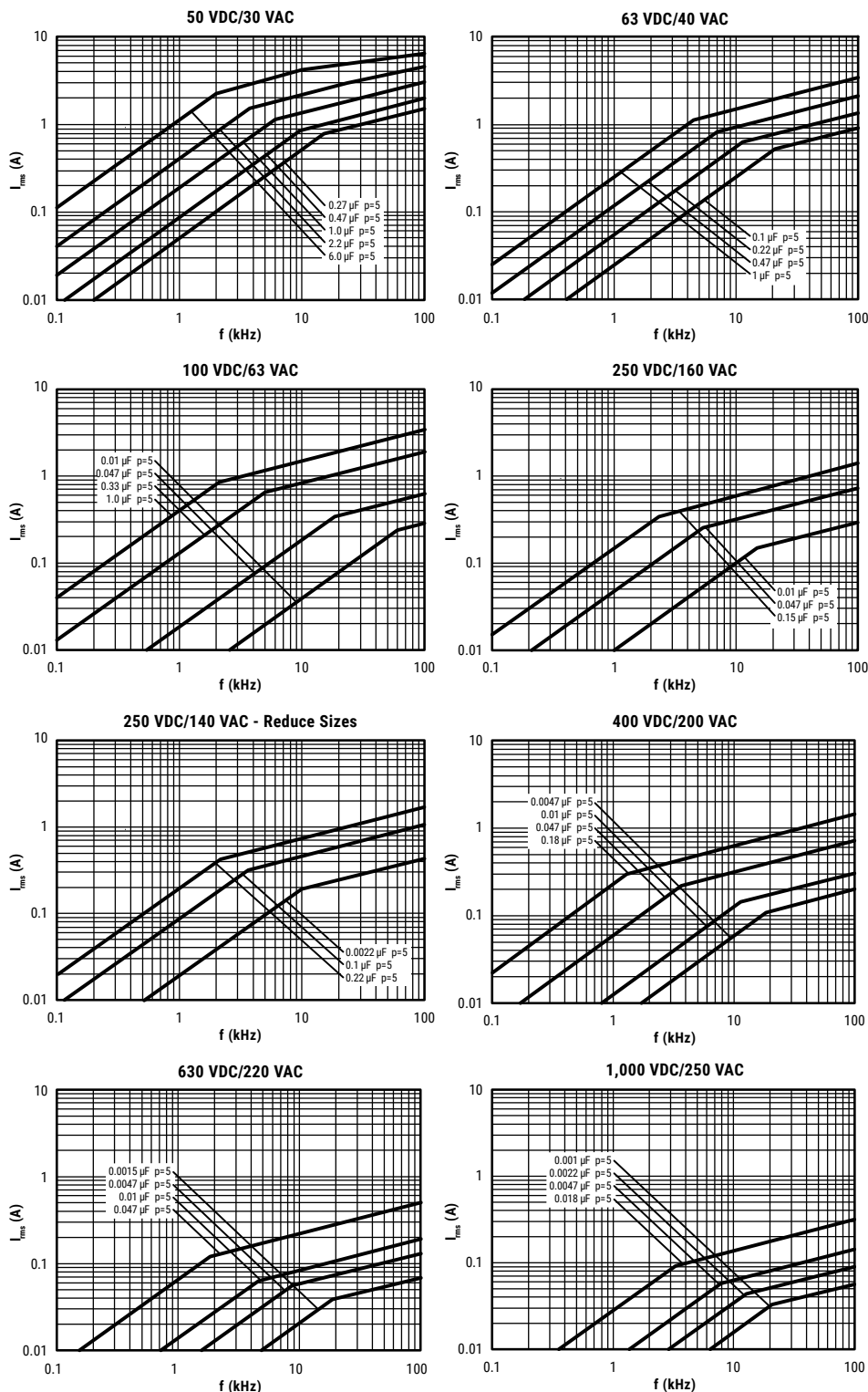
## Maximum Voltage ( $V_{rms}$ ) vs. Frequency (sinusoidal wave-form/ $T_h \leq 40^\circ\text{C}$ )

Lead spacing 10.0 – 37.5 mm



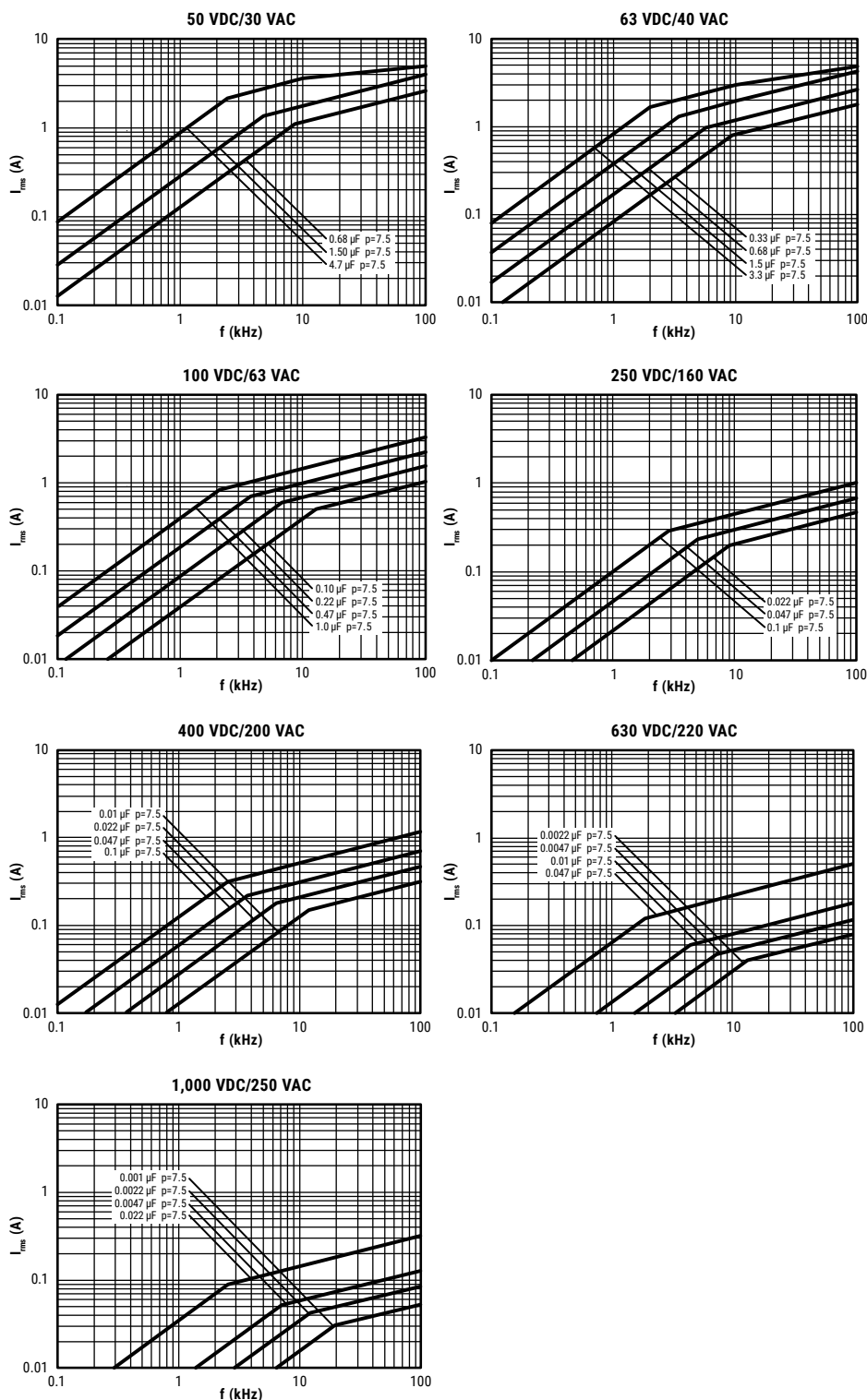
## Maximum Current ( $I_{rms}$ ) vs. Frequency (sinusoidal wave-form/ $Th \leq 40^\circ C$ )

Lead spacing 5.0 mm



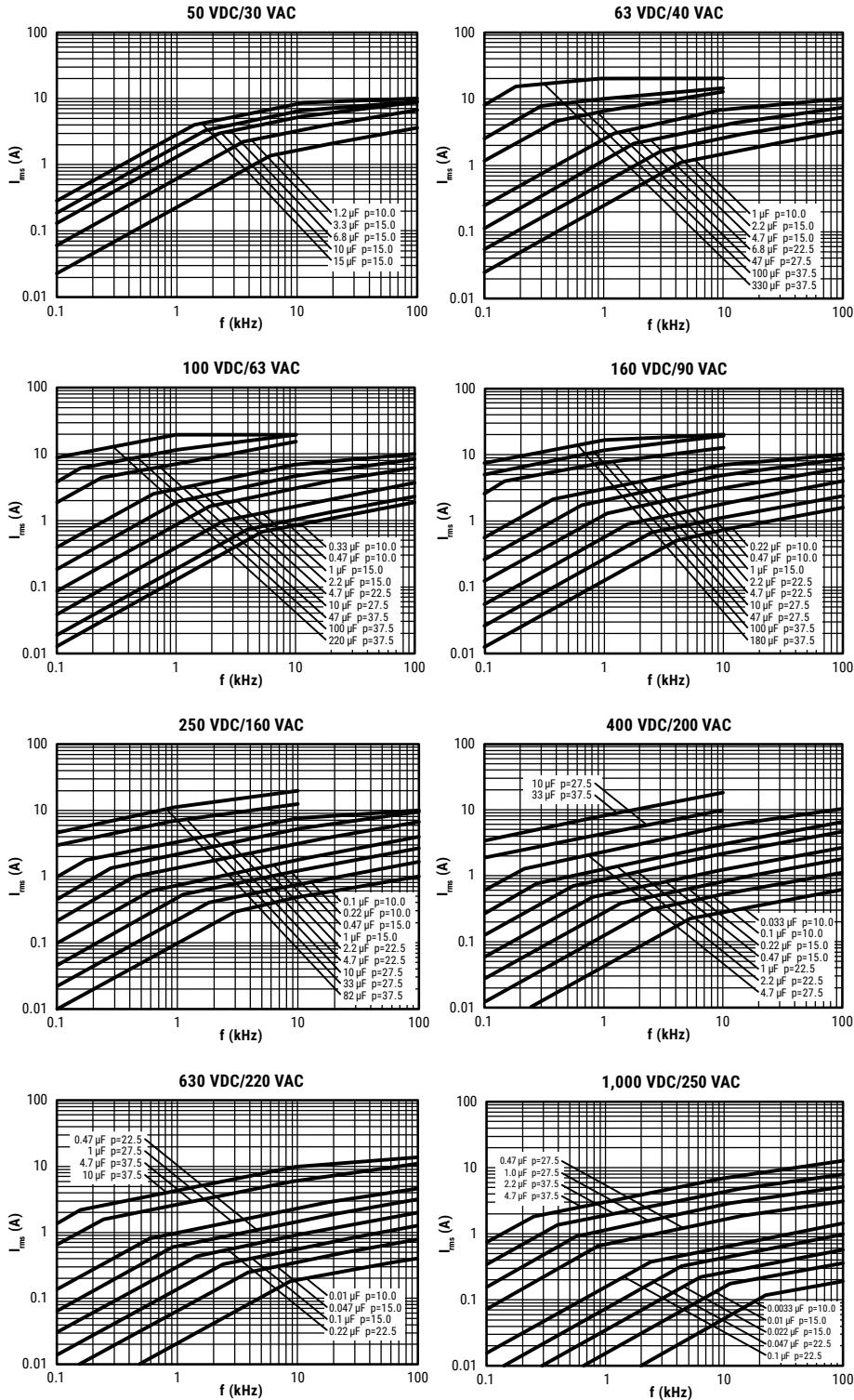
## Maximum Current ( $I_{rms}$ ) vs. Frequency (sinusoidal wave-form/ $T_h \leq 40^\circ\text{C}$ )

Lead spacing 7.5 mm



## Maximum Current ( $I_{rms}$ ) vs. Frequency (sinusoidal wave-form/ $Th \leq 40^\circ C$ )

Lead spacing 10.0 – 37.5 mm



## Environmental Test Data

| Damp Heat Test | Test Conditions | T = +40°C, RH = 93%, t = 56 days                                                                                                                                         |
|----------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                | Test Criteria   | $\Delta C/C \leq \pm 5\%$<br>$\Delta \tan \delta \leq 0.005$ (1 kHz)<br>IR after test 0.5 x IR minimum                                                                   |
| Endurance Test | Test Conditions | T = +100°C, U = 1.25 x (0.8 x U <sub>R</sub> )                                                                                                                           |
|                | Test Criteria   | t = 2,000 hours<br>$\Delta C/C \leq \pm 5\%$ ,<br>$\Delta \tan \delta \leq 0.005$ (1 kHz)<br>$\Delta \tan \delta \leq 0.010$ (100 kHz)<br>IR after test 0.5 x IR minimum |

## Environmental Compliance

All KEMET MKT capacitors are RoHS compliant and halogen-free.



**Table 1 – Ratings & Part Number Reference**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 50  | 30  | 0.27                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 12           | F611JF274(1)050(4) |
| 50  | 30  | 0.33                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 12           | F611JF334(1)050(4) |
| 50  | 30  | 0.39                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 12           | F611JF394(1)050(4) |
| 50  | 30  | 0.47                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 12           | F611JF474(1)050(4) |
| 50  | 30  | 0.56                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 12           | F611JG564(1)050(4) |
| 50  | 30  | 0.68                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 12           | F611JG684(1)050(4) |
| 50  | 30  | 0.82                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 12           | F611JG824(1)050(4) |
| 50  | 30  | 1                      | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 12           | F611JG105(1)050(4) |
| 50  | 30  | 1.2                    | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 12           | F611JM125(1)050(4) |
| 50  | 30  | 1.5                    | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 12           | F611JM155(1)050(4) |
| 50  | 30  | 1.8                    | JQ        | 5                        | 10     | 7.2    | 5.0              | 12           | F611JQ185(1)050(4) |
| 50  | 30  | 2.2                    | JQ        | 5                        | 10     | 7.2    | 5.0              | 12           | F611JQ225(1)050(4) |
| 50  | 30  | 2.7                    | JT        | 6                        | 11     | 7.2    | 5.0              | 12           | F611JT275(1)050(4) |
| 50  | 30  | 3.3                    | JT        | 6                        | 11     | 7.2    | 5.0              | 12           | F611JT335(1)050(4) |
| 50  | 30  | 3.9                    | JU        | 7.2                      | 13     | 7.2    | 5.0              | 12           | F611JU395(1)050(4) |
| 50  | 30  | 4.7                    | JU        | 7.2                      | 13     | 7.2    | 5.0              | 12           | F611JU475(1)050(4) |
| 50  | 30  | 5.6                    | JU        | 7.2                      | 13     | 7.2    | 5.0              | 12           | F611JU565(1)050(4) |
| 50  | 30  | 6                      | JU        | 7.2                      | 13     | 7.2    | 5.0              | 12           | F611JU605(1)050(4) |
| 50  | 30  | 1.8                    | BB        | 4                        | 10     | 18     | 15.0             | 3            | F611BB185(1)050(4) |
| 50  | 30  | 2.2                    | BC        | 5                        | 11     | 18     | 15.0             | 3            | F611BC225(1)050(4) |
| 50  | 30  | 2.7                    | BC        | 5                        | 11     | 18     | 15.0             | 3            | F611BC275(1)050(4) |
| 50  | 30  | 3.3                    | BE        | 5.5                      | 12.5   | 18     | 15.0             | 3            | F611BE335(1)050(4) |
| 50  | 30  | 3.9                    | BE        | 5.5                      | 12.5   | 18     | 15.0             | 3            | F611BE395(1)050(4) |
| 50  | 30  | 4.7                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 3            | F611BK475(1)050(4) |
| 50  | 30  | 5.6                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 3            | F611BK565(1)050(4) |
| 50  | 30  | 6.8                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 3            | F611BP685(1)050(4) |
| 50  | 30  | 8.2                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 3            | F611BP825(1)050(4) |
| 50  | 30  | 10                     | BS        | 10                       | 16     | 18     | 15.0             | 3            | F611BS106(1)050(4) |
| 50  | 30  | 12                     | BY        | 11                       | 19     | 18     | 15.0             | 3            | F611BY126(1)050(4) |
| 50  | 30  | 15                     | BY        | 11                       | 19     | 18     | 15.0             | 3            | F611BY156(1)050(4) |
| 63  | 40  | 0.1                    | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 160          | F612JF104(1)063(4) |
| 63  | 40  | 0.12                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 160          | F612JF124(1)063(4) |
| 63  | 40  | 0.15                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 160          | F612JF154(1)063(4) |
| 63  | 40  | 0.18                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 160          | F612JF184(1)063(4) |
| 63  | 40  | 0.22                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 160          | F612JF224(1)063(4) |
| 63  | 40  | 0.27                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 160          | F612JG274(1)063(4) |
| 63  | 40  | 0.33                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 160          | F612JG334(1)063(4) |
| 63  | 40  | 0.39                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 160          | F612JG394(1)063(4) |
| 63  | 40  | 0.47                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 160          | F612JG474(1)063(4) |
| 63  | 40  | 0.56                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 160          | F612JM564(1)063(4) |
| 63  | 40  | 0.68                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 160          | F612JM684(1)063(4) |
| 63  | 40  | 0.82                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 160          | F612JM824(1)063(4) |
| 63  | 40  | 1                      | JQ        | 5                        | 10     | 7.2    | 5.0              | 160          | F612JQ105(1)063(4) |
| 63  | 40  | 1.2                    | JT        | 6                        | 11     | 7.2    | 5.0              | 160          | F612JT125(1)063(4) |
| 63  | 40  | 1.5                    | JT        | 6                        | 11     | 7.2    | 5.0              | 160          | F612JT155(1)063(4) |
| 63  | 40  | 1.2                    | BB        | 4                        | 10     | 18     | 15.0             | 5            | F611BB125(1)063(4) |
| 63  | 40  | 1.5                    | BB        | 4                        | 10     | 18     | 15.0             | 5            | F611BB155(1)063(4) |
| 63  | 40  | 1.8                    | BC        | 5                        | 11     | 18     | 15.0             | 5            | F611BC185(1)063(4) |
| 63  | 40  | 2.2                    | BE        | 5.5                      | 12.5   | 18     | 15.0             | 5            | F611BE225(1)063(4) |
| 63  | 40  | 2.7                    | BE        | 5.5                      | 12.5   | 18     | 15.0             | 5            | F611BE275(1)063(4) |
| 63  | 40  | 3.3                    | BG        | 6                        | 12     | 18     | 15.0             | 5            | F611BG335(1)063(4) |
| 63  | 40  | 3.9                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 5            | F611BK395(1)063(4) |
| 63  | 40  | 4.7                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 5            | F611BK475(1)063(4) |
| 63  | 40  | 5.6                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 5            | F611BP565(1)063(4) |
| 63  | 40  | 6.8                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 5            | F611BP685(1)063(4) |
| 63  | 40  | 8.2                    | BS        | 10                       | 16     | 18     | 15.0             | 5            | F611BS825(1)063(4) |
| 63  | 40  | 10                     | BS        | 10                       | 16     | 18     | 15.0             | 5            | F611BS106(1)063(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

Table 1 – Ratings &amp; Part Number Reference cont.

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 63  | 40  | 12                     | BY        | 11                       | 19     | 18     | 15.0             | 5            | F611BY126(1)063(4) |
| 63  | 40  | 4.7                    | DB        | 6                        | 14.5   | 26     | 22.5             | 3            | F611DB475(1)063(4) |
| 63  | 40  | 5.6                    | DB        | 6                        | 14.5   | 26     | 22.5             | 3            | F611DB565(1)063(4) |
| 63  | 40  | 6.8                    | DI        | 7                        | 16     | 26     | 22.5             | 3            | F611DI685(1)063(4) |
| 63  | 40  | 8.2                    | DI        | 7                        | 16     | 26     | 22.5             | 3            | F611DI825(1)063(4) |
| 63  | 40  | 10                     | DJ        | 8.5                      | 17     | 26     | 22.5             | 3            | F611DJ106(1)063(4) |
| 63  | 40  | 12                     | DM        | 9                        | 18.5   | 26     | 22.5             | 3            | F611DM126(1)063(4) |
| 63  | 40  | 15                     | DO        | 10                       | 18.5   | 26     | 22.5             | 3            | F611DO156(1)063(4) |
| 63  | 40  | 18                     | DP        | 11                       | 20     | 26     | 22.5             | 3            | F611DP186(1)063(4) |
| 63  | 40  | 22                     | DU        | 13                       | 22     | 26     | 22.5             | 3            | F611DU226(1)063(4) |
| 63  | 40  | 27                     | DY        | 15.5                     | 24.5   | 26     | 22.5             | 3            | F611DY276(1)063(4) |
| 63  | 40  | 33                     | DY        | 15.5                     | 24.5   | 26     | 22.5             | 3            | F611DY336(1)063(4) |
| 63  | 40  | 15                     | FB        | 9                        | 17     | 31.5   | 27.5             | 2            | F611FB156(3)063(4) |
| 63  | 40  | 18                     | FC        | 11                       | 20     | 31.5   | 27.5             | 2            | F611FC186(1)063(4) |
| 63  | 40  | 22                     | FC        | 11                       | 20     | 31.5   | 27.5             | 2            | F611FC226(3)063(4) |
| 63  | 40  | 27                     | FI        | 13                       | 25     | 31.5   | 27.5             | 2            | F611FI276(1)063(4) |
| 63  | 40  | 33                     | FI        | 13                       | 25     | 31.5   | 27.5             | 2            | F611FI336(3)063(4) |
| 63  | 40  | 39                     | FN        | 14                       | 28     | 31.5   | 27.5             | 2            | F611FN396(2)063(4) |
| 63  | 40  | 47                     | FR        | 17.5                     | 28     | 31.5   | 27.5             | 2            | F611FR476(2)063(4) |
| 63  | 40  | 56                     | FS        | 19                       | 29     | 31.5   | 27.5             | 2            | F611FS566(2)063(4) |
| 63  | 40  | 68                     | FY        | 22                       | 37     | 31.5   | 27.5             | 2            | F611FY686(1)063(4) |
| 63  | 40  | 82                     | FY        | 22                       | 37     | 31.5   | 27.5             | 2            | F611FY826(1)063(4) |
| 63  | 40  | 100                    | FY        | 22                       | 37     | 31.5   | 27.5             | 2            | F611FY107(3)063(4) |
| 63  | 40  | 22                     | RB        | 11                       | 22     | 41     | 37.5             | 1            | F611RB226(1)063(4) |
| 63  | 40  | 27                     | RB        | 11                       | 22     | 41     | 37.5             | 1            | F611RB276(2)063(4) |
| 63  | 40  | 33                     | RF        | 13                       | 24     | 41     | 37.5             | 1            | F611RF336(1)063(4) |
| 63  | 40  | 39                     | RH        | 15                       | 26     | 41     | 37.5             | 1            | F611RH396(1)063(4) |
| 63  | 40  | 47                     | RH        | 15                       | 26     | 41     | 37.5             | 1            | F611RH476(2)063(4) |
| 63  | 40  | 56                     | RC        | 16                       | 28.5   | 41     | 37.5             | 1            | F611RC566(2)063(4) |
| 63  | 40  | 68                     | RD        | 19                       | 32     | 41     | 37.5             | 1            | F611RD686(1)063(4) |
| 63  | 40  | 82                     | RP        | 21                       | 38     | 41     | 37.5             | 1            | F611RP826(1)063(4) |
| 63  | 40  | 100                    | RP        | 21                       | 38     | 41     | 37.5             | 1            | F611RP107(2)063(4) |
| 63  | 40  | 120                    | RO        | 24                       | 44     | 41     | 37.5             | 1            | F611RO127(1)063(4) |
| 63  | 40  | 150                    | RO        | 24                       | 44     | 41     | 37.5             | 1            | F611RO157(2)063(4) |
| 63  | 40  | 180                    | RU        | 30                       | 45     | 41     | 37.5             | 1            | F611RU187(2)063(4) |
| 100 | 63  | 0.001                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF102(1)100(4) |
| 100 | 63  | 0.0012                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF122(1)100(4) |
| 100 | 63  | 0.0015                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF152(1)100(4) |
| 100 | 63  | 0.0018                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF182(1)100(4) |
| 100 | 63  | 0.0022                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF222(1)100(4) |
| 100 | 63  | 0.0027                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF272(1)100(4) |
| 100 | 63  | 0.0033                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF332(1)100(4) |
| 100 | 63  | 0.0039                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF392(1)100(4) |
| 100 | 63  | 0.0047                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF472(1)100(4) |
| 100 | 63  | 0.0056                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF562(1)100(4) |
| 100 | 63  | 0.0068                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF682(1)100(4) |
| 100 | 63  | 0.0082                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF822(1)100(4) |
| 100 | 63  | 0.01                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF103(1)100(4) |
| 100 | 63  | 0.012                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF123(1)100(4) |
| 100 | 63  | 0.015                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF153(1)100(4) |
| 100 | 63  | 0.018                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF183(1)100(4) |
| 100 | 63  | 0.022                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF223(1)100(4) |
| 100 | 63  | 0.027                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF273(1)100(4) |
| 100 | 63  | 0.033                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF333(1)100(4) |
| 100 | 63  | 0.039                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF393(1)100(4) |
| 100 | 63  | 0.047                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF473(1)100(4) |
| 100 | 63  | 0.056                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF563(1)100(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 100 | 63  | 0.068                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF683(1)100(4) |
| 100 | 63  | 0.082                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF823(1)100(4) |
| 100 | 63  | 0.1                    | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF104(1)100(4) |
| 100 | 63  | 0.12                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF124(1)100(4) |
| 100 | 63  | 0.15                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 200          | F612JG154(1)100(4) |
| 100 | 63  | 0.18                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 200          | F612JG184(1)100(4) |
| 100 | 63  | 0.22                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 200          | F612JG224(1)100(4) |
| 100 | 63  | 0.27                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 200          | F612JG274(1)100(4) |
| 100 | 63  | 0.33                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 200          | F612JM334(1)100(4) |
| 100 | 63  | 0.39                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 200          | F612JM394(1)100(4) |
| 100 | 63  | 0.47                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 200          | F612JM474(1)100(4) |
| 100 | 63  | 0.56                   | JQ        | 5                        | 10     | 7.2    | 5.0              | 200          | F612JQ564(1)100(4) |
| 100 | 63  | 0.68                   | JQ        | 5                        | 10     | 7.2    | 5.0              | 200          | F612JQ684(1)100(4) |
| 100 | 63  | 0.82                   | JT        | 6                        | 11     | 7.2    | 5.0              | 200          | F612JT824(1)100(4) |
| 100 | 63  | 1                      | JT        | 6                        | 11     | 7.2    | 5.0              | 200          | F612JT105(1)100(4) |
| 100 | 63  | 0.56                   | BB        | 4                        | 10     | 18     | 15.0             | 8            | F611BB564(1)100(4) |
| 100 | 63  | 0.68                   | BB        | 4                        | 10     | 18     | 15.0             | 8            | F611BB684(1)100(4) |
| 100 | 63  | 0.82                   | BB        | 4                        | 10     | 18     | 15.0             | 8            | F611BB824(1)100(4) |
| 100 | 63  | 1                      | BB        | 4                        | 10     | 18     | 15.0             | 8            | F611BB105(1)100(4) |
| 100 | 63  | 1.2                    | BC        | 5                        | 11     | 18     | 15.0             | 8            | F611BC125(1)100(4) |
| 100 | 63  | 1.5                    | BC        | 5                        | 11     | 18     | 15.0             | 8            | F611BC155(1)100(4) |
| 100 | 63  | 1.8                    | BE        | 5.5                      | 12.5   | 18     | 15.0             | 8            | F611BE185(1)100(4) |
| 100 | 63  | 2.2                    | BG        | 6                        | 12     | 18     | 15.0             | 8            | F611BG225(1)100(4) |
| 100 | 63  | 2.7                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 8            | F611BK275(1)100(4) |
| 100 | 63  | 3.3                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 8            | F611BK335(1)100(4) |
| 100 | 63  | 3.9                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 8            | F611BP395(1)100(4) |
| 100 | 63  | 4.7                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 8            | F611BP475(1)100(4) |
| 100 | 63  | 5.6                    | BS        | 10                       | 16     | 18     | 15.0             | 8            | F611BS565(1)100(4) |
| 100 | 63  | 6.8                    | BY        | 11                       | 19     | 18     | 15.0             | 8            | F611BY685(1)100(4) |
| 100 | 63  | 8.2                    | BY        | 11                       | 19     | 18     | 15.0             | 8            | F611BY825(1)100(4) |
| 100 | 63  | 2.2                    | DB        | 6                        | 14.5   | 26     | 22.5             | 5            | F611DB225(1)100(4) |
| 100 | 63  | 2.7                    | DB        | 6                        | 14.5   | 26     | 22.5             | 5            | F611DB275(1)100(4) |
| 100 | 63  | 3.3                    | DB        | 6                        | 14.5   | 26     | 22.5             | 5            | F611DB335(1)100(4) |
| 100 | 63  | 3.9                    | DB        | 6                        | 14.5   | 26     | 22.5             | 5            | F611DB395(1)100(4) |
| 100 | 63  | 4.7                    | DI        | 7                        | 16     | 26     | 22.5             | 5            | F611DI475(1)100(4) |
| 100 | 63  | 5.6                    | DI        | 7                        | 16     | 26     | 22.5             | 5            | F611DI565(1)100(4) |
| 100 | 63  | 6.8                    | DH        | 8                        | 16     | 26     | 22.5             | 5            | F611DH685(1)100(4) |
| 100 | 63  | 8.2                    | DJ        | 8.5                      | 17     | 26     | 22.5             | 5            | F611DJ825(1)100(4) |
| 100 | 63  | 10                     | DM        | 9                        | 18.5   | 26     | 22.5             | 5            | F611DM106(1)100(4) |
| 100 | 63  | 12                     | DO        | 10                       | 18.5   | 26     | 22.5             | 5            | F611DO126(1)100(4) |
| 100 | 63  | 15                     | DP        | 11                       | 20     | 26     | 22.5             | 5            | F611DP156(1)100(4) |
| 100 | 63  | 18                     | DU        | 13                       | 22     | 26     | 22.5             | 5            | F611DU186(1)100(4) |
| 100 | 63  | 22                     | DY        | 15.5                     | 24.5   | 26     | 22.5             | 5            | F611DY226(1)100(4) |
| 100 | 63  | 27                     | DY        | 15.5                     | 24.5   | 26     | 22.5             | 5            | F611DY276(1)100(4) |
| 100 | 63  | 10                     | FB        | 9                        | 17     | 31.5   | 27.5             | 3            | F611FB106(1)100(4) |
| 100 | 63  | 12                     | FB        | 9                        | 17     | 31.5   | 27.5             | 3            | F611FB126(2)100(4) |
| 100 | 63  | 15                     | FC        | 11                       | 20     | 31.5   | 27.5             | 3            | F611FC156(1)100(4) |
| 100 | 63  | 18                     | FC        | 11                       | 20     | 31.5   | 27.5             | 3            | F611FC186(2)100(4) |
| 100 | 63  | 22                     | FI        | 13                       | 25     | 31.5   | 27.5             | 3            | F611FI226(1)100(4) |
| 100 | 63  | 27                     | FI        | 13                       | 25     | 31.5   | 27.5             | 3            | F611FI276(2)100(4) |
| 100 | 63  | 33                     | FN        | 14                       | 28     | 31.5   | 27.5             | 3            | F611FN336(2)100(4) |
| 100 | 63  | 39                     | FR        | 17.5                     | 28     | 31.5   | 27.5             | 3            | F611FR396(2)100(4) |
| 100 | 63  | 47                     | FS        | 19                       | 29     | 31.5   | 27.5             | 3            | F611FS476(2)100(4) |
| 100 | 63  | 56                     | FY        | 22                       | 37     | 31.5   | 27.5             | 3            | F611FY566(1)100(4) |
| 100 | 63  | 68                     | FY        | 22                       | 37     | 31.5   | 27.5             | 3            | F611FY686(1)100(4) |
| 100 | 63  | 82                     | FY        | 22                       | 37     | 31.5   | 27.5             | 3            | F611FY826(3)100(4) |
| 100 | 63  | 22                     | RB        | 11                       | 22     | 41     | 37.5             | 2            | F611RB226(1)100(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

Table 1 – Ratings &amp; Part Number Reference cont.

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 100 | 63  | 27                     | RB        | 11                       | 22     | 41     | 37.5             | 2            | F611RB276(2)100(4) |
| 100 | 63  | 33                     | RF        | 13                       | 24     | 41     | 37.5             | 2            | F611RF336(1)100(4) |
| 100 | 63  | 39                     | RH        | 15                       | 26     | 41     | 37.5             | 2            | F611RH396(1)100(4) |
| 100 | 63  | 47                     | RH        | 15                       | 26     | 41     | 37.5             | 2            | F611RH476(2)100(4) |
| 100 | 63  | 56                     | RC        | 16                       | 28.5   | 41     | 37.5             | 2            | F611RC566(2)100(4) |
| 100 | 63  | 68                     | RD        | 19                       | 32     | 41     | 37.5             | 2            | F611RD686(1)100(4) |
| 100 | 63  | 82                     | RP        | 21                       | 38     | 41     | 37.5             | 2            | F611RP826(1)100(4) |
| 100 | 63  | 100                    | RP        | 21                       | 38     | 41     | 37.5             | 2            | F611RP107(2)100(4) |
| 100 | 63  | 120                    | RO        | 24                       | 44     | 41     | 37.5             | 2            | F611RO127(1)100(4) |
| 100 | 63  | 150                    | RO        | 24                       | 44     | 41     | 37.5             | 2            | F611RO157(2)100(4) |
| 100 | 63  | 180                    | RU        | 30                       | 45     | 41     | 37.5             | 2            | F611RU187(2)100(4) |
| 160 | 90  | 0.33                   | BB        | 4                        | 10     | 18     | 15.0             | 10           | F611BB334(1)160(4) |
| 160 | 90  | 0.39                   | BB        | 4                        | 10     | 18     | 15.0             | 10           | F611BB394(1)160(4) |
| 160 | 90  | 0.47                   | BC        | 5                        | 11     | 18     | 15.0             | 10           | F611BC474(1)160(4) |
| 160 | 90  | 0.56                   | BC        | 5                        | 11     | 18     | 15.0             | 10           | F611BC564(1)160(4) |
| 160 | 90  | 0.68                   | BC        | 5                        | 11     | 18     | 15.0             | 10           | F611BC684(1)160(4) |
| 160 | 90  | 0.82                   | BE        | 5.5                      | 12.5   | 18     | 15.0             | 10           | F611BE824(1)160(4) |
| 160 | 90  | 1                      | BG        | 6                        | 12     | 18     | 15.0             | 10           | F611BG105(1)160(4) |
| 160 | 90  | 1.2                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 10           | F611BK125(1)160(4) |
| 160 | 90  | 1.5                    | BK        | 7.5                      | 13.5   | 18     | 15.0             | 10           | F611BK155(1)160(4) |
| 160 | 90  | 1.8                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 10           | F611BP185(1)160(4) |
| 160 | 90  | 2.2                    | BS        | 10                       | 16     | 18     | 15.0             | 10           | F611BS225(1)160(4) |
| 160 | 90  | 2.7                    | BY        | 11                       | 19     | 18     | 15.0             | 10           | F611BY275(1)160(4) |
| 160 | 90  | 3.3                    | BY        | 11                       | 19     | 18     | 15.0             | 10           | F611BY335(1)160(4) |
| 160 | 90  | 3.9                    | BY        | 11                       | 19     | 18     | 15.0             | 10           | F611BY395(1)160(4) |
| 160 | 90  | 1.2                    | DB        | 6                        | 14.5   | 26     | 22.5             | 6            | F611DB125(1)160(4) |
| 160 | 90  | 1.5                    | DB        | 6                        | 14.5   | 26     | 22.5             | 6            | F611DB155(1)160(4) |
| 160 | 90  | 1.8                    | DB        | 6                        | 14.5   | 26     | 22.5             | 6            | F611DB185(1)160(4) |
| 160 | 90  | 2.2                    | DI        | 7                        | 16     | 26     | 22.5             | 6            | F611DI225(1)160(4) |
| 160 | 90  | 2.7                    | DI        | 7                        | 16     | 26     | 22.5             | 6            | F611DI275(1)160(4) |
| 160 | 90  | 3.3                    | DJ        | 8.5                      | 17     | 26     | 22.5             | 6            | F611DJ335(1)160(4) |
| 160 | 90  | 3.9                    | DM        | 9                        | 18.5   | 26     | 22.5             | 6            | F611DM395(1)160(4) |
| 160 | 90  | 4.7                    | DO        | 10                       | 18.5   | 26     | 22.5             | 6            | F611DO475(1)160(4) |
| 160 | 90  | 5.6                    | DP        | 11                       | 20     | 26     | 22.5             | 6            | F611DP565(1)160(4) |
| 160 | 90  | 6.8                    | DU        | 13                       | 22     | 26     | 22.5             | 6            | F611DU685(1)160(4) |
| 160 | 90  | 8.2                    | DU        | 13                       | 22     | 26     | 22.5             | 6            | F611DU825(1)160(4) |
| 160 | 90  | 10                     | DY        | 15.5                     | 24.5   | 26     | 22.5             | 6            | F611DY106(1)160(4) |
| 160 | 90  | 12                     | DY        | 15.5                     | 24.5   | 26     | 22.5             | 6            | F611DY126(1)160(4) |
| 160 | 90  | 5.6                    | FB        | 9                        | 17     | 31.5   | 27.5             | 4            | F611FB565(1)160(4) |
| 160 | 90  | 6.8                    | FB        | 9                        | 17     | 31.5   | 27.5             | 4            | F611FB685(1)160(4) |
| 160 | 90  | 8.2                    | FB        | 9                        | 17     | 31.5   | 27.5             | 4            | F611FB825(3)160(4) |
| 160 | 90  | 10                     | FC        | 11                       | 20     | 31.5   | 27.5             | 4            | F611FC106(1)160(4) |
| 160 | 90  | 12                     | FC        | 11                       | 20     | 31.5   | 27.5             | 4            | F611FC126(3)160(4) |
| 160 | 90  | 15                     | FI        | 13                       | 25     | 31.5   | 27.5             | 4            | F611FI156(1)160(4) |
| 160 | 90  | 18                     | FI        | 13                       | 25     | 31.5   | 27.5             | 4            | F611FI186(2)160(4) |
| 160 | 90  | 22                     | FN        | 14                       | 28     | 31.5   | 27.5             | 4            | F611FN226(2)160(4) |
| 160 | 90  | 27                     | FR        | 17.5                     | 28     | 31.5   | 27.5             | 4            | F611FR276(2)160(4) |
| 160 | 90  | 33                     | FS        | 19                       | 29     | 31.5   | 27.5             | 4            | F611FS336(2)160(4) |
| 160 | 90  | 39                     | FY        | 22                       | 37     | 31.5   | 27.5             | 4            | F611FY396(1)160(4) |
| 160 | 90  | 47                     | FY        | 22                       | 37     | 31.5   | 27.5             | 4            | F611FY476(2)160(4) |
| 160 | 90  | 56                     | FY        | 22                       | 37     | 31.5   | 27.5             | 4            | F611FY566(3)160(4) |
| 160 | 90  | 15                     | RB        | 11                       | 22     | 41     | 37.5             | 3            | F611RB156(1)160(4) |
| 160 | 90  | 18                     | RB        | 11                       | 22     | 41     | 37.5             | 3            | F611RB186(3)160(4) |
| 160 | 90  | 22                     | RF        | 13                       | 24     | 41     | 37.5             | 3            | F611RF226(2)160(4) |
| 160 | 90  | 27                     | RH        | 15                       | 26     | 41     | 37.5             | 3            | F611RH276(1)160(4) |
| 160 | 90  | 33                     | RH        | 15                       | 26     | 41     | 37.5             | 3            | F611RH336(3)160(4) |
| 160 | 90  | 39                     | RC        | 16                       | 28.5   | 41     | 37.5             | 3            | F611RC396(3)160(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 160 | 90  | 47                     | RD        | 19                       | 32     | 41     | 37.5             | 3            | F611RD476(2)160(4) |
| 160 | 90  | 56                     | RP        | 21                       | 38     | 41     | 37.5             | 3            | F611RP566(1)160(4) |
| 160 | 90  | 68                     | RP        | 21                       | 38     | 41     | 37.5             | 3            | F611RP686(1)160(4) |
| 160 | 90  | 82                     | RO        | 24                       | 44     | 41     | 37.5             | 3            | F611RO826(1)160(4) |
| 160 | 90  | 100                    | RO        | 24                       | 44     | 41     | 37.5             | 3            | F611RO107(3)160(4) |
| 160 | 90  | 120                    | RU        | 30                       | 45     | 41     | 37.5             | 3            | F611RU127(3)160(4) |
| 250 | 160 | 0.0068                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 250          | F612JF682(1)250(4) |
| 250 | 160 | 0.0082                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 250          | F612JF822(1)250(4) |
| 250 | 160 | 0.01                   | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 250          | F612JF103(1)250(4) |
| 250 | 160 | 0.012                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 250          | F612JF123(1)250(4) |
| 250 | 160 | 0.015                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 250          | F612JF153(1)250(4) |
| 250 | 160 | 0.018                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 250          | F612JF183(1)250(4) |
| 250 | 160 | 0.022                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 250          | F612JG223(1)250(4) |
| 250 | 160 | 0.027                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 250          | F612JG273(1)250(4) |
| 250 | 160 | 0.033                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 250          | F612JG333(1)250(4) |
| 250 | 160 | 0.039                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 250          | F612JG393(1)250(4) |
| 250 | 160 | 0.047                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 250          | F612JM473(1)250(4) |
| 250 | 160 | 0.056                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 250          | F612JM563(1)250(4) |
| 250 | 160 | 0.068                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 250          | F612JM683(1)250(4) |
| 250 | 160 | 0.082                  | JQ        | 5                        | 10     | 7.2    | 5.0              | 250          | F612JQ823(1)250(4) |
| 250 | 160 | 0.1                    | JQ        | 5                        | 10     | 7.2    | 5.0              | 250          | F612JQ104(1)250(4) |
| 250 | 160 | 0.12                   | JT        | 6                        | 11     | 7.2    | 5.0              | 250          | F612JT124(1)250(4) |
| 250 | 160 | 0.15                   | JT        | 6                        | 11     | 7.2    | 5.0              | 250          | F612JT154(1)250(4) |
| 250 | 140 | 0.022                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 130          | F612JF223(1)250(4) |
| 250 | 140 | 0.027                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 130          | F612JF273(1)250(4) |
| 250 | 140 | 0.047                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 130          | F612JG473(1)250(4) |
| 250 | 140 | 0.056                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 130          | F612JG563(1)250(4) |
| 250 | 140 | 0.068                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 130          | F612JG683(1)250(4) |
| 250 | 140 | 0.082                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 130          | F612JM823(1)250(4) |
| 250 | 140 | 0.1                    | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 130          | F612JM104(1)250(4) |
| 250 | 140 | 0.12                   | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 130          | F612JM124(1)250(4) |
| 250 | 140 | 0.15                   | JQ        | 5                        | 10     | 7.2    | 5.0              | 130          | F612JQ154(1)250(4) |
| 250 | 140 | 0.18                   | JT        | 6                        | 11     | 7.2    | 5.0              | 130          | F612JT184(1)250(4) |
| 250 | 140 | 0.22                   | JT        | 6                        | 11     | 7.2    | 5.0              | 130          | F612JT224(1)250(4) |
| 250 | 160 | 0.1                    | AG        | 4                        | 9      | 13     | 10.0             | 20           | F611AG104(1)250(4) |
| 250 | 160 | 0.12                   | AG        | 4                        | 9      | 13     | 10.0             | 20           | F611AG124(1)250(4) |
| 250 | 160 | 0.15                   | AG        | 4                        | 9      | 13     | 10.0             | 20           | F611AG154(1)250(4) |
| 250 | 160 | 0.18                   | AK        | 5                        | 11     | 13     | 10.0             | 20           | F611AK184(1)250(4) |
| 250 | 160 | 0.22                   | AK        | 5                        | 11     | 13     | 10.0             | 20           | F611AK224(1)250(4) |
| 250 | 160 | 0.27                   | AK        | 5                        | 11     | 13     | 10.0             | 20           | F611AK274(1)250(4) |
| 250 | 160 | 0.33                   | AP        | 6                        | 12     | 13     | 10.0             | 20           | F611AP334(1)250(4) |
| 250 | 160 | 0.39                   | AP        | 6                        | 12     | 13     | 10.0             | 20           | F611AP394(1)250(4) |
| 250 | 160 | 0.47                   | AP        | 6                        | 12     | 13     | 10.0             | 20           | F611AP474(1)250(4) |
| 250 | 160 | 0.18                   | BB        | 4                        | 10     | 18     | 15.0             | 12           | F611BB184(1)250(4) |
| 250 | 160 | 0.22                   | BB        | 4                        | 10     | 18     | 15.0             | 12           | F611BB224(1)250(4) |
| 250 | 160 | 0.27                   | BB        | 4                        | 10     | 18     | 15.0             | 12           | F611BB274(1)250(4) |
| 250 | 160 | 0.33                   | BC        | 5                        | 11     | 18     | 15.0             | 12           | F611BC334(1)250(4) |
| 250 | 160 | 0.39                   | BC        | 5                        | 11     | 18     | 15.0             | 12           | F611BC394(1)250(4) |
| 250 | 160 | 0.47                   | BE        | 5.5                      | 12.5   | 18     | 15.0             | 12           | F611BE474(1)250(4) |
| 250 | 160 | 0.56                   | BG        | 6                        | 12     | 18     | 15.0             | 12           | F611BG564(1)250(4) |
| 250 | 160 | 0.68                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 12           | F611BK684(1)250(4) |
| 250 | 160 | 0.82                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 12           | F611BK824(1)250(4) |
| 250 | 160 | 1                      | BK        | 7.5                      | 13.5   | 18     | 15.0             | 12           | F611BK105(1)250(4) |
| 250 | 160 | 1.2                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 12           | F611BP125(1)250(4) |
| 250 | 160 | 1.5                    | BS        | 10                       | 16     | 18     | 15.0             | 12           | F611BS155(1)250(4) |
| 250 | 160 | 1.8                    | BY        | 11                       | 19     | 18     | 15.0             | 12           | F611BY185(1)250(4) |
| 250 | 160 | 2.2                    | BY        | 11                       | 19     | 18     | 15.0             | 12           | F611BY225(1)250(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 250 | 160 | 0.82                   | DB        | 6                        | 14.5   | 26     | 22.5             | 8            | F611DB824(1)250(4) |
| 250 | 160 | 1                      | DB        | 6                        | 14.5   | 26     | 22.5             | 8            | F611DB105(1)250(4) |
| 250 | 160 | 1.2                    | DI        | 7                        | 16     | 26     | 22.5             | 8            | F611DI125(1)250(4) |
| 250 | 160 | 1.5                    | DI        | 7                        | 16     | 26     | 22.5             | 8            | F611DI155(1)250(4) |
| 250 | 160 | 1.8                    | DH        | 8                        | 16     | 26     | 22.5             | 8            | F611DH185(1)250(4) |
| 250 | 160 | 2.2                    | DJ        | 8.5                      | 17     | 26     | 22.5             | 8            | F611DJ225(1)250(4) |
| 250 | 160 | 2.7                    | DO        | 10                       | 18.5   | 26     | 22.5             | 8            | F611DO275(1)250(4) |
| 250 | 160 | 3.3                    | DP        | 11                       | 20     | 26     | 22.5             | 8            | F611DP335(1)250(4) |
| 250 | 160 | 3.9                    | DU        | 13                       | 22     | 26     | 22.5             | 8            | F611DU395(1)250(4) |
| 250 | 160 | 4.7                    | DU        | 13                       | 22     | 26     | 22.5             | 8            | F611DU475(1)250(4) |
| 250 | 160 | 5.6                    | DY        | 15.5                     | 24.5   | 26     | 22.5             | 8            | F611DY565(1)250(4) |
| 250 | 160 | 2.2                    | FB        | 9                        | 17     | 31.5   | 27.5             | 5            | F611FB225(1)250(4) |
| 250 | 160 | 2.7                    | FB        | 9                        | 17     | 31.5   | 27.5             | 5            | F611FB275(1)250(4) |
| 250 | 160 | 3.3                    | FB        | 9                        | 17     | 31.5   | 27.5             | 5            | F611FB335(1)250(4) |
| 250 | 160 | 3.9                    | FB        | 9                        | 17     | 31.5   | 27.5             | 5            | F611FB395(1)250(4) |
| 250 | 160 | 4.7                    | FB        | 9                        | 17     | 31.5   | 27.5             | 5            | F611FB475(1)250(4) |
| 250 | 160 | 5.6                    | FC        | 11                       | 20     | 31.5   | 27.5             | 5            | F611FC565(1)250(4) |
| 250 | 160 | 6.8                    | FC        | 11                       | 20     | 31.5   | 27.5             | 5            | F611FC685(1)250(4) |
| 250 | 160 | 8.2                    | FI        | 13                       | 25     | 31.5   | 27.5             | 5            | F611FI825(1)250(4) |
| 250 | 160 | 10                     | FI        | 13                       | 25     | 31.5   | 27.5             | 5            | F611FI106(1)250(4) |
| 250 | 160 | 12                     | FI        | 13                       | 25     | 31.5   | 27.5             | 5            | F611FI126(2)250(4) |
| 250 | 160 | 15                     | FN        | 14                       | 28     | 31.5   | 27.5             | 5            | F611FN156(2)250(4) |
| 250 | 160 | 18                     | FR        | 17.5                     | 28     | 31.5   | 27.5             | 5            | F611FR186(1)250(4) |
| 250 | 160 | 22                     | FS        | 19                       | 29     | 31.5   | 27.5             | 5            | F611FS226(2)250(4) |
| 250 | 160 | 27                     | FY        | 22                       | 37     | 31.5   | 27.5             | 5            | F611FY276(1)250(4) |
| 250 | 160 | 33                     | FY        | 22                       | 37     | 31.5   | 27.5             | 5            | F611FY336(2)250(4) |
| 250 | 160 | 5.6                    | RB        | 11                       | 22     | 41     | 37.5             | 4            | F611RB565(1)250(4) |
| 250 | 160 | 6.8                    | RB        | 11                       | 22     | 41     | 37.5             | 4            | F611RB685(1)250(4) |
| 250 | 160 | 8.2                    | RB        | 11                       | 22     | 41     | 37.5             | 4            | F611RB825(1)250(4) |
| 250 | 160 | 10                     | RB        | 11                       | 22     | 41     | 37.5             | 4            | F611RB106(1)250(4) |
| 250 | 160 | 12                     | RB        | 11                       | 22     | 41     | 37.5             | 4            | F611RB126(2)250(4) |
| 250 | 160 | 15                     | RF        | 13                       | 24     | 41     | 37.5             | 4            | F611RF156(1)250(4) |
| 250 | 160 | 18                     | RH        | 15                       | 26     | 41     | 37.5             | 4            | F611RH186(1)250(4) |
| 250 | 160 | 22                     | RH        | 15                       | 26     | 41     | 37.5             | 4            | F611RH226(2)250(4) |
| 250 | 160 | 27                     | RC        | 16                       | 28.5   | 41     | 37.5             | 4            | F611RC276(3)250(4) |
| 250 | 160 | 33                     | RD        | 19                       | 32     | 41     | 37.5             | 4            | F611RD336(2)250(4) |
| 250 | 160 | 39                     | RP        | 21                       | 38     | 41     | 37.5             | 4            | F611RP396(1)250(4) |
| 250 | 160 | 47                     | RP        | 21                       | 38     | 41     | 37.5             | 4            | F611RP476(2)250(4) |
| 250 | 160 | 56                     | RO        | 24                       | 44     | 41     | 37.5             | 4            | F611RO566(1)250(4) |
| 250 | 160 | 68                     | RO        | 24                       | 44     | 41     | 37.5             | 4            | F611RO686(3)250(4) |
| 250 | 160 | 82                     | RU        | 30                       | 45     | 41     | 37.5             | 4            | F611RU826(2)250(4) |
| 400 | 200 | 0.001                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF102(1)400(4) |
| 400 | 200 | 0.0012                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF122(1)400(4) |
| 400 | 200 | 0.0015                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF152(1)400(4) |
| 400 | 200 | 0.0018                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF182(1)400(4) |
| 400 | 200 | 0.0022                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF222(1)400(4) |
| 400 | 200 | 0.0027                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF272(1)400(4) |
| 400 | 200 | 0.0033                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF332(1)400(4) |
| 400 | 200 | 0.0039                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF392(1)400(4) |
| 400 | 200 | 0.0047                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 400          | F612JF472(1)400(4) |
| 400 | 200 | 0.0056                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 400          | F612JG562(1)400(4) |
| 400 | 200 | 0.0068                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 400          | F612JG682(1)400(4) |
| 400 | 200 | 0.082                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 400          | F612JG823(1)400(4) |
| 400 | 200 | 0.01                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 400          | F612JG103(1)400(4) |
| 400 | 200 | 0.012                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 400          | F612JG123(1)400(4) |
| 400 | 200 | 0.015                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 400          | F612JM153(1)400(4) |
| 400 | 200 | 0.018                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 400          | F612JM183(1)400(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 400 | 200 | 0.022                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 400          | F612JM223(1)400(4) |
| 400 | 200 | 0.027                  | JQ        | 5                        | 10     | 7.2    | 5.0              | 400          | F612JQ273(1)400(4) |
| 400 | 200 | 0.033                  | JQ        | 5                        | 10     | 7.2    | 5.0              | 400          | F612JQ333(1)400(4) |
| 400 | 200 | 0.039                  | JT        | 6                        | 11     | 7.2    | 5.0              | 400          | F612JT393(1)400(4) |
| 400 | 200 | 0.047                  | JT        | 6                        | 11     | 7.2    | 5.0              | 400          | F612JT473(1)400(4) |
| 400 | 200 | 0.056                  | JT        | 6                        | 11     | 7.2    | 5.0              | 400          | F612JT563(1)400(4) |
| 400 | 160 | 0.0068                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF682(1)400(4) |
| 400 | 160 | 0.0082                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 200          | F612JF822(1)400(4) |
| 400 | 160 | 0.015                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 200          | F612JG153(1)400(4) |
| 400 | 160 | 0.018                  | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 200          | F612JG183(1)400(4) |
| 400 | 160 | 0.033                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 200          | F612JM333(1)400(4) |
| 400 | 160 | 0.039                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 200          | F612JM393(1)400(4) |
| 400 | 160 | 0.047                  | JQ        | 5                        | 10     | 7.2    | 5.0              | 200          | F612JQ473(1)400(4) |
| 400 | 160 | 0.068                  | JT        | 6                        | 11     | 7.2    | 5.0              | 200          | F612JT683(1)400(4) |
| 400 | 200 | 0.033                  | AG        | 4                        | 9      | 13     | 10.0             | 30           | F611AG333(1)400(4) |
| 400 | 200 | 0.039                  | AG        | 4                        | 9      | 13     | 10.0             | 30           | F611AG393(1)400(4) |
| 400 | 200 | 0.047                  | AG        | 4                        | 9      | 13     | 10.0             | 30           | F611AG473(1)400(4) |
| 400 | 200 | 0.056                  | AG        | 4                        | 9      | 13     | 10.0             | 30           | F611AG563(1)400(4) |
| 400 | 200 | 0.068                  | AG        | 4                        | 9      | 13     | 10.0             | 30           | F611AG683(1)400(4) |
| 400 | 200 | 0.082                  | AG        | 4                        | 9      | 13     | 10.0             | 30           | F611AG823(1)400(4) |
| 400 | 200 | 0.1                    | AK        | 5                        | 11     | 13     | 10.0             | 30           | F611AK104(1)400(4) |
| 400 | 200 | 0.12                   | AK        | 5                        | 11     | 13     | 10.0             | 30           | F611AK124(1)400(4) |
| 400 | 200 | 0.15                   | AK        | 5                        | 11     | 13     | 10.0             | 30           | F611AK154(1)400(4) |
| 400 | 200 | 0.18                   | AP        | 6                        | 12     | 13     | 10.0             | 30           | F611AP184(1)400(4) |
| 400 | 200 | 0.22                   | AP        | 6                        | 12     | 13     | 10.0             | 30           | F611AP224(1)400(4) |
| 400 | 200 | 0.056                  | BB        | 4                        | 10     | 18     | 15.0             | 20           | F611BB563(1)400(4) |
| 400 | 200 | 0.068                  | BB        | 4                        | 10     | 18     | 15.0             | 20           | F611BB683(1)400(4) |
| 400 | 200 | 0.082                  | BB        | 4                        | 10     | 18     | 15.0             | 20           | F611BB823(1)400(4) |
| 400 | 200 | 0.1                    | BB        | 4                        | 10     | 18     | 15.0             | 20           | F611BB104(1)400(4) |
| 400 | 200 | 0.12                   | BB        | 4                        | 10     | 18     | 15.0             | 20           | F611BB124(1)400(4) |
| 400 | 200 | 0.15                   | BB        | 4                        | 10     | 18     | 15.0             | 20           | F611BB154(1)400(4) |
| 400 | 200 | 0.18                   | BC        | 5                        | 11     | 18     | 15.0             | 20           | F611BC184(1)400(4) |
| 400 | 200 | 0.22                   | BC        | 5                        | 11     | 18     | 15.0             | 20           | F611BC224(1)400(4) |
| 400 | 200 | 0.27                   | BE        | 5.5                      | 12.5   | 18     | 15.0             | 20           | F611BE274(1)400(4) |
| 400 | 200 | 0.33                   | BG        | 6                        | 12     | 18     | 15.0             | 20           | F611BG334(1)400(4) |
| 400 | 200 | 0.39                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 20           | F611BK394(1)400(4) |
| 400 | 200 | 0.47                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 20           | F611BK474(1)400(4) |
| 400 | 200 | 0.56                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 20           | F611BK564(1)400(4) |
| 400 | 200 | 0.68                   | BP        | 8.5                      | 14.5   | 18     | 15.0             | 20           | F611BP684(1)400(4) |
| 400 | 200 | 0.82                   | BS        | 10                       | 16     | 18     | 15.0             | 20           | F611BS824(1)400(4) |
| 400 | 200 | 1                      | BY        | 11                       | 19     | 18     | 15.0             | 20           | F611BY105(1)400(4) |
| 400 | 200 | 1.2                    | BY        | 11                       | 19     | 18     | 15.0             | 20           | F611BY125(1)400(4) |
| 400 | 200 | 1.5                    | BY        | 11                       | 19     | 18     | 15.0             | 20           | F611BY155(1)400(4) |
| 400 | 200 | 0.27                   | DB        | 6                        | 14.5   | 26     | 22.5             | 10           | F611DB274(1)400(4) |
| 400 | 200 | 0.33                   | DB        | 6                        | 14.5   | 26     | 22.5             | 10           | F611DB334(1)400(4) |
| 400 | 200 | 0.39                   | DB        | 6                        | 14.5   | 26     | 22.5             | 10           | F611DB394(1)400(4) |
| 400 | 200 | 0.47                   | DB        | 6                        | 14.5   | 26     | 22.5             | 10           | F611DB474(1)400(4) |
| 400 | 200 | 0.56                   | DB        | 6                        | 14.5   | 26     | 22.5             | 10           | F611DB564(1)400(4) |
| 400 | 200 | 0.68                   | DB        | 6                        | 14.5   | 26     | 22.5             | 10           | F611DB684(1)400(4) |
| 400 | 200 | 0.82                   | DI        | 7                        | 16     | 26     | 22.5             | 10           | F611DI824(1)400(4) |
| 400 | 200 | 1                      | DI        | 7                        | 16     | 26     | 22.5             | 10           | F611DI105(1)400(4) |
| 400 | 200 | 1.2                    | DJ        | 8.5                      | 17     | 26     | 22.5             | 10           | F611DJ125(1)400(4) |
| 400 | 200 | 1.5                    | DM        | 9                        | 18.5   | 26     | 22.5             | 10           | F611DM155(1)400(4) |
| 400 | 200 | 1.8                    | DO        | 10                       | 18.5   | 26     | 22.5             | 10           | F611DO185(1)400(4) |
| 400 | 200 | 2.2                    | DP        | 11                       | 20     | 26     | 22.5             | 10           | F611DP225(1)400(4) |
| 400 | 200 | 2.7                    | DU        | 13                       | 22     | 26     | 22.5             | 10           | F611DU275(1)400(4) |
| 400 | 200 | 3.3                    | DU        | 13                       | 22     | 26     | 22.5             | 10           | F611DU335(1)400(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 400 | 200 | 3.9                    | DY        | 15.5                     | 24.5   | 26     | 22.5             | 10           | F611DY395(1)400(4) |
| 400 | 200 | 4.7                    | DY        | 15.5                     | 24.5   | 26     | 22.5             | 10           | F611DY475(1)400(4) |
| 400 | 200 | 0.82                   | FB        | 9                        | 17     | 31.5   | 27.5             | 8.5          | F611FB824(1)400(4) |
| 400 | 200 | 1                      | FB        | 9                        | 17     | 31.5   | 27.5             | 8.5          | F611FB105(1)400(4) |
| 400 | 200 | 1.2                    | FB        | 9                        | 17     | 31.5   | 27.5             | 8.5          | F611FB125(1)400(4) |
| 400 | 200 | 1.5                    | FB        | 9                        | 17     | 31.5   | 27.5             | 8.5          | F611FB155(1)400(4) |
| 400 | 200 | 1.8                    | FB        | 9                        | 17     | 31.5   | 27.5             | 8.5          | F611FB185(1)400(4) |
| 400 | 200 | 2.2                    | FC        | 11                       | 20     | 31.5   | 27.5             | 8.5          | F611FC225(1)400(4) |
| 400 | 200 | 2.7                    | FC        | 11                       | 20     | 31.5   | 27.5             | 8.5          | F611FC275(1)400(4) |
| 400 | 200 | 3.3                    | FI        | 13                       | 25     | 31.5   | 27.5             | 8.5          | F611FI335(1)400(4) |
| 400 | 200 | 3.9                    | FI        | 13                       | 25     | 31.5   | 27.5             | 8.5          | F611FI395(1)400(4) |
| 400 | 200 | 4.7                    | FI        | 13                       | 25     | 31.5   | 27.5             | 8.5          | F611FI475(2)400(4) |
| 400 | 200 | 5.6                    | FN        | 14                       | 28     | 31.5   | 27.5             | 8.5          | F611FN565(2)400(4) |
| 400 | 200 | 6.8                    | FR        | 17.5                     | 28     | 31.5   | 27.5             | 8.5          | F611FR685(2)400(4) |
| 400 | 200 | 8.2                    | FR        | 17.5                     | 28     | 31.5   | 27.5             | 8.5          | F611FR825(3)400(4) |
| 400 | 200 | 10                     | FY        | 22                       | 37     | 31.5   | 27.5             | 8.5          | F611FY106(2)400(4) |
| 400 | 200 | 12                     | FY        | 22                       | 37     | 31.5   | 27.5             | 8.5          | F611FY126(2)400(4) |
| 400 | 200 | 15                     | FY        | 22                       | 37     | 31.5   | 27.5             | 8.5          | F611FY156(3)400(4) |
| 400 | 200 | 2.2                    | RB        | 11                       | 22     | 41     | 37.5             | 6            | F611RB225(1)400(4) |
| 400 | 200 | 2.7                    | RB        | 11                       | 22     | 41     | 37.5             | 6            | F611RB275(1)400(4) |
| 400 | 200 | 3.3                    | RB        | 11                       | 22     | 41     | 37.5             | 6            | F611RB335(1)400(4) |
| 400 | 200 | 3.9                    | RB        | 11                       | 22     | 41     | 37.5             | 6            | F611RB395(1)400(4) |
| 400 | 200 | 4.7                    | RB        | 11                       | 22     | 41     | 37.5             | 6            | F611RB475(2)400(4) |
| 400 | 200 | 5.6                    | RF        | 13                       | 24     | 41     | 37.5             | 6            | F611RF565(1)400(4) |
| 400 | 200 | 6.8                    | RF        | 13                       | 24     | 41     | 37.5             | 6            | F611RF685(3)400(4) |
| 400 | 200 | 8.2                    | RH        | 15                       | 26     | 41     | 37.5             | 6            | F611RH825(2)400(4) |
| 400 | 200 | 10                     | RC        | 16                       | 28.5   | 41     | 37.5             | 6            | F611RC106(2)400(4) |
| 400 | 200 | 12                     | RD        | 19                       | 32     | 41     | 37.5             | 6            | F611RD126(2)400(4) |
| 400 | 200 | 15                     | RP        | 21                       | 38     | 41     | 37.5             | 6            | F611RP156(1)400(4) |
| 400 | 200 | 18                     | RP        | 21                       | 38     | 41     | 37.5             | 6            | F611RP186(2)400(4) |
| 400 | 200 | 22                     | RO        | 24                       | 44     | 41     | 37.5             | 6            | F611RO226(1)400(4) |
| 400 | 200 | 27                     | RO        | 24                       | 44     | 41     | 37.5             | 6            | F611RO276(3)400(4) |
| 400 | 200 | 33                     | RU        | 30                       | 45     | 41     | 37.5             | 6            | F611RU336(3)400(4) |
| 630 | 220 | 0.0012                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF122(1)630(4) |
| 630 | 220 | 0.0015                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF152(1)630(4) |
| 630 | 220 | 0.0018                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF182(1)630(4) |
| 630 | 220 | 0.0022                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF222(1)630(4) |
| 630 | 220 | 0.0027                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF272(1)630(4) |
| 630 | 220 | 0.0033                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF332(1)630(4) |
| 630 | 220 | 0.0039                 | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 80           | F611JF392(1)630(4) |
| 630 | 220 | 0.0047                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 80           | F611JG472(1)630(4) |
| 630 | 220 | 0.0056                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 80           | F611JG562(1)630(4) |
| 630 | 220 | 0.0068                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 80           | F611JG682(1)630(4) |
| 630 | 220 | 0.0082                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 80           | F611JG822(1)630(4) |
| 630 | 220 | 0.01                   | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 80           | F611JG103(1)630(4) |
| 630 | 220 | 0.012                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 80           | F611JM123(1)630(4) |
| 630 | 220 | 0.015                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 80           | F611JM153(1)630(4) |
| 630 | 220 | 0.018                  | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 80           | F611JM183(1)630(4) |
| 630 | 220 | 0.022                  | JQ        | 5                        | 10     | 7.2    | 5.0              | 80           | F611JQ223(1)630(4) |
| 630 | 220 | 0.027                  | JT        | 6                        | 11     | 7.2    | 5.0              | 80           | F611JT273(1)630(4) |
| 630 | 220 | 0.033                  | JT        | 6                        | 11     | 7.2    | 5.0              | 80           | F611JT333(1)630(4) |
| 630 | 220 | 0.039                  | JU        | 7.2                      | 13     | 7.2    | 5.0              | 80           | F611JU393(1)630(4) |
| 630 | 220 | 0.047                  | JU        | 7.2                      | 13     | 7.2    | 5.0              | 80           | F611JU473(1)630(4) |
| 630 | 220 | 0.0018                 | KE        | 2.5                      | 6      | 10     | 7.5              | 60           | F611KE182(1)630(4) |
| 630 | 220 | 0.0022                 | KE        | 2.5                      | 6      | 10     | 7.5              | 60           | F611KE222(1)630(4) |
| 630 | 220 | 0.0027                 | KE        | 2.5                      | 6      | 10     | 7.5              | 60           | F611KE272(1)630(4) |
| 630 | 220 | 0.0033                 | KE        | 2.5                      | 6      | 10     | 7.5              | 60           | F611KE332(1)630(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|-----|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|     |     |                        |           | T                        | H      | L      |                  |              |                    |
| 630 | 220 | 0.0039                 | KE        | 2.5                      | 6      | 10     | 7.5              | 60           | F611KE392(1)630(4) |
| 630 | 220 | 0.0047                 | KE        | 2.5                      | 6      | 10     | 7.5              | 60           | F611KE472(1)630(4) |
| 630 | 220 | 0.0056                 | KF        | 3                        | 8      | 10     | 7.5              | 60           | F611KF562(1)630(4) |
| 630 | 220 | 0.0068                 | KF        | 3                        | 8      | 10     | 7.5              | 60           | F611KF682(1)630(4) |
| 630 | 220 | 0.0082                 | KF        | 3                        | 8      | 10     | 7.5              | 60           | F611KF822(1)630(4) |
| 630 | 220 | 0.01                   | KF        | 3                        | 8      | 10     | 7.5              | 60           | F611KF103(1)630(4) |
| 630 | 220 | 0.012                  | KG        | 4                        | 8      | 10     | 7.5              | 60           | F611KG123(1)630(4) |
| 630 | 220 | 0.015                  | KG        | 4                        | 8      | 10     | 7.5              | 60           | F611KG153(1)630(4) |
| 630 | 220 | 0.018                  | KG        | 4                        | 8      | 10     | 7.5              | 60           | F611KG183(1)630(4) |
| 630 | 220 | 0.022                  | KJ        | 5                        | 10.5   | 10     | 7.5              | 60           | F611KJ223(1)630(4) |
| 630 | 220 | 0.027                  | KJ        | 5                        | 10.5   | 10     | 7.5              | 60           | F611KJ273(1)630(4) |
| 630 | 220 | 0.033                  | KJ        | 5                        | 10.5   | 10     | 7.5              | 60           | F611KJ333(1)630(4) |
| 630 | 220 | 0.039                  | KJ        | 5                        | 10.5   | 10     | 7.5              | 60           | F611KJ393(1)630(4) |
| 630 | 220 | 0.047                  | KM        | 6                        | 12     | 10.5   | 7.5              | 60           | F611KM473(1)630(4) |
| 630 | 220 | 0.056                  | KM        | 6                        | 12     | 10.5   | 7.5              | 60           | F611KM563(1)630(4) |
| 630 | 220 | 0.012                  | AG        | 4                        | 9      | 13     | 10.0             | 40           | F611AG123(1)630(4) |
| 630 | 220 | 0.015                  | AG        | 4                        | 9      | 13     | 10.0             | 40           | F611AG153(1)630(4) |
| 630 | 220 | 0.018                  | AG        | 4                        | 9      | 13     | 10.0             | 40           | F611AG183(1)630(4) |
| 630 | 220 | 0.022                  | AG        | 4                        | 9      | 13     | 10.0             | 40           | F611AG223(1)630(4) |
| 630 | 220 | 0.027                  | AG        | 4                        | 9      | 13     | 10.0             | 40           | F611AG273(1)630(4) |
| 630 | 220 | 0.033                  | AK        | 5                        | 11     | 13     | 10.0             | 40           | F611AK333(1)630(4) |
| 630 | 220 | 0.039                  | AK        | 5                        | 11     | 13     | 10.0             | 40           | F611AK393(1)630(4) |
| 630 | 220 | 0.047                  | AK        | 5                        | 11     | 13     | 10.0             | 40           | F611AK473(1)630(4) |
| 630 | 220 | 0.056                  | AP        | 6                        | 12     | 13     | 10.0             | 40           | F611AP563(1)630(4) |
| 630 | 220 | 0.068                  | AO        | 7                        | 17     | 13     | 10.0             | 40           | F611AP683(1)630(4) |
| 630 | 220 | 0.082                  | AO        | 7                        | 17     | 13     | 10.0             | 40           | F611AP823(1)630(4) |
| 630 | 220 | 0.022                  | BB        | 4                        | 10     | 18     | 15.0             | 25           | F611BB223(1)630(4) |
| 630 | 220 | 0.027                  | BB        | 4                        | 10     | 18     | 15.0             | 25           | F611BB273(1)630(4) |
| 630 | 220 | 0.033                  | BB        | 4                        | 10     | 18     | 15.0             | 25           | F611BB333(1)630(4) |
| 630 | 220 | 0.039                  | BB        | 4                        | 10     | 18     | 15.0             | 25           | F611BB393(1)630(4) |
| 630 | 220 | 0.047                  | BB        | 4                        | 10     | 18     | 15.0             | 25           | F611BB473(1)630(4) |
| 630 | 220 | 0.056                  | BC        | 5                        | 11     | 18     | 15.0             | 25           | F611BC563(1)630(4) |
| 630 | 220 | 0.068                  | BC        | 5                        | 11     | 18     | 15.0             | 25           | F611BC683(1)630(4) |
| 630 | 220 | 0.082                  | BC        | 5                        | 11     | 18     | 15.0             | 25           | F611BC823(1)630(4) |
| 630 | 220 | 0.1                    | BE        | 5.5                      | 12.5   | 18     | 15.0             | 25           | F611BE104(1)630(4) |
| 630 | 220 | 0.12                   | BG        | 6                        | 12     | 18     | 15.0             | 25           | F611BG124(1)630(4) |
| 630 | 220 | 0.15                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 25           | F611BK154(1)630(4) |
| 630 | 220 | 0.18                   | BK        | 7.5                      | 13.5   | 18     | 15.0             | 25           | F611BK184(1)630(4) |
| 630 | 220 | 0.22                   | BP        | 8.5                      | 14.5   | 18     | 15.0             | 25           | F611BP224(1)630(4) |
| 630 | 220 | 0.27                   | BS        | 10                       | 16     | 18     | 15.0             | 25           | F611BS274(1)630(4) |
| 630 | 220 | 0.33                   | BS        | 10                       | 16     | 18     | 15.0             | 25           | F611BS334(1)630(4) |
| 630 | 220 | 0.39                   | BY        | 11                       | 19     | 18     | 15.0             | 25           | F611BY394(1)630(4) |
| 630 | 220 | 0.47                   | BY        | 11                       | 19     | 18     | 15.0             | 25           | F611BY474(1)630(4) |
| 630 | 220 | 0.12                   | DB        | 6                        | 14.5   | 26     | 22.5             | 12           | F611DB124(1)630(4) |
| 630 | 220 | 0.15                   | DB        | 6                        | 14.5   | 26     | 22.5             | 12           | F611DB154(1)630(4) |
| 630 | 220 | 0.18                   | DB        | 6                        | 14.5   | 26     | 22.5             | 12           | F611DB184(1)630(4) |
| 630 | 220 | 0.22                   | DB        | 6                        | 14.5   | 26     | 22.5             | 12           | F611DB224(1)630(4) |
| 630 | 220 | 0.27                   | DI        | 7                        | 16     | 26     | 22.5             | 12           | F611DI274(1)630(4) |
| 630 | 220 | 0.33                   | DI        | 7                        | 16     | 26     | 22.5             | 12           | F611DI334(1)630(4) |
| 630 | 220 | 0.39                   | DH        | 8                        | 16     | 26     | 22.5             | 12           | F611DH394(1)630(4) |
| 630 | 220 | 0.47                   | DJ        | 8.5                      | 17     | 26     | 22.5             | 12           | F611DJ474(1)630(4) |
| 630 | 220 | 0.56                   | DM        | 9                        | 18.5   | 26     | 22.5             | 12           | F611DM564(1)630(4) |
| 630 | 220 | 0.68                   | DO        | 10                       | 18.5   | 26     | 22.5             | 12           | F611DO684(1)630(4) |
| 630 | 220 | 0.82                   | DP        | 11                       | 20     | 26     | 22.5             | 12           | F611DP824(1)630(4) |
| 630 | 220 | 1                      | DU        | 13                       | 22     | 26     | 22.5             | 12           | F611DU105(1)630(4) |
| 630 | 220 | 1.2                    | DY        | 15.5                     | 24.5   | 26     | 22.5             | 12           | F611DY125(1)630(4) |
| 630 | 220 | 1.5                    | DY        | 15.5                     | 24.5   | 26     | 22.5             | 12           | F611DY155(1)630(4) |
| VDC | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K = ±10%, M = ±20%; J = ±5% on request

(2) K = ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC  | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|------|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|      |     |                        |           | T                        | H      | L      |                  |              |                    |
| 630  | 220 | 0.33                   | FB        | 9                        | 17     | 31.5   | 27.5             | 10           | F611FB334(1)630(4) |
| 630  | 220 | 0.39                   | FB        | 9                        | 17     | 31.5   | 27.5             | 10           | F611FB394(1)630(4) |
| 630  | 220 | 0.47                   | FB        | 9                        | 17     | 31.5   | 27.5             | 10           | F611FB474(1)630(4) |
| 630  | 220 | 0.56                   | FB        | 9                        | 17     | 31.5   | 27.5             | 10           | F611FB564(1)630(4) |
| 630  | 220 | 0.68                   | FB        | 9                        | 17     | 31.5   | 27.5             | 10           | F611FB684(2)630(4) |
| 630  | 220 | 0.82                   | FC        | 11                       | 20     | 31.5   | 27.5             | 10           | F611FC824(1)630(4) |
| 630  | 220 | 1                      | FC        | 11                       | 20     | 31.5   | 27.5             | 10           | F611FC105(2)630(4) |
| 630  | 220 | 1.2                    | FI        | 13                       | 25     | 31.5   | 27.5             | 10           | F611FI125(1)630(4) |
| 630  | 220 | 1.5                    | FI        | 13                       | 25     | 31.5   | 27.5             | 10           | F611FI155(2)630(4) |
| 630  | 220 | 1.8                    | FI        | 13                       | 25     | 31.5   | 27.5             | 10           | F611FI185(3)630(4) |
| 630  | 220 | 2.2                    | FN        | 14                       | 28     | 31.5   | 27.5             | 10           | F611FN225(3)630(4) |
| 630  | 220 | 2.2                    | FR        | 17.5                     | 28     | 31.5   | 27.5             | 10           | F611FR225(1)630(4) |
| 630  | 220 | 2.7                    | FR        | 17.5                     | 28     | 31.5   | 27.5             | 10           | F611FR275(3)630(4) |
| 630  | 220 | 3.3                    | FY        | 19                       | 29     | 31.5   | 27.5             | 10           | F611FY335(2)630(4) |
| 630  | 220 | 3.9                    | FY        | 22                       | 37     | 31.5   | 27.5             | 10           | F611FY395(1)630(4) |
| 630  | 220 | 4.7                    | FY        | 22                       | 37     | 31.5   | 27.5             | 10           | F611FY475(3)630(4) |
| 630  | 220 | 0.82                   | RB        | 11                       | 22     | 41     | 37.5             | 8            | F611RB824(1)630(4) |
| 630  | 220 | 1                      | RB        | 11                       | 22     | 41     | 37.5             | 8            | F611RB105(1)630(4) |
| 630  | 220 | 1.2                    | RB        | 11                       | 22     | 41     | 37.5             | 8            | F611RB125(1)630(4) |
| 630  | 220 | 1.5                    | RB        | 11                       | 22     | 41     | 37.5             | 8            | F611RB155(1)630(4) |
| 630  | 220 | 1.8                    | RB        | 11                       | 22     | 41     | 37.5             | 8            | F611RB185(3)630(4) |
| 630  | 220 | 2.2                    | RF        | 13                       | 24     | 41     | 37.5             | 8            | F611RF225(1)630(4) |
| 630  | 220 | 2.7                    | RH        | 15                       | 26     | 41     | 37.5             | 8            | F611RH275(1)630(4) |
| 630  | 220 | 3.3                    | RC        | 16                       | 28.5   | 41     | 37.5             | 8            | F611RC335(1)630(4) |
| 630  | 220 | 3.9                    | RD        | 19                       | 32     | 41     | 37.5             | 8            | F611RD395(1)630(4) |
| 630  | 220 | 4.7                    | RD        | 19                       | 32     | 41     | 37.5             | 8            | F611RD475(2)630(4) |
| 630  | 220 | 5.6                    | RP        | 21                       | 38     | 41     | 37.5             | 8            | F611RP565(1)630(4) |
| 630  | 220 | 6.8                    | RP        | 21                       | 38     | 41     | 37.5             | 8            | F611RP685(2)630(4) |
| 630  | 220 | 8.2                    | RO        | 24                       | 44     | 41     | 37.5             | 8            | F611RO825(1)630(4) |
| 630  | 220 | 10                     | RO        | 24                       | 44     | 41     | 37.5             | 8            | F611RO106(3)630(4) |
| 630  | 220 | 12                     | RU        | 30                       | 45     | 41     | 37.5             | 8            | F611RU126(3)630(4) |
| 1000 | 250 | 0.001                  | JF        | 2.5                      | 6.5    | 7.2    | 5.0              | 100          | F611JF102(1)1K0(4) |
| 1000 | 250 | 0.0012                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 100          | F611JG122(1)1K0(4) |
| 1000 | 250 | 0.0015                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 100          | F611JG152(1)1K0(4) |
| 1000 | 250 | 0.0018                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 100          | F611JG182(1)1K0(4) |
| 1000 | 250 | 0.0022                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 100          | F611JG222(1)1K0(4) |
| 1000 | 250 | 0.0027                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 100          | F611JG272(1)1K0(4) |
| 1000 | 250 | 0.0033                 | JG        | 3.5                      | 7.5    | 7.2    | 5.0              | 100          | F611JG332(1)1K0(4) |
| 1000 | 250 | 0.0039                 | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 100          | F611JM392(1)1K0(4) |
| 1000 | 250 | 0.0047                 | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 100          | F611JM472(1)1K0(4) |
| 1000 | 250 | 0.0056                 | JM        | 4.5                      | 9.5    | 7.2    | 5.0              | 100          | F611JM562(1)1K0(4) |
| 1000 | 250 | 0.0068                 | JQ        | 5                        | 10     | 7.2    | 5.0              | 100          | F611JQ682(1)1K0(4) |
| 1000 | 250 | 0.0082                 | JT        | 6                        | 11     | 7.2    | 5.0              | 100          | F611JT822(1)1K0(4) |
| 1000 | 250 | 0.01                   | JT        | 6                        | 11     | 7.2    | 5.0              | 100          | F611JT103(1)1K0(4) |
| 1000 | 250 | 0.012                  | JT        | 6                        | 11     | 7.2    | 5.0              | 100          | F611JT123(1)1K0(4) |
| 1000 | 250 | 0.015                  | JU        | 7.2                      | 13     | 7.2    | 5.0              | 100          | F611JU153(1)1K0(4) |
| 1000 | 250 | 0.001                  | KE        | 2.5                      | 6      | 10     | 7.5              | 80           | F611KE102(1)1K0(4) |
| 1000 | 250 | 0.0012                 | KE        | 2.5                      | 6      | 10     | 7.5              | 80           | F611KE122(1)1K0(4) |
| 1000 | 250 | 0.0015                 | KE        | 2.5                      | 6      | 10     | 7.5              | 80           | F611KE152(1)1K0(4) |
| 1000 | 250 | 0.0018                 | KF        | 3                        | 8      | 10     | 7.5              | 80           | F611KF182(1)1K0(4) |
| 1000 | 250 | 0.0022                 | KF        | 3                        | 8      | 10     | 7.5              | 80           | F611KF222(1)1K0(4) |
| 1000 | 250 | 0.0027                 | KF        | 3                        | 8      | 10     | 7.5              | 80           | F611KF272(1)1K0(4) |
| 1000 | 250 | 0.0033                 | KF        | 3                        | 8      | 10     | 7.5              | 80           | F611KF332(1)1K0(4) |
| 1000 | 250 | 0.0039                 | KG        | 4                        | 8      | 10     | 7.5              | 80           | F611KG392(1)1K0(4) |
| 1000 | 250 | 0.0047                 | KG        | 4                        | 8      | 10     | 7.5              | 80           | F611KG472(1)1K0(4) |
| 1000 | 250 | 0.0056                 | KG        | 4                        | 8      | 10     | 7.5              | 80           | F611KG562(1)1K0(4) |
| 1000 | 250 | 0.0068                 | KG        | 4                        | 8      | 10     | 7.5              | 80           | F611KG682(1)1K0(4) |
| VDC  | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC  | VAC | Capacitance Value (µF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |
|------|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|      |     |                        |           | T                        | H      | L      |                  |              |                    |
| 1000 | 250 | 0.0082                 | KJ        | 5                        | 10.5   | 10     | 7.5              | 80           | F611KJ822(1)1K0(4) |
| 1000 | 250 | 0.01                   | KJ        | 5                        | 10.5   | 10     | 7.5              | 80           | F611KJ103(1)1K0(4) |
| 1000 | 250 | 0.012                  | KJ        | 5                        | 10.5   | 10     | 7.5              | 80           | F611KJ123(1)1K0(4) |
| 1000 | 250 | 0.015                  | KM        | 6                        | 12     | 10.5   | 7.5              | 80           | F611KM153(1)1K0(4) |
| 1000 | 250 | 0.018                  | KM        | 6                        | 12     | 10.5   | 7.5              | 80           | F611KM183(1)1K0(4) |
| 1000 | 250 | 0.022                  | KM        | 6                        | 12     | 10.5   | 7.5              | 80           | F611KM223(1)1K0(4) |
| 1000 | 250 | 0.001                  | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG102(1)1K0(4) |
| 1000 | 250 | 0.0012                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG122(1)1K0(4) |
| 1000 | 250 | 0.0015                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG152(1)1K0(4) |
| 1000 | 250 | 0.0018                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG182(1)1K0(4) |
| 1000 | 250 | 0.0022                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG222(1)1K0(4) |
| 1000 | 250 | 0.0027                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG272(1)1K0(4) |
| 1000 | 250 | 0.0033                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG332(1)1K0(4) |
| 1000 | 250 | 0.0039                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG392(1)1K0(4) |
| 1000 | 250 | 0.0047                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG472(1)1K0(4) |
| 1000 | 250 | 0.0056                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG562(1)1K0(4) |
| 1000 | 250 | 0.0068                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG682(1)1K0(4) |
| 1000 | 250 | 0.0082                 | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG822(1)1K0(4) |
| 1000 | 250 | 0.01                   | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG103(1)1K0(4) |
| 1000 | 250 | 0.012                  | AG        | 4                        | 9      | 13     | 10.0             | 60           | F611AG123(1)1K0(4) |
| 1000 | 250 | 0.015                  | AK        | 5                        | 11     | 13     | 10.0             | 60           | F611AK153(1)1K0(4) |
| 1000 | 250 | 0.018                  | AK        | 5                        | 11     | 13     | 10.0             | 60           | F611AK183(1)1K0(4) |
| 1000 | 250 | 0.022                  | AP        | 6                        | 12     | 13     | 10.0             | 60           | F611AP223(1)1K0(4) |
| 1000 | 250 | 0.027                  | AP        | 6                        | 12     | 13     | 10.0             | 60           | F611AP273(1)1K0(4) |
| 1000 | 250 | 0.033                  | AO        | 7                        | 17     | 13     | 10.0             | 60           | F611AP333(1)1K0(4) |
| 1000 | 250 | 0.0082                 | BB        | 4                        | 10     | 18     | 15.0             | 30           | F611BB822(1)1K0(4) |
| 1000 | 250 | 0.01                   | BB        | 4                        | 10     | 18     | 15.0             | 30           | F611BB103(1)1K0(4) |
| 1000 | 250 | 0.012                  | BB        | 4                        | 10     | 18     | 15.0             | 30           | F611BB123(1)1K0(4) |
| 1000 | 250 | 0.015                  | BB        | 4                        | 10     | 18     | 15.0             | 30           | F611BB153(1)1K0(4) |
| 1000 | 250 | 0.018                  | BB        | 4                        | 10     | 18     | 15.0             | 30           | F611BB183(1)1K0(4) |
| 1000 | 250 | 0.022                  | BC        | 5                        | 11     | 18     | 15.0             | 30           | F611BC223(1)1K0(4) |
| 1000 | 250 | 0.027                  | BC        | 5                        | 11     | 18     | 15.0             | 30           | F611BC273(1)1K0(4) |
| 1000 | 250 | 0.033                  | BC        | 5                        | 11     | 18     | 15.0             | 30           | F611BC333(1)1K0(4) |
| 1000 | 250 | 0.039                  | BE        | 5.5                      | 12.5   | 18     | 15.0             | 30           | F611BE393(1)1K0(4) |
| 1000 | 250 | 0.047                  | BG        | 6                        | 12     | 18     | 15.0             | 30           | F611BG473(1)1K0(4) |
| 1000 | 250 | 0.056                  | BK        | 7.5                      | 13.5   | 18     | 15.0             | 30           | F611BK563(1)1K0(4) |
| 1000 | 250 | 0.068                  | BK        | 7.5                      | 13.5   | 18     | 15.0             | 30           | F611BK683(1)1K0(4) |
| 1000 | 250 | 0.082                  | BP        | 8.5                      | 14.5   | 18     | 15.0             | 30           | F611BP823(1)1K0(4) |
| 1000 | 250 | 0.1                    | BP        | 8.5                      | 14.5   | 18     | 15.0             | 30           | F611BP104(1)1K0(4) |
| 1000 | 250 | 0.12                   | BS        | 10                       | 16     | 18     | 15.0             | 30           | F611BS124(1)1K0(4) |
| 1000 | 250 | 0.15                   | BY        | 11                       | 19     | 18     | 15.0             | 30           | F611BY154(1)1K0(4) |
| 1000 | 250 | 0.18                   | BY        | 11                       | 19     | 18     | 15.0             | 30           | F611BY184(1)1K0(4) |
| 1000 | 250 | 0.033                  | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB333(1)1K0(4) |
| 1000 | 250 | 0.039                  | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB393(1)1K0(4) |
| 1000 | 250 | 0.047                  | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB473(1)1K0(4) |
| 1000 | 250 | 0.056                  | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB563(1)1K0(4) |
| 1000 | 250 | 0.068                  | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB683(1)1K0(4) |
| 1000 | 250 | 0.082                  | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB823(1)1K0(4) |
| 1000 | 250 | 0.1                    | DB        | 6                        | 14.5   | 26     | 22.5             | 15           | F611DB104(1)1K0(4) |
| 1000 | 250 | 0.12                   | DI        | 7                        | 16     | 26     | 22.5             | 15           | F611DI124(1)1K0(4) |
| 1000 | 250 | 0.15                   | DI        | 7                        | 16     | 26     | 22.5             | 15           | F611DI154(1)1K0(4) |
| 1000 | 250 | 0.18                   | DH        | 8                        | 16     | 26     | 22.5             | 15           | F611DH184(1)1K0(4) |
| 1000 | 250 | 0.22                   | DM        | 9                        | 18.5   | 26     | 22.5             | 15           | F611DM224(1)1K0(4) |
| 1000 | 250 | 0.27                   | DO        | 10                       | 18.5   | 26     | 22.5             | 15           | F611DO274(1)1K0(4) |
| 1000 | 250 | 0.33                   | DP        | 11                       | 20     | 26     | 22.5             | 15           | F611DP334(1)1K0(4) |
| 1000 | 250 | 0.39                   | DU        | 13                       | 22     | 26     | 22.5             | 15           | F611DU394(1)1K0(4) |
| 1000 | 250 | 0.47                   | DU        | 13                       | 22     | 26     | 22.5             | 15           | F611DU474(1)1K0(4) |
| VDC  | VAC | Capacitance Value (µF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/µs) | Part Number        |

(1) K = ±10%, M = ±20%; J = ±5% on request

(2) K = ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

**Table 1 – Ratings & Part Number Reference cont.**

| VDC  | VAC | Capacitance Value (μF) | Size Code | Maximum Dimensions in mm |        |        | Lead Spacing (S) | dV/dt (V/μs) | Part Number        |
|------|-----|------------------------|-----------|--------------------------|--------|--------|------------------|--------------|--------------------|
|      |     |                        |           | T                        | H      | L      |                  |              |                    |
| 1000 | 250 | 0.56                   | DY        | 15.5                     | 24.5   | 26     | 22.5             | 15           | F611DY564(1)1K0(4) |
| 1000 | 250 | 0.68                   | DY        | 15.5                     | 24.5   | 26     | 22.5             | 15           | F611DY684(1)1K0(4) |
| 1000 | 250 | 0.15                   | FB        | 9                        | 17     | 31.5   | 27.5             | 12           | F611FB154(1)1K0(4) |
| 1000 | 250 | 0.18                   | FB        | 9                        | 17     | 31.5   | 27.5             | 12           | F611FB184(1)1K0(4) |
| 1000 | 250 | 0.22                   | FB        | 9                        | 17     | 31.5   | 27.5             | 12           | F611FB224(1)1K0(4) |
| 1000 | 250 | 0.27                   | FB        | 9                        | 17     | 31.5   | 27.5             | 12           | F611FB274(1)1K0(4) |
| 1000 | 250 | 0.33                   | FB        | 9                        | 17     | 31.5   | 27.5             | 12           | F611FB334(3)1K0(4) |
| 1000 | 250 | 0.39                   | FC        | 11                       | 20     | 31.5   | 27.5             | 12           | F611FC394(1)1K0(4) |
| 1000 | 250 | 0.47                   | FC        | 11                       | 20     | 31.5   | 27.5             | 12           | F611FC474(2)1K0(4) |
| 1000 | 250 | 0.56                   | FI        | 13                       | 25     | 31.5   | 27.5             | 12           | F611FI564(1)1K0(4) |
| 1000 | 250 | 0.68                   | FI        | 13                       | 25     | 31.5   | 27.5             | 12           | F611FI684(2)1K0(4) |
| 1000 | 250 | 0.82                   | FN        | 14                       | 28     | 31.5   | 27.5             | 12           | F611FN824(2)1K0(4) |
| 1000 | 250 | 1                      | FR        | 17.5                     | 28     | 31.5   | 27.5             | 12           | F611FR105(1)1K0(4) |
| 1000 | 250 | 1.2                    | FR        | 17.5                     | 28     | 31.5   | 27.5             | 12           | F611FR125(3)1K0(4) |
| 1000 | 250 | 1.5                    | FS        | 19                       | 29     | 31.5   | 27.5             | 12           | F611FS155(3)1K0(4) |
| 1000 | 250 | 1.8                    | FY        | 22                       | 37     | 31.5   | 27.5             | 12           | F611FY185(1)1K0(4) |
| 1000 | 250 | 2.2                    | FY        | 22                       | 37     | 31.5   | 27.5             | 12           | F611FY225(3)1K0(4) |
| 1000 | 250 | 0.47                   | RB        | 11                       | 22     | 41     | 37.5             | 10           | F611RB474(1)1K0(4) |
| 1000 | 250 | 0.56                   | RB        | 11                       | 22     | 41     | 37.5             | 10           | F611RB564(1)1K0(4) |
| 1000 | 250 | 0.68                   | RB        | 11                       | 22     | 41     | 37.5             | 10           | F611RB684(1)1K0(4) |
| 1000 | 250 | 0.82                   | RF        | 13                       | 24     | 41     | 37.5             | 10           | F611RF824(1)1K0(4) |
| 1000 | 250 | 1                      | RF        | 13                       | 24     | 41     | 37.5             | 10           | F611RF105(2)1K0(4) |
| 1000 | 250 | 1.2                    | RH        | 15                       | 26     | 41     | 37.5             | 10           | F611RH125(1)1K0(4) |
| 1000 | 250 | 1.5                    | RC        | 16                       | 28.5   | 41     | 37.5             | 10           | F611RC155(2)1K0(4) |
| 1000 | 250 | 1.8                    | RD        | 19                       | 32     | 41     | 37.5             | 10           | F611RD185(1)1K0(4) |
| 1000 | 250 | 2.2                    | RD        | 19                       | 32     | 41     | 37.5             | 10           | F611RD225(3)1K0(4) |
| 1000 | 250 | 2.7                    | RP        | 21                       | 38     | 41     | 37.5             | 10           | F611RP275(2)1K0(4) |
| 1000 | 250 | 3.3                    | RO        | 24                       | 44     | 41     | 37.5             | 10           | F611RO335(1)1K0(4) |
| 1000 | 250 | 3.9                    | RO        | 24                       | 44     | 41     | 37.5             | 10           | F611RO395(2)1K0(4) |
| 1000 | 250 | 4.7                    | RU        | 30                       | 45     | 41     | 37.5             | 10           | F611RU475(1)1K0(4) |
| 1000 | 250 | 5.6                    | RU        | 30                       | 45     | 41     | 37.5             | 10           | F611RU565(3)1K0(4) |
| VDC  | VAC | Capacitance Value (μF) | Size Code | T (mm)                   | H (mm) | L (mm) | Lead Spacing (S) | dV/dt (V/μs) | Part Number        |

(1) K= ±10%, M = ±20%; J = ±5% on request

(2) K= ±10%, M = ±20%; J = ±5% not available

(3) M = ±20% (only available tolerance).

(4) Insert lead and packaging code. See Ordering Options Table for available options.

## Soldering Process

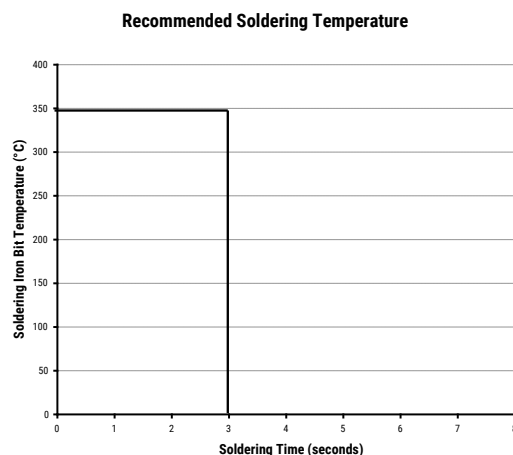
The implementation of the RoHS directive has resulted in the selection of SnAuCu (SAC) alloys or SnCu alloys as primary solder. This has increased the liquidus temperature from that of 183°C for SnPb eutectic alloy to 217 – 221°C for the new alloys. As a result, the heat stress to the components, even in wave soldering, has increased considerably due to higher pre-heat and wave temperatures. Polypropylene capacitors are especially sensitive to heat (the melting point of polypropylene is 160 – 170°C). Wave soldering can be destructive, especially for mechanically small polypropylene capacitors (with lead spacing of 5 – 15 mm), and great care has to be taken during soldering. In general, the wave soldering curve from IEC Publication 61760-1 Edition 2 serves as a solid guideline for successful soldering. Please see Figure 1. The recommended solder profiles from KEMET should be used. Please consult KEMET with any questions.

Reflow soldering is not recommended for through-hole film capacitors. Exposing capacitors to a soldering profile in excess of the above the recommended limits may result to degradation or permanent damage to the capacitors.

Do not place the polypropylene capacitor through an adhesive curing oven to cure resin for surface mount components. Insert through-hole parts after the curing of surface mount parts. Consult KEMET to discuss the actual temperature profile in the oven, if through-hole components must pass through the adhesive curing process. A maximum two soldering cycles is recommended. Please allow time for the capacitor surface temperature to return to a normal temperature before the second soldering cycle.

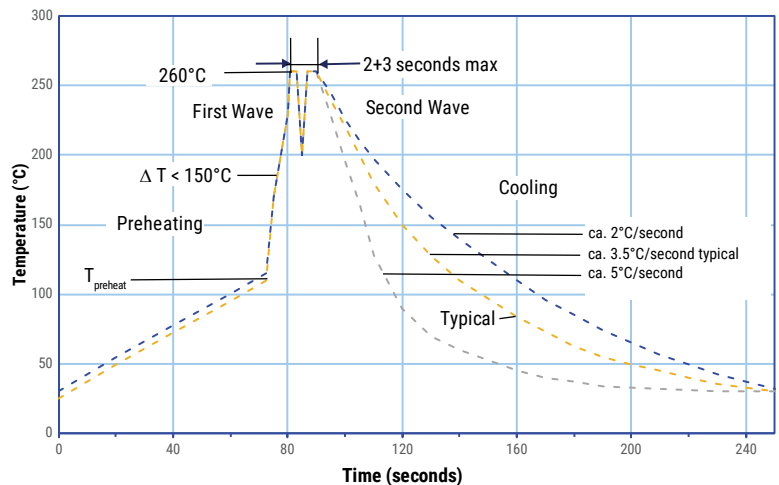
### Manual Soldering Recommendations

Following is the recommendation for manual soldering with a soldering iron.



Soldering iron tip temperature should be set at 350°C (+10°C maximum) with the soldering duration not to exceed more than three seconds.

### Wave Soldering Recommendations



## Soldering Process cont.

### Wave Soldering Recommendations cont.

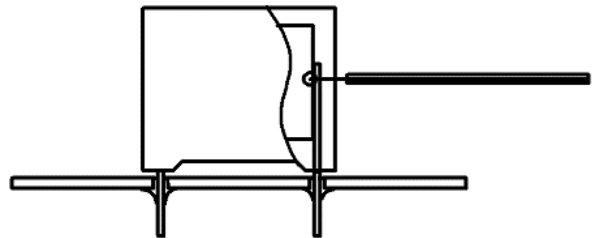
1. The table indicates the maximum set-up temperature of the soldering process  
Figure 1

| Dielectric Film Material | Maximum Preheat Temperature |                         |                         | Maximum Peak Soldering Temperature |                         |
|--------------------------|-----------------------------|-------------------------|-------------------------|------------------------------------|-------------------------|
|                          | Capacitor pitch ≤ 10 mm     | Capacitor pitch = 15 mm | Capacitor pitch > 15 mm | Capacitor pitch ≤ 15 mm            | Capacitor pitch > 15 mm |
| Polyester                | 130°C                       | 130°C                   | 130°C                   | 270°C                              | 270°C                   |
| Polypropylene            | 110°C                       | 110°C                   | 130°C                   | 260°C                              | 270°C                   |
| Paper                    | 130°C                       | 130°C                   | 140°C                   | 270°C                              | 270°C                   |
| Polyphenylene Sulphide   | 150°C                       | 150°C                   | 160°C                   | 270°C                              | 270°C                   |

2. The maximum temperature measured inside the capacitor:  
Set the temperature so that inside the element the maximum temperature is below the limit:

| Dielectric Film Material | Maximum temperature measured inside the element |
|--------------------------|-------------------------------------------------|
| Polyester                | 160°C                                           |
| Polypropylene            | 110°C                                           |
| Paper                    | 160°C                                           |
| Polyphenylene Sulphide   | 160°C                                           |

*Temperature monitored inside the capacitor.*



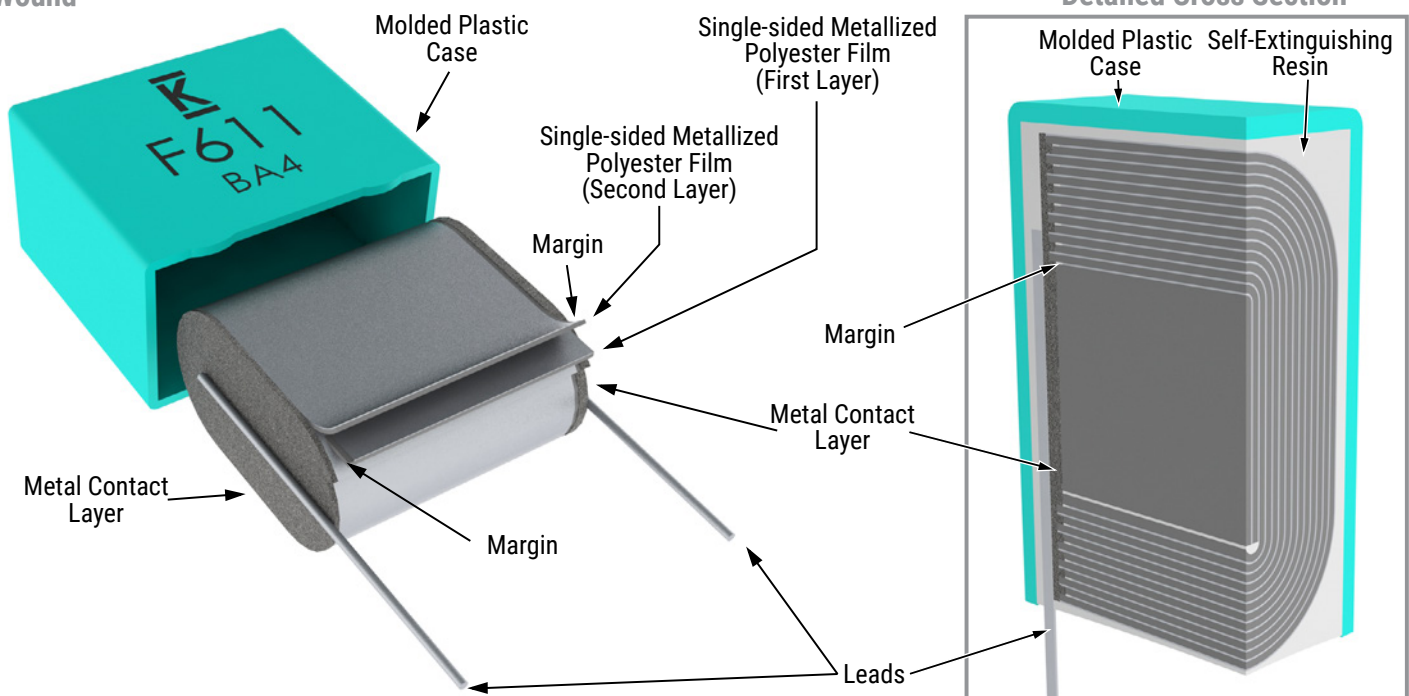
### Selective Soldering Recommendations

Selective dip soldering is a variation of reflow soldering. In this method, the printed circuit board with through-hole components to be soldered is preheated and transported over the solder bath as in normal flow soldering without touching the solder. When the board is over the bath, it is stopped, and pre-designed solder pots are lifted from the bath with molten solder only at the places of the selected components and pressed against the lower surface of the board to solder the components.

The temperature profile for selective soldering is similar to the double wave flow soldering outlined in this document; **however, instead of two baths, there is only one bath with a time of 3 to 10 seconds.** In selective soldering, the risk of overheating is greater than in double wave flow soldering, and great care must be taken so that the parts are not overheated.

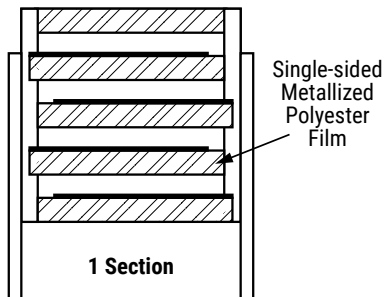
## Construction

### Wound



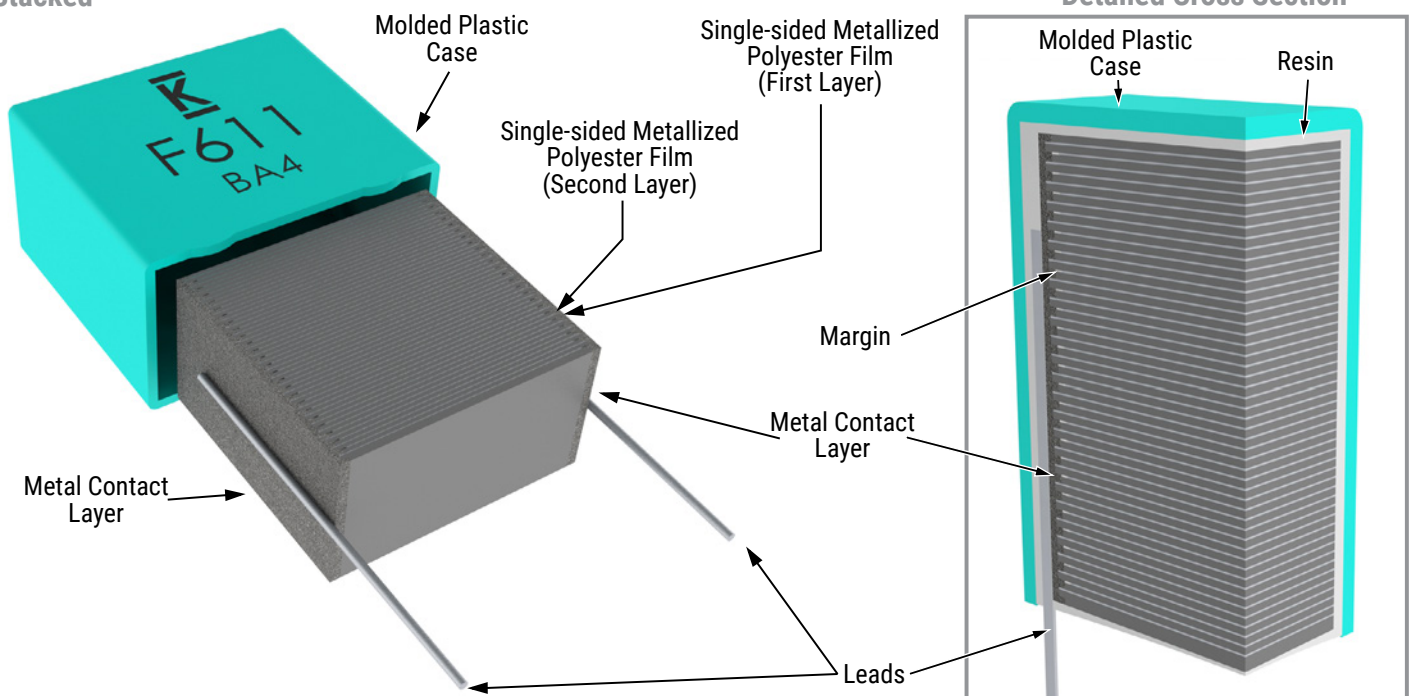
Above image features the 5 mm pitch.

### Winding Scheme



## Construction cont.

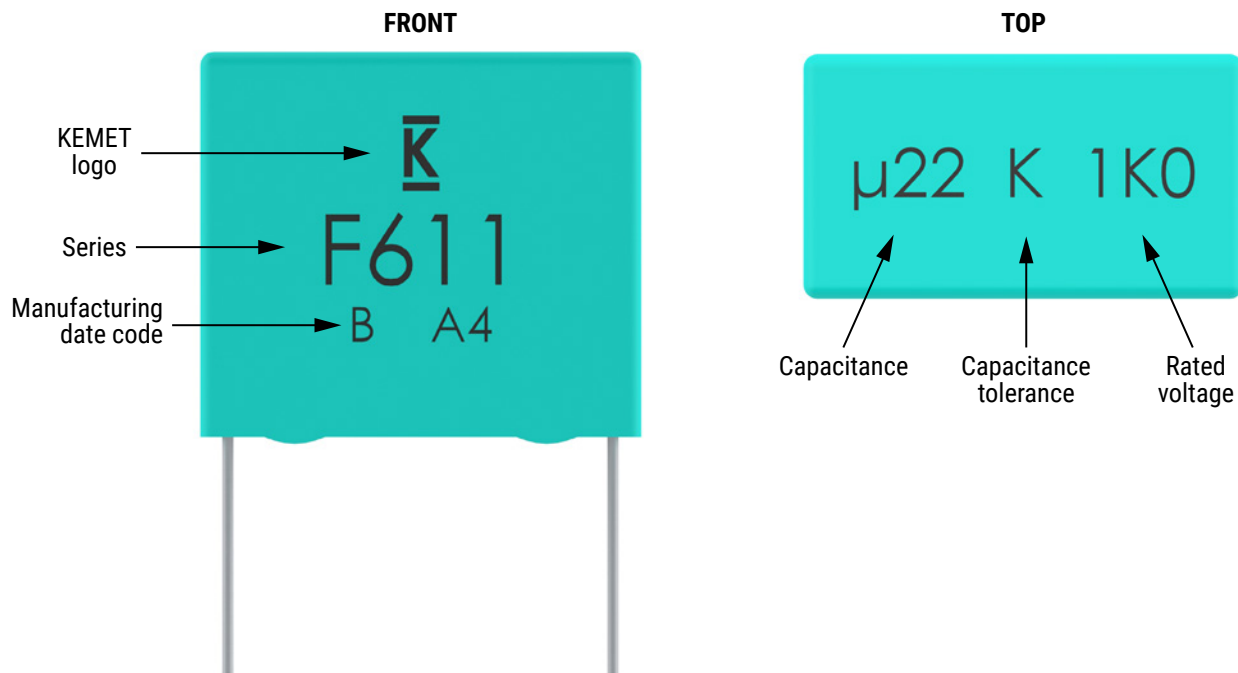
### Stacked



Above image features the 5 mm pitch.

## Marking

F611 Series,  $\geq 7.5$  mm Pitch

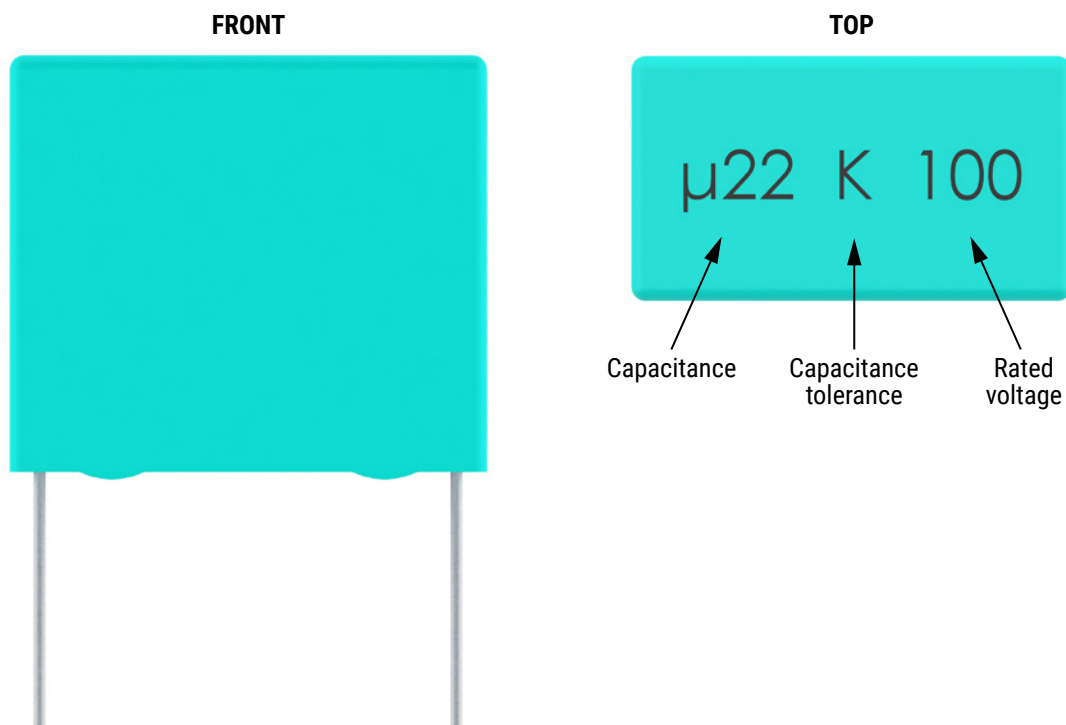


F611 Series, 5 and 7.5 mm Pitch



## Marking cont.

F612 Series, 5 mm Pitch



## Packaging Quantities

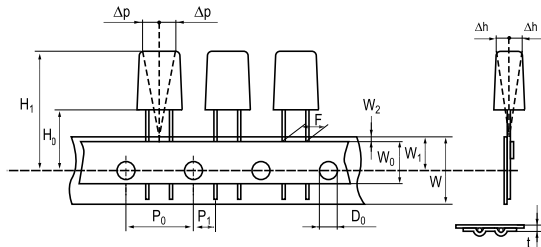
| Size Code | Lead Spacing | Thickness (mm) | Height (mm) | Length (mm) | Bulk Short leads | Bulk Long leads | Standard Reel 355 mm | Large Reel 500 mm | Ammo  | Pizza |
|-----------|--------------|----------------|-------------|-------------|------------------|-----------------|----------------------|-------------------|-------|-------|
| JF        | 5.0          | 2.5            | 6.5         | 7.2         | 3,000            | 4,000           | 2,500                |                   | 3,500 |       |
| JG        |              | 3.5            | 7.5         | 7.2         | 2,000            | 3,000           | 1,800                |                   | 2,500 |       |
| JM        |              | 4.5            | 9.5         | 7.2         | 1,500            | 2,000           | 1,400                |                   | 1,900 |       |
| JQ        |              | 5.0            | 10.0        | 7.2         | 1,000            | 1,500           | 1,200                |                   | 1,700 |       |
| JT        |              | 6.0            | 11.0        | 7.2         | 2,000            | 1,000           | 1,000                |                   | 1,400 |       |
| JU        |              | 7.2            | 13.0        | 7.2         | 1,500            | 750             | 800                  |                   | 1,150 |       |
| KE        | 7.5          | 2.5            | 6.0         | 10.0        | 2,000            | 3,000           | 2,500                |                   | 3,500 |       |
| KF        |              | 3.0            | 8.0         | 10.0        | 1,500            | 1,750           | 2,100                |                   | 2,800 |       |
| KG        |              | 4.0            | 8.0         | 10.0        | 2,000            | 1,500           | 1,500                |                   | 2,100 |       |
| KJ        |              | 5.0            | 10.5        | 10.0        | 1,500            | 1,000           | 1,200                |                   | 1,600 |       |
| KM        |              | 6.0            | 12.0        | 10.5        | 1,000            | 800             | 1,000                |                   | 1,350 |       |
| KH        |              | 4.0            | 9.0         | 10.0        | 2,000            | 1,500           | 1,500                |                   | 2,100 |       |
| AN        | 10           | 3.5            | 9.0         | 13.0        | 2,200            | 3,200           | 850                  | 1,700             | 1,150 |       |
| AG        |              | 4.0            | 9.0         | 13.0        | 2,000            | 2,200           | 750                  | 1,500             | 1,000 |       |
| AK        |              | 5.0            | 11.0        | 13.0        | 1,300            | 2,000           | 600                  | 1,250             | 800   |       |
| AP        |              | 6.0            | 12.0        | 13.0        | 1,000            | 1,800           | 500                  | 1,000             | 680   |       |
| AO        |              | 7.0            | 17.0        | 13.0        | 600              | 900             | 450                  | 900               | 580   |       |
| AL        |              | 9.5            | 7.5         | 13.0        | 1,100            | 2,000           | 300                  | 600               | 430   |       |
| AE        |              | 4.0            | 8.0         | 13.0        | 2,000            | 2,200           | 750                  | 1,500             | 1,000 |       |
| BB        | 15           | 4.0            | 10.0        | 18.0        | 1,300            | 1,500           | 750                  | 1,500             | 1,000 | 1,411 |
| BC        |              | 5.0            | 11.0        | 18.0        | 1,000            | 1,250           | 600                  | 1,250             | 800   | 1,139 |
| BE        |              | 5.5            | 12.5        | 18.0        | 800              | 1,100           | 550                  | 1,100             | 750   | 1,020 |
| BG        |              | 6.0            | 12.0        | 18.0        | 1,750            | 1,000           | 500                  | 1,000             | 680   | 935   |
| BK        |              | 7.5            | 13.5        | 18.0        | 1,000            | 800             | 350                  | 800               | 500   | 748   |
| BI        |              | 6.0            | 17.5        | 18.0        | 1,000            | 800             | 500                  | 1,000             | 680   | 935   |
| BP        |              | 8.5            | 14.5        | 18.0        | 1,000            | 650             | 300                  | 700               | 440   | 663   |
| BT        |              | 9.0            | 12.5        | 18.0        | 1,000            | 700             | 270                  | 650               | 410   | 629   |
| BO        |              | 7.5            | 18.5        | 18.0        | 900              | 600             | 350                  | 800               | 500   | 748   |
| BS        |              | 10.0           | 16.0        | 18.0        | 750              | 550             | 300                  | 600               | 380   | 561   |
| BR        |              | 13.0           | 12.0        | 18.0        | 750              | 520             | 200                  | 480               | 280   | 425   |
| BY        |              | 11.0           | 19.0        | 18.0        | 450              | 400             | 250                  | 500               | 340   | 510   |
| BA        |              | 8.5            | 12.5        | 18.0        | 1,000            | 650             | 300                  | 700               | 440   | 663   |
| BZ        |              | 12.0           | 20.0        | 18.0        | 350              | 300             | 220                  | 450               | 330   | 459   |

## Packaging Quantities cont.

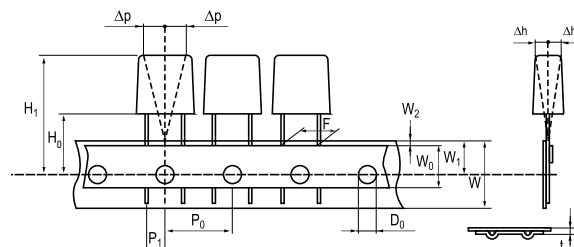
| Size Code | Lead Spacing | Thickness (mm) | Height (mm) | Length (mm) | Bulk Short Leads | Bulk Long Leads | Standard Reel<br>ø 355 mm | Large Reel<br>ø 500 mm | Ammo | Pizza |
|-----------|--------------|----------------|-------------|-------------|------------------|-----------------|---------------------------|------------------------|------|-------|
| DB        | <b>22.5</b>  | 6.0            | 14.5        | 26.5        | 1,638            | 702             | 300                       | 700                    | 464  | 660   |
| DI        |              | 7.0            | 16.0        | 26.5        | 1,188            | 594             | 250                       | 550                    | 380  | 564   |
| DH        |              | 8.0            | 16.0        | 26.5        | 1,026            | 513             | 240                       | 500                    | 330  | 492   |
| DJ        |              | 8.5            | 17.0        | 26.5        | 972              | 486             | 250                       | 450                    | 280  | 468   |
| DM        |              | 9.0            | 18.5        | 26.5        | 918              | 459             | 200                       | 400                    | 300  | 444   |
| DO        |              | 10.0           | 18.5        | 26.5        | 810              | 405             | 160                       | 350                    | 235  | 396   |
| DP        |              | 11.0           | 20.0        | 26.5        | 756              | 378             | 190                       | 350                    | 217  | 360   |
| DU        |              | 13.0           | 22.0        | 26.5        | 540              | 324             | 150                       | 300                    | 200  | 300   |
| DY        |              | 15.5           | 24.5        | 26.5        | 450              | 270             | 120                       | 250                    | 170  | 252   |
| FB        | <b>27.5</b>  | 9.0            | 17.0        | 31.5        | 816              | 408             |                           |                        |      | 370   |
| FC        |              | 11.0           | 20.0        | 31.5        | 672              | 336             |                           |                        |      | 300   |
| FI        |              | 13.0           | 25.0        | 31.5        | 480              | 288             |                           |                        |      | 250   |
| FN        |              | 14.0           | 28.0        | 31.5        | 352              | 176             |                           |                        |      | 230   |
| FO        |              | 17.0           | 40.0        | 31.5        | 216              | 144             |                           |                        |      | 190   |
| FR        |              | 17.5           | 28.0        | 31.5        | 256              | 128             |                           |                        |      | 190   |
| FS        |              | 19.0           | 29.0        | 31.5        | 256              | 128             |                           |                        |      | 170   |
| FY        |              | 22.0           | 37.0        | 31.5        | 168              | 112             |                           |                        |      | 150   |
| FH        |              | 21.0           | 12.5        | 31.5        | 392              | 168             |                           |                        |      | 150   |
| FQ        |              | 27.5           | 16.0        | 31.5        | 280              | 120             |                           |                        |      | 120   |
| FT        |              | 31.0           | 19.0        | 31.5        | 240              | 120             |                           |                        |      | 100   |
| RB        | <b>37.5</b>  | 11.0           | 22.0        | 41.0        | 420              | 252             |                           |                        |      | 210   |
| RF        |              | 13.0           | 24.0        | 41.0        | 360              | 216             |                           |                        |      | 175   |
| RH        |              | 15.0           | 26.0        | 41.0        | 300              | 180             |                           |                        |      | 154   |
| RC        |              | 16.0           | 28.5        | 41.0        | 216              | 108             |                           |                        |      | 140   |
| RD        |              | 19.0           | 32.0        | 41.0        | 192              | 96              |                           |                        |      | 119   |
| RP        |              | 21.0           | 38.0        | 41.0        | 126              | 84              |                           |                        |      | 105   |
| RO        |              | 24.0           | 44.0        | 41.0        | 108              | 72              |                           |                        |      | 91    |
| RU        |              | 30.0           | 45.0        | 41.0        | 90               | 60              |                           |                        |      | 77    |
| RV        |              | 24.0           | 15.0        | 41.0        | 252              | 108             |                           |                        |      | 91    |
| RW        |              | 24.0           | 19.0        | 41.0        | 216              | 108             |                           |                        |      | 91    |

## Lead Taping & Packaging (IEC 60286-2)

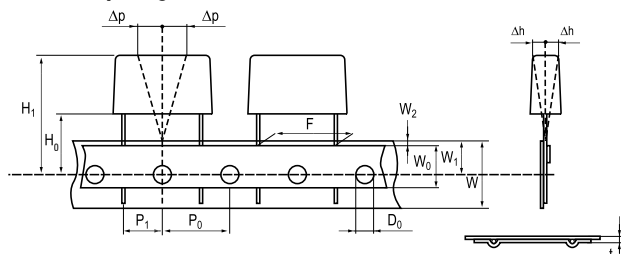
**Lead Spacing 5 mm**



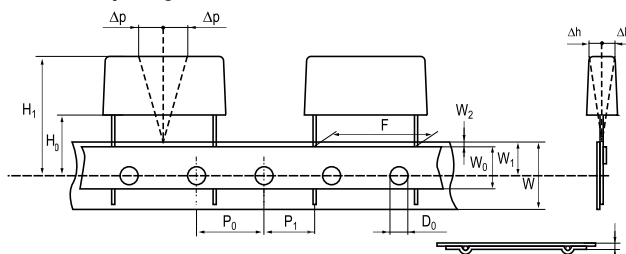
**Lead Spacing 7.5 mm**



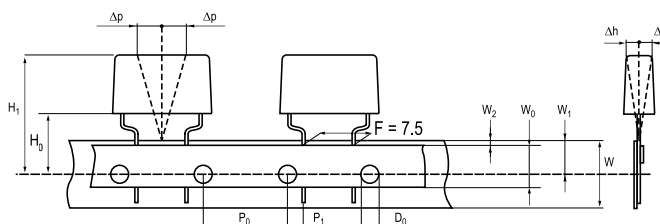
**Lead Spacing 10 – 15mm**



**Lead Spacing 22.5 – 27.5 mm**



**Formed Leads from 10 and 15 mm to 7.5 mm**



## Taping Specification

| Dimensions in mm              |           |                    |          |          |            |          |          |             |             | Standard IEC 60286-2 |
|-------------------------------|-----------|--------------------|----------|----------|------------|----------|----------|-------------|-------------|----------------------|
| Lead Spacing                  | +0.6/-0.1 | F                  | 5        | 7.5      | Formed 7.5 | 10       | 15       | 22.5        | 27.5        | F                    |
| Carrier Tape Width            | ±0.5      | W                  | 18       | 18       | 18         | 18       | 18       | 18          | 18          | 18+1/-0.5            |
| Hold-down Tape Width          | Minimum   | W <sub>0</sub>     | 5        | 5        | 5          | 5        | 5        | 5           | 5           |                      |
| Position of Sprocket Hole     | ±0.5      | W <sub>1</sub>     | 9        | 9        | 9          | 9        | 9        | 9           | 9           | 9+0.75/-0.5          |
| Distance Between Tapes        | Maximum   | W <sub>2</sub>     | 3        | 3        | 3          | 3        | 3        | 3           | 3           | 3                    |
| Sprocket Hole Diameter        | ±0.2      | D <sub>0</sub>     | 4        | 4        | 4          | 4        | 4        | 4           | 4           | 4                    |
| Feed Hole Lead Spacing        | ±0.3      | P <sub>0</sub> (1) | 12.7     | 12.7     | 12.7 (4)   | 12.7     | 12.7     | 12.7        | 12.7        | 12.7                 |
| Distance Lead – Feed Hole     | ±0.7      | P <sub>1</sub>     | 3.85     | 3.75     | 3.75       | 7.7      | 5.2      | 5.3         | 5.3         | P1                   |
| Deviation Tape – Plane        | Maximum   | Δ p                | 1.3      | 1.3      | 1.3        | 1.3      | 1.3      | 1.3         | 1.3         | 1.3                  |
| Lateral Deviation             | Maximum   | Δ h                | 2        | 2        | 2          | 2        | 2        | 2           | 2           | 2                    |
| Total Thickness               | ±0.2      | t                  | 0.7      | 0.7      | 0.7        | 0.7      | 0.7      | 0.9 Maximum | 0.9 Maximum | 0.9 Maximum          |
| Sprocket Hole/Cap Body        | Nominal   | H <sub>0</sub> (2) | 18.5±0.5 | 18.5±0.5 | 18.5±0.5   | 18.5±0.5 | 18.5±0.5 | 18.5±0.5    | 18.5±0.5    | 18.0+2/-0            |
| Sprocket Hole/Top of Cap Body | Maximum   | H <sub>1</sub> (3) | 32       | 31       | 43         | 43       | 43       | 58          | 58          | 58 Maximum           |

(1) Maximum cumulative feed hole error, 1 mm per 20 parts

(2) 16.5 mm available on request

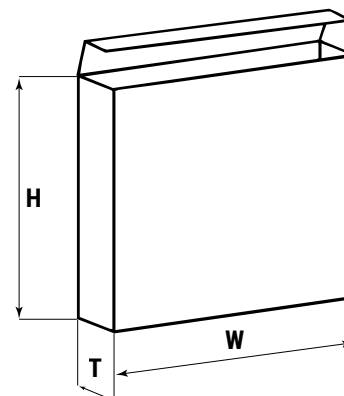
(3) Depending on case size

(4) 15 mm available on request

## Lead Taping & Packaging (IEC 60286-2) cont.

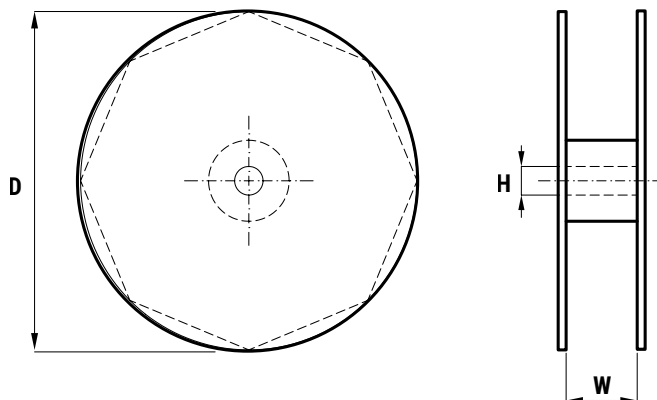
### Ammo Specifications

| Series                               | Dimensions (mm) |     |    |
|--------------------------------------|-----------------|-----|----|
|                                      | H               | W   | T  |
| R4x, R4x+R, R7x, RSB                 | 360             | 340 | 59 |
| F5A, F5B, F5D                        |                 |     |    |
| F6xx, F8xx                           |                 |     |    |
| PHExxx, PMExxx, PMRxxx,<br>SMR & PFR | 330             | 330 | 50 |



### Reel Specifications

| Series                               | Dimensions (mm) |    |          |
|--------------------------------------|-----------------|----|----------|
|                                      | D               | H  | W        |
| R4x, R4x+R, R7x, RSB                 | 355<br>500      | 30 | 55 (Max) |
| F5A, F5B, F5D                        |                 | 25 |          |
| F6xx, F8xx                           |                 |    |          |
| PHExxx, PMExxx, PMRxxx,<br>SMR & PFR | 360<br>500      | 30 | 46 (Max) |



### Manufacturing Date Code (IEC-60062)

| Y = Year, Z = Month |      |           |      |
|---------------------|------|-----------|------|
| Year                | Code | Month     | Code |
| 2010                | A    | January   | 1    |
| 2011                | B    | February  | 2    |
| 2012                | C    | March     | 3    |
| 2013                | D    | April     | 4    |
| 2014                | E    | May       | 5    |
| 2015                | F    | June      | 6    |
| 2016                | H    | July      | 7    |
| 2017                | J    | August    | 8    |
| 2018                | K    | September | 9    |
| 2019                | L    | October   | 0    |
| 2020                | M    | November  | N    |
| 2021                | N    | December  | D    |
| 2022                | P    |           |      |
| 2023                | R    |           |      |
| 2024                | S    |           |      |
| 2025                | T    |           |      |
| 2026                | U    |           |      |
| 2027                | V    |           |      |
| 2028                | W    |           |      |
| 2029                | X    |           |      |
| 2030                | A    |           |      |

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