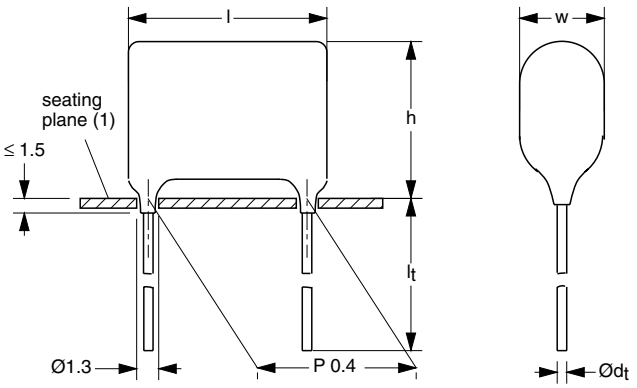
# Metallized Polyester Film Capacitors
# MKT Radial Epoxy Lacquered Type




Dimensions in mm

(1) Hole ∅ 1.0 for $d_t$ = 0.6 mm

## FEATURES

Available taped on reel and loose in box

Lead (Pb)-free product

RoHS-compliant product

Pb-free

e3

RoHS COMPLIANT

## CAPACITANCE TOLERANCE

± 10 %; ± 5 %

## RATED (DC) VOLTAGE

63 V; 100 V; 250 V; 400 V; 630 V

## RATED (AC) VOLTAGE

40 V; 63 V; 160 V; 220 V; 250 V

## APPLICATIONS

Blocking and coupling. Bypass and energy reservoir

## MARKING

C-value; tolerance; rated voltage

## DIELECTRIC

Polyester film

## ELECTRODES

Vacuum deposited aluminium

## COATING

Flame retardant epoxy material (UL-class 94 V-0)

## CONSTRUCTION

Wound mono construction

## LEADS

Tinned wire

## CAPACITANCE RANGE (E12 SERIES)

0.001 to 1.0 µF

## CLIMATIC CATEGORY

55/105/56

## RATED TEMPERATURE

85 °C

## MAXIMUM APPLICATION TEMPERATURE

105 °C

## REFERENCE SPECIFICATIONS

IEC 60384-2

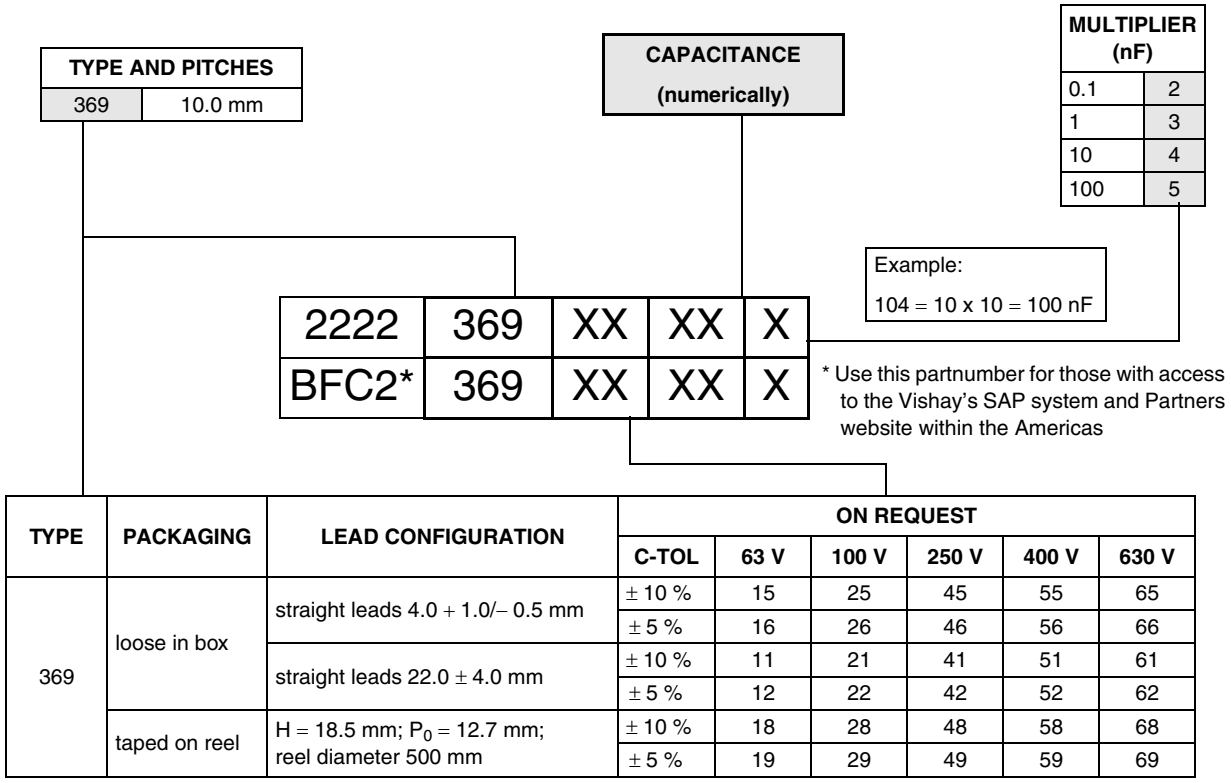
## PERFORMANCE GRADE

Grade 1 (long life)

## DETAIL SPECIFICATION

For more detailed data and test requirements see *"Type detail specification HQN-384-02/101"*

## COMPOSITION OF CATALOG NUMBER




| TYPE | PACKAGING | LEAD CONFIGURATION | ON REQUEST | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | C-TOL | 63 V | 100 V | 250 V | 400 V | 630 V |
| 369 | loose in box | straight leads 4.0 + 1.0/– 0.5 mm | ± 10 % | 15 | 25 | 45 | 55 | 65 |
| | | | ± 5 % | 16 | 26 | 46 | 56 | 66 |
| | | straight leads 22.0 ± 4.0 mm | ± 10 % | 11 | 21 | 41 | 51 | 61 |
| | | | ± 5 % | 12 | 22 | 42 | 52 | 62 |
| | taped on reel | H = 18.5 mm; $P_0$ = 12.7 mm; reel diameter 500 mm | ± 10 % | 18 | 28 | 48 | 58 | 68 |
| | | | ± 5 % | 19 | 29 | 49 | 59 | 69 |

## SPECIFIC REFERENCE DATA

| DESCRIPTION | VALUE | | | | |
|---|---|---|---|---|---|
| Tangent of loss angle: | at 1 kHz | | at 10 kHz | | at 100 kHz |
| $C \leq 0.47$ µF | $\leq 75 \times 10^{-4}$ | | $\leq 130 \times 10^{-4}$ | | $\leq 300 \times 10^{-4}$ |
| 0.47 µF < C ≤ 1.0 µF | $\leq 75 \times 10^{-4}$ | | $\leq 130 \times 10^{-4}$ | | $\leq 225 \times 10^{-4}$ |
| $C \geq 0.1$ µF | $\leq 75 \times 10^{-4}$ | | $\leq 130 \times 10^{-4}$ | | $\leq 300 \times 10^{-4}$ |
| Rated voltage pulse slope $(dU/dt)_R$ | at 63 V (DC) | at 100 V (DC) | at 250 V (DC) | at 400 V (DC) | at 630 V (DC) |
| | 30 V/µs | 28 V/µs | 70 V/µs | 110 V/µs | 70 V/µs |
| R between leads, for C ≤ 0.33 µF: | | | | | |
| at 10 V; 1 minute | > 15000 MΩ | | | | |
| at 100 V; 1 minute | | > 15000 MΩ | > 30000 MΩ | > 30000 MΩ | |
| at 500 V; 1 minute | | | | | > 30000 MΩ |
| RC between leads, for C > 0.33 µF: | | | | | |
| at 10 V; 1 minute | > 5000 s | | | | |
| at 500 V; 1 minute | | | | | > 10000 s |
| R between interconnecting leads and casing; | | | | | |
| at 10 V; 1 minute | > 30000 MΩ | | | | |
| at 100 V; 1 minute | | > 30000 MΩ | > 30000 MΩ | > 30000 MΩ | |
| at 500 V; 1 minute | | | | | > 30000 MΩ |
| Withstanding (DC) voltage (cut off current 10 mA); rise time 100 V/s | 100 V; 1 minute | 160 V; 1 minute | 400 V; 1 minute | 640 V; 1 minute | 1008 V; 1 minute |
| Withstanding (DC) voltage between leads and case | 200 V; 1 minute | 200 V; 1 minute | 500 V; 1 minute | 800 V; 1 minute | 1260 V; 1 minute |

**$U_{Rdc}$ = 63 V; $U_{Rac}$ = 40 V**

| C (µF) | DIMENSIONS $w_{max} \times h_{max} \times l_{max}$ (mm) | MASS (g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING | | | |
|---|---|---|---|---|---|---|
| | | | LOOSE IN BOX | | | REEL |
| | | | $l_t$ = 4.0 + 1.0/– 0.5 mm | | $l_t$ = 22.0 ± 4.0 mm | |
| | | | C-tol = ± 10 % | | | |
| | | | last 5 digits of catalog number | SPQ | SPQ | SPQ |
| **Pitch = 10.0 ± 0.4 mm; $d_t$ = 0.60 ± 0.06 mm** | | | | | | |
| 0.22 | 4.2 × 9.3 × 12.5 | 0.4 | 15224 | 2000 | 1000 | 1300 |
| 0.27 | 3.8 × 9.0 × 12.5 | 0.4 | 15274 | 2000 | 1000 | 1300 |
| 0.33 | 4.1 × 9.3 × 12.5 | 0.4 | 15334 | 2000 | 1000 | 1300 |
| 0.39 | 4.0 × 9.2 × 12.5 | 0.4 | 15394 | 2000 | 1000 | 1300 |
| 0.47 | 4.3 × 9.5 × 12.5 | 0.5 | 15474 | 2000 | 1000 | 1200 |
| 0.56 | 4.7 × 9.8 × 12.5 | 0.5 | 15564 | 2000 | 1000 | 1200 |
| 0.68 | 5.1 × 10.2 × 12.5 | 0.5 | 15684 | 2000 | 1000 | 1100 |
| 0.82 | 5.5 × 10.7 × 12.5 | 0.6 | 15824 | 2000 | 1000 | 1000 |
| 1 | 6.0 × 11.1 × 12.5 | 0.7 | 15105 | 2000 | 1000 | 900 |

**$U_{Rdc}$ = 100 V; $U_{Rac}$ = 63 V**

| C (µF) | DIMENSIONS $w_{max} \times h_{max} \times l_{max}$ (mm) | MASS (g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING | | | |
|---|---|---|---|---|---|---|
| | | | LOOSE IN BOX | | | REEL |
| | | | $l_t$ = 4.0 + 1.0/– 0.5 mm | | $l_t$ = 22.0 ± 4.0 mm | |
| | | | C-tol = ± 10 % | | | |
| | | | last 5 digits of catalog number | SPQ | SPQ | SPQ |
| **Pitch = 10.0 ± 0.4 mm; $d_t$ = 0.60 ± 0.06 mm** | | | | | | |
| 0.056<br>0.068 | 4.0 × 9.1 × 12.5 | 0.4 | 25563<br>25683 | 2000 | 1000 | 1500 |
| 0.082 | 3.7 × 8.8 × 12.5 | 0.4 | 25823 | 2000 | 1000 | 1500 |
| 0.1 | 4.0 × 9.0 × 12.5 | 0.4 | 25104 | 2000 | 1000 | 1500 |
| 0.12 | 4.3 × 9.3 × 12.5 | 0.4 | 25124 | 2000 | 1000 | 1500 |
| 0.15 | 3.9 × 8.9 × 12.5 | 0.4 | 25154 | 2000 | 1000 | 1500 |
| 0.18 | 4.2 × 9.2 × 12.5 | 0.5 | 25184 | 2000 | 1000 | 1300 |
| 0.22 | 4.5 × 9.4 × 12.5 | 0.5 | 25224 | 2000 | 1000 | 1200 |

**$U_{Rdc}$ = 250 V; $U_{Rac}$ = 160 V**

| C (µF) | DIMENSIONS $w_{max} \times h_{max} \times l_{max}$ (mm) | MASS (g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING | | | |
|---|---|---|---|---|---|---|
| | | | LOOSE IN BOX | | | REEL |
| | | | $l_t$ = 4.0 + 1.0/– 0.5 mm | | $l_t$ = 22.0 ± 4.0 mm | |
| | | | C-tol = ± 10 % | | | |
| | | | last 5 digits of catalog number | SPQ | SPQ | SPQ |
| **Pitch = 10.0 ± 0.4 mm; $d_t$ = 0.60 ± 0.06 mm** | | | | | | |
| 0.027 | 4.2 × 8.7 × 12.5 | 0.4 | 45273 | 2000 | 1000 | 1500 |
| 0.033 | 4.6 × 8.8 × 12.5 | 0.5 | 45333 | 2000 | 1000 | 1300 |
| 0.039 | 4.0 × 8.8 × 12.5 | 0.4 | 45393 | 2000 | 1000 | 1500 |
| 0.047 | 4.5 × 9.0 × 12.5 | 0.5 | 45473 | 2000 | 1000 | 1500 |
| 0.056 | 4.6 × 8.8 × 12.5 | 0.5 | 45563 | 2000 | 1000 | 1300 |
| 0.068 | 4.6 × 9.2 × 12.5 | 0.5 | 45683 | 2000 | 1000 | 1300 |
| 0.082 | 4.4 × 9.4 × 12.5 | 0.5 | 45823 | 2000 | 1000 | 1200 |
| 0.1 | 4.7 × 9.7 × 12.5 | 0.5 | 45104 | 2000 | 1000 | 1200 |

**$U_{Rdc}$ = 400 V; $U_{Rac}$ = 220 V**

| C (µF) | DIMENSIONS $w_{max} \times h_{max} \times l_{max}$ (mm) | MASS (g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING | | | |
|---|---|---|---|---|---|---|
| | | | LOOSE IN BOX | | | REEL |
| | | | $l_t$ = 4.0 + 1.0/– 0.5 mm | | $l_t$ = 22.0 ± 4.0 mm | |
| | | | C-tol = ± 10 % | | | |
| | | | last 5 digits of catalog number | SPQ | SPQ | SPQ |
| **Pitch = 10.0 ± 0.4 mm; $d_t$ = 0.60 ± 0.06 mm** | | | | | | |
| 0.001 | 4.5 × 8.7 × 12.5 | 0.5 | 55102 | 2000 | 1000 | 1500 |
| 0.0012 | 4.5 × 9.0 × 12.5 | 0.5 | 55122 | 2000 | 1000 | 1500 |
| 0.0015 | 4.5 × 8.8 × 12.5 | 0.5 | 55152 | 2000 | 1000 | 1500 |
| 0.0018 | 4.5 × 8.7 × 12.5 | 0.5 | 55182 | 2000 | 1000 | 1500 |
| 0.0022 | 4.0 × 8.6 × 12.5 | 0.5 | 55222 | 2000 | 1000 | 1500 |
| 0.0027 | 4.3 × 8.9 × 12.5 | 0.5 | 55272 | 2000 | 1000 | 1500 |
| 0.0033 | 4.6 × 9.1 × 12.5 | 0.5 | 55332 | 2000 | 1000 | 1500 |
| 0.0039 | 4.0 × 8.7 × 12.5 | 0.5 | 55392 | 2000 | 1000 | 1500 |
| 0.0047 | 4.1 × 8.8 × 12.5 | 0.5 | 55472 | 2000 | 1000 | 1500 |
| 0.0056 | 4.6 × 9.1 × 12.5 | 0.5 | 55562 | 2000 | 1000 | 1500 |
| 0.0068 | | | 55682 | | | |
| 0.0082 | | | 55822 | | | |
| 0.01 | | | 55103 | | | |
| 0.012 | 4.0 × 8.7 × 12.5 | 0.5 | 55123 | 2000 | 1000 | 1500 |
| 0.015 | 4.1 × 8.8 × 12.5 | 0.5 | 55153 | 2000 | 1000 | 1500 |
| 0.018 | 4.4 × 8.8 × 12.5 | 0.5 | 55183 | 2000 | 1000 | 1300 |
| 0.022 | 4.2 × 8.8 × 12.5 | 0.5 | 55223 | 2000 | 1000 | 1500 |
| 0.027 | 4.2 × 9.1 × 12.5 | 0.5 | 55273 | 2000 | 1000 | 1300 |
| 0.033 | 4.6 × 9.4 × 12.5 | 0.5 | 55333 | 2000 | 1000 | 1300 |

**$U_{Rdc}$ = 630 V; $U_{Rac}$ = 250 V**

| C (µF) | DIMENSIONS $w_{max} \times h_{max} \times l_{max}$ (mm) | MASS (g) | CATALOG NUMBER 2222 369 ..... AND PACKAGING | | | |
|---|---|---|---|---|---|---|
| | | | LOOSE IN BOX | | | REEL |
| | | | $l_t$ = 4.0 + 1.0/– 0.5 mm | | $l_t$ = 22.0 ± 4.0 mm | |
| | | | C-tol = ± 10 % | | | |
| | | | last 5 digits of catalog number | SPQ | SPQ | SPQ |
| **Pitch = 10.0 ± 0.4 mm; $d_t$ = 0.60 ± 0.06 mm** | | | | | | |
| 0.01 | 4.1 × 8.7 × 12.5 | 0.4 | 65103 | 2000 | 1000 | 1300 |
| 0.012 | 4.4 × 8.9 × 12.5 | 0.5 | 65123 | 2000 | 1000 | 1200 |
| 0.015 | 4.9 × 9.2 × 12.5 | 0.5 | 65153 | 2000 | 1000 | 1100 |
| 0.018 | 5.3 × 9.5 × 12.5 | 0.6 | 65183 | 2000 | 1000 | 1000 |
| 0.022 | 5.9 × 9.9 × 12.5 | 0.7 | 65223 | 2000 | 1000 | 900 |

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