

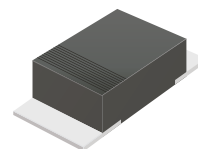
# CGRKM4001-HF Thru. CGRKM4007-HF

Reverse Voltage: 50 to 1000 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen Free



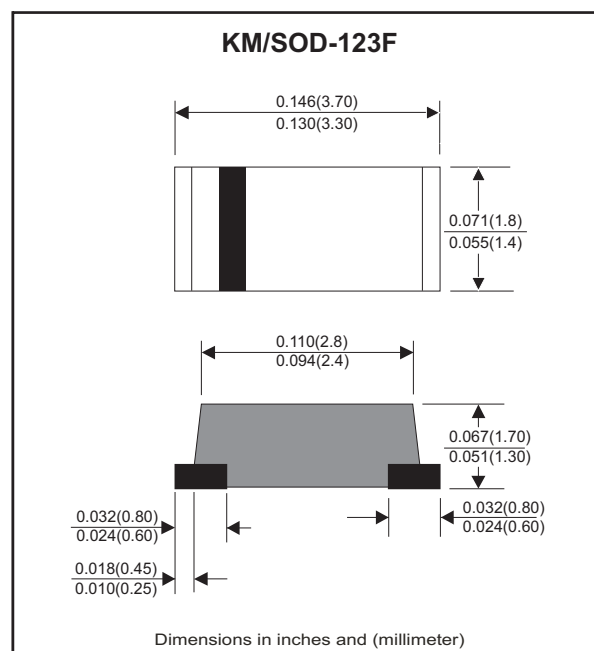
## Features

- Ideal for surface mount applications
- Easy pick and place
- Exceeds environmental standard MIL-STD-19500/228
- Low leakage current

## Mechanical data

- Epoxy: UL94V-0 rated flame retardant
- Case: Molded plastic, SOD-123F
- Terminals: Solderable per MIL-STD-750, method 2026
- Polarity: Indicated by cathode band
- Weight: 0.027 grams approx.

## Circuit diagram



## Maximum Ratings (at T<sub>A</sub>=25°C unless otherwise noted)

| Parameter                                                                                    |           | Symbol           | CGRKM<br>4001-HF | CGRKM<br>4002-HF | CGRKM<br>4003-HF | CGRKM<br>4004-HF | CGRKM<br>4005-HF | CGRKM<br>4006-HF | CGRKM<br>4007-HF | Unit |
|----------------------------------------------------------------------------------------------|-----------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------|
| Maximum repetitive peak reverse voltage                                                      |           | V <sub>RRM</sub> | 50               | 100              | 200              | 400              | 600              | 800              | 1000             | V    |
| Maximum DC blocking voltage                                                                  |           | V <sub>DC</sub>  | 50               | 100              | 200              | 400              | 600              | 800              | 1000             | V    |
| Maximum RMS voltage                                                                          |           | V <sub>RMS</sub> | 35               | 70               | 140              | 280              | 420              | 560              | 700              | V    |
| Maximum averaged forward current                                                             |           | I <sub>O</sub>   | 1.0              |                  |                  |                  |                  |                  |                  | A    |
| Maximum Instantaneous forward voltage at I <sub>F</sub> =1.0A                                |           | V <sub>F</sub>   | 1.1              |                  |                  |                  | 1.0              | 1.1              |                  | V    |
| Forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) |           | I <sub>FSM</sub> | 30               |                  |                  |                  |                  |                  |                  | A    |
| Reverse current at rated DC blocking voltage                                                 | @TA=25°C  | I <sub>R</sub>   | 5                |                  |                  |                  |                  |                  |                  | μA   |
|                                                                                              | @TA=100°C |                  | 50               |                  |                  |                  |                  |                  |                  |      |
| Thermal resistance, junction to ambient air                                                  |           | R <sub>θJA</sub> | 60               |                  |                  |                  |                  |                  |                  | °C/W |
| Operating junction temperature                                                               |           | T <sub>J</sub>   | -55 to +150      |                  |                  |                  |                  |                  |                  | °C   |
| Storage temperature range                                                                    |           | T <sub>STG</sub> | -65 to +170      |                  |                  |                  |                  |                  |                  | °C   |
| Junction capacitance<br>f=1MHz and applied 4V DC reverse voltage                             |           | C <sub>J</sub>   | 15               |                  |                  |                  |                  |                  |                  | pF   |

Notes: 1. Thermal resistance from junction to ambient and from junction to lead mounted on 0.2x0.2"(5.0x5.0mm) copper pad areas.

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## Rating and Characteristic Curves (CGRKM4001-HF Thru. CGRKM4007-HF)

Fig.1- Current Derating Curve

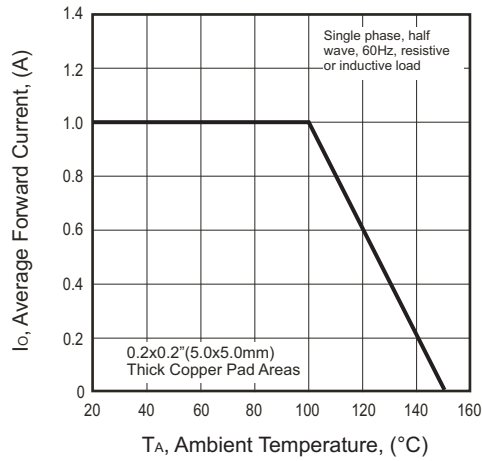


Fig.2- Forward Characteristics

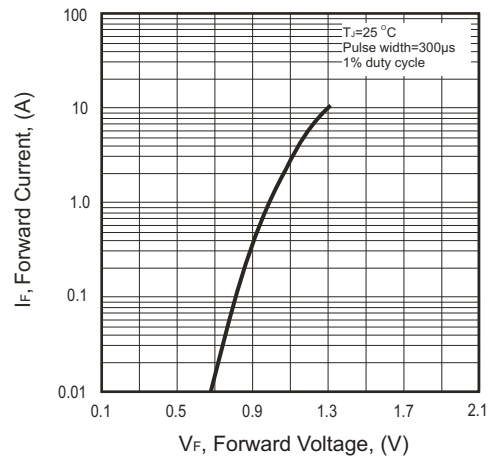


Fig.3- Non-repetitive Forward Surge Current

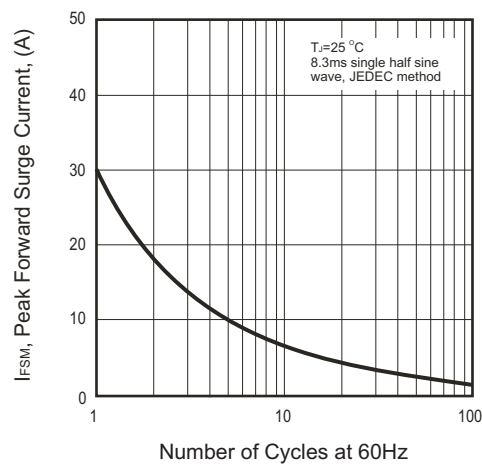


Fig.4- Reverse Characteristics

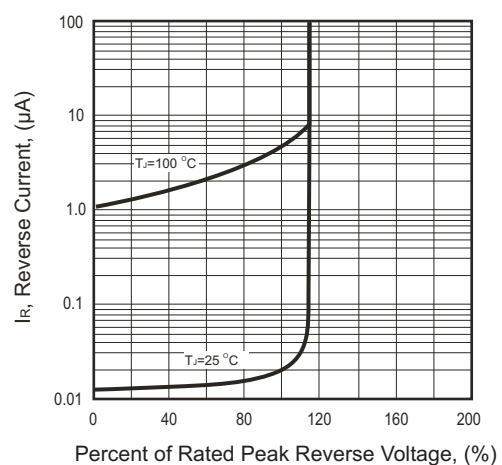
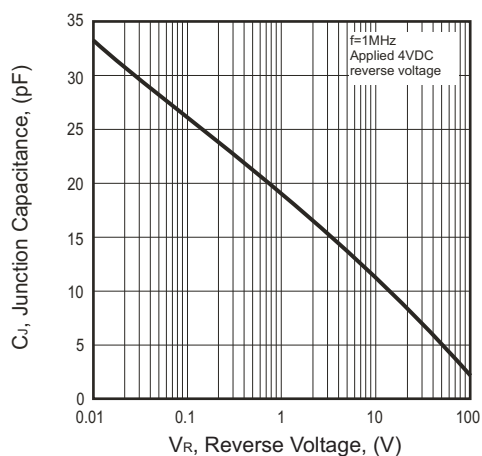


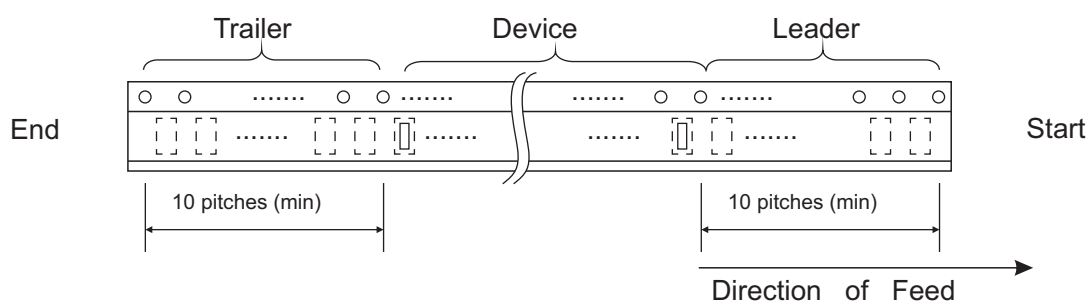
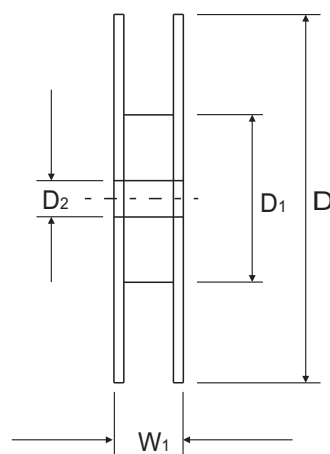
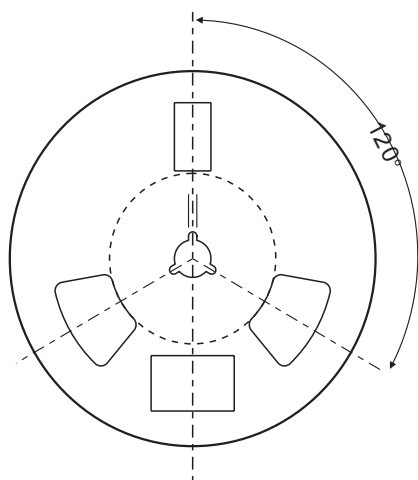
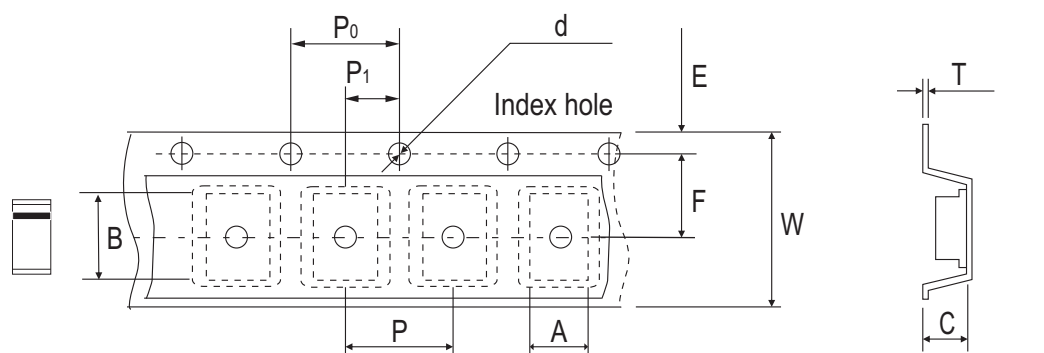
Fig.5- Junction Capacitance



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## Reel Taping Specification



| KM/<br>SOD-123F | SYMBOL | A            | B            | C            | d             | D            | D1         | D2            |
|-----------------|--------|--------------|--------------|--------------|---------------|--------------|------------|---------------|
|                 | (mm)   | 1.90 ± 0.10  | 3.90 ± 0.10  | 1.68 ± 0.10  | 1.50 ± 0.10   | 178 ± 2.00   | 62.0 MIN.  | 13.0 ± 0.50   |
|                 | (inch) | 0.075 ± 0.04 | 0.154 ± 0.04 | 0.066 ± 0.04 | 0.059 ± 0.004 | 7.00 ± 0.079 | 2.440 MIN. | 0.512 ± 0.020 |

| KM/<br>SOD-123F | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1            |
|-----------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                 | (mm)   | 1.75 ± 0.10   | 3.50 ± 0.10   | 4.00 ± 0.10   | 4.00 ± 0.10   | 2.00 ± 0.10   | 0.23 ± 0.10   | 8.00 ± 0.30   | 11.40 ± 1.0   |
|                 | (inch) | 0.069 ± 0.004 | 0.138 ± 0.004 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.009 ± 0.004 | 0.315 ± 0.012 | 0.449 ± 0.004 |

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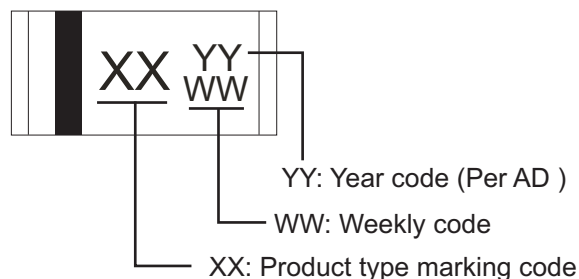
## Marking Code

| Part Number     | Marking Code |
|-----------------|--------------|
| CGRKM4001(T)-HF | A1           |
| CGRKM4002(T)-HF | A2           |
| CGRKM4003(T)-HF | A3           |
| CGRKM4004(T)-HF | A4           |
| CGRKM4005(T)-HF | A5           |
| CGRKM4006(T)-HF | A6           |
| CGRKM4007(T)-HF | A7           |

Note:

1) Suffix code after part number to specify packaging item .

| Packaging     | Code |
|---------------|------|
| REEL PACK 7"  | NA   |
| REEL PACK 13" | T    |



- Year Code: The last two number, AD 2016=16

- Weekly Code: 01~xx(The fast week~final week)

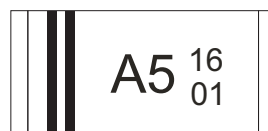
## Product code printed

For example as follows:

P/N: CGRKM4005-HF

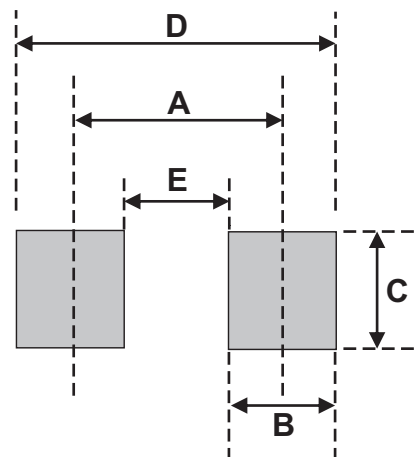
Manufacture date\_ Year: 2016 / Weekly:01

Product code printed:



## Suggested PAD Layout

| SIZE | KM/SOD-123F |        |
|------|-------------|--------|
|      | (mm)        | (inch) |
| A    | 3.30        | 0.130  |
| B    | 1.40        | 0.055  |
| C    | 1.90        | 0.075  |
| D    | 4.70        | 0.185  |
| E    | 1.90        | 0.075  |



## Standard Packaging

| Case Type       | REEL PACK    |                  |
|-----------------|--------------|------------------|
|                 | REEL ( pcs ) | Reel Size (inch) |
| KM/<br>SOD-123F | 2,500        | 7                |
|                 | 10,000       | 13               |

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