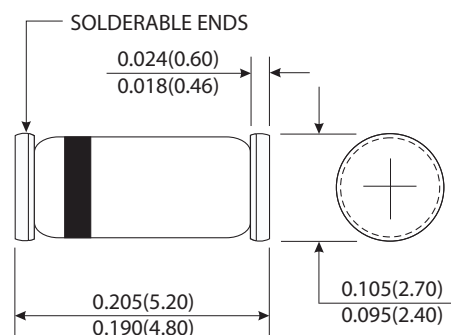


### Features

- The plastic package carries Underwrites Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds, at terminals

### MELF (DO-41)



Dimensions in inches and (millimeters)

### Mechanical Data

- Case : JEDEC MELF(DO-41) molded plastic body
- Terminals : Lead solderable per MIL-STD-750, method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : 0.0041 ounce, 0.116 gram

### Maximum Ratings And Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified, Single phase, half wave 60Hz, resistive or inductive load. For capacitive load, derate by 20%)

|  | Symbols                            | SM 4001     | SM 4002 | SM 4003 | SM 4004 | SM 4005 | SM 4006 | SM 4007 | Units |
|--|------------------------------------|-------------|---------|---------|---------|---------|---------|---------|-------|
| Maximum recurrent peak reverse voltage   | V <sub>RRM</sub>                   | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | Volts |
| Maximum RMS voltage  | V <sub>RMS</sub>                   | 35          | 70      | 140     | 280     | 420     | 560     | 700     | Volts |
| Maximum DC blocking voltage  | V <sub>DC</sub>                    | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | Volts |
| Maximum average forward rectified current<br>0.375"(9.5mm) lead length at T <sub>A</sub> =75°C | I <sub(av)< sub=""></sub(av)<>     | 1.0         |         |         |         |         |         |         | Amp   |
| Peak forward surge current 8.3ms half sine wave superimposed on rated load (JEDEC method)      | I <sub>FSM</sub>                   | 30.0        |         |         |         |         |         |         | Amps  |
| Maximum instantaneous forward voltage at 1.0A  | V <sub>F</sub>                     | 1.1         |         |         |         |         |         |         | Volts |
| Maximum reverse current at rated voltage   | T <sub>A</sub> =25°C               | 5.0         |         |         |         |         |         |         | μ A   |
|  | T <sub>A</sub> =125°C              | 50.0        |         |         |         |         |         |         |       |
| Typical thermal resistance (Note 2)  | R <sub>θ JA</sub>                  | 75.0        |         |         |         |         |         |         | °C/W  |
|  | R <sub>θ JL</sub>                  | 30.0        |         |         |         |         |         |         |       |
| Typical junction capacitance (Note 1)  | C <sub>J</sub>                     | 15.0        |         |         |         |         |         |         | pF    |
| Maximum DC blocking voltage temperature  | T <sub>A</sub>                     | +150        |         |         |         |         |         |         | °C    |
| Operating and storage temperature range  | T <sub>J</sub><br>T <sub>STG</sub> | -65 to +150 |         |         |         |         |         |         | °C    |

#### Notes:

- (1) Measured at 1MHz and applied reverse voltage of 4.0V DC.
- (2) Thermal resistance from junction to ambient, 0.24 × 0.24"(6.0 × 6.0mm) copper pads to each terminals
- (3) Thermal resistance from junction to terminals, 0.24 × 0.24"(6.0 × 6.0mm) copper pads to each terminals

## RATINGS AND CHARACTERISTIC CURVES SM4001 THRU SM4007

FIG.1-FORWARD CURRENT DERATING CURVE

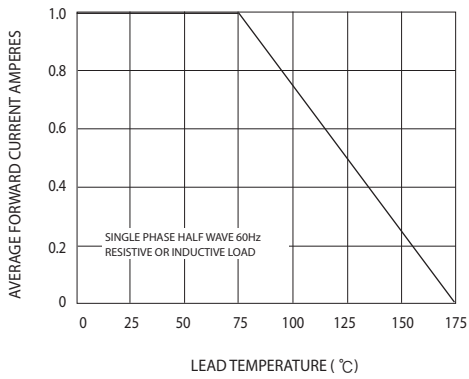


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

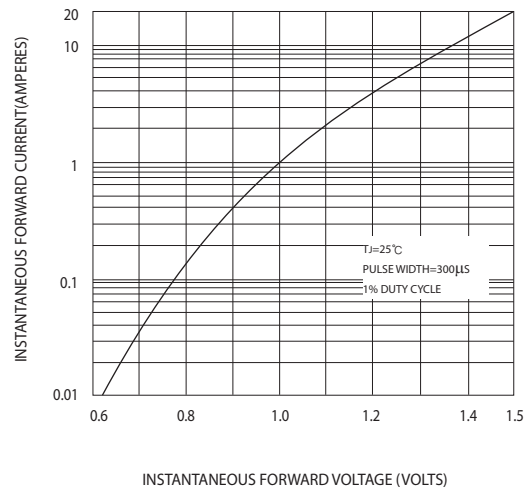


FIG.3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

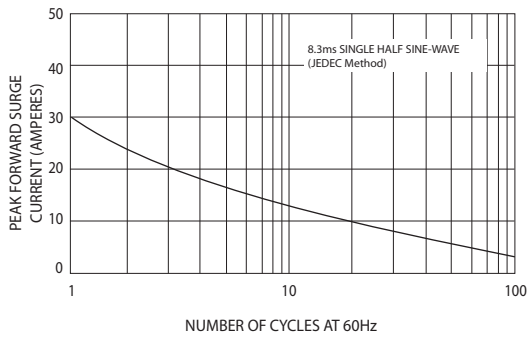


FIG.4-TYPICAL REVERSE CHARACTERISTICS

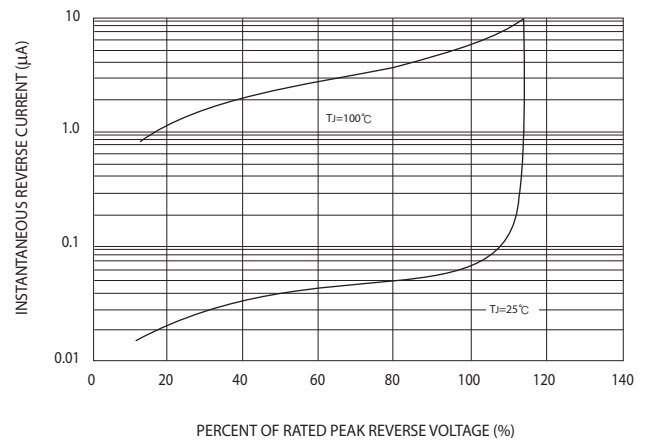


FIG.5-TYPICAL JUNCTION CAPACITANCE

