

## SM4001...SM4007

### SURFACE MOUNT SILICON RECTIFIERS

Voltage Range - 50 to 1000 V

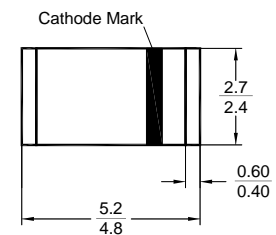
Forward Current - 1 A

#### Features

- Low cost
- Ideal for surface mounted applications
- Low leakage current

#### Mechanical data

- **Case:** MELF (DO-213AB) molded plastic body
- **Mounting position:** any



Plastic case MELF (DO-213AB)  
Dimensions in mm

#### Absolute Maximum Ratings and Electrical characteristics (T<sub>a</sub> = 25 °C)

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

Parameter	Symbols	SM4001	SM4002	SM4003	SM4004	SM4005	SM4006	SM4007	Units
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</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 DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T <sub>A</sub> = 75 °C	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>	30							A
Maximum Forward Voltage at 1 A	V <sub>F</sub>	1.1							V
Maximum Full Load Reverse Current (Full Cycle Average)	I <sub>R(AV)</sub>	30							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub>	5 50							μA
Typical Junction Capacitance <sup>1)</sup>	C <sub>J</sub>	15							pF
Maximum Thermal Resistance	R <sub>θJL</sub> <sup>2)</sup> R <sub>θJA</sub> <sup>3)</sup>	20 50							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	- 65 to + 150							°C

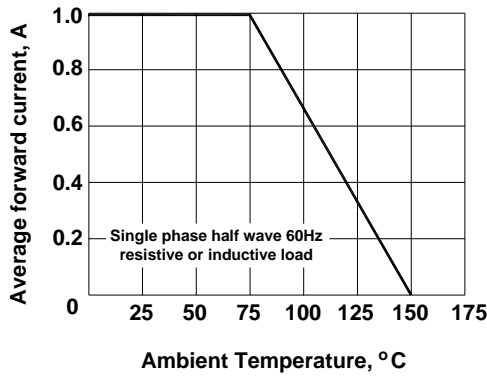
<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4 V D.C

<sup>2)</sup> Thermal resistance from junction to terminal 6.0 mm<sup>3</sup> copper pads to each terminal

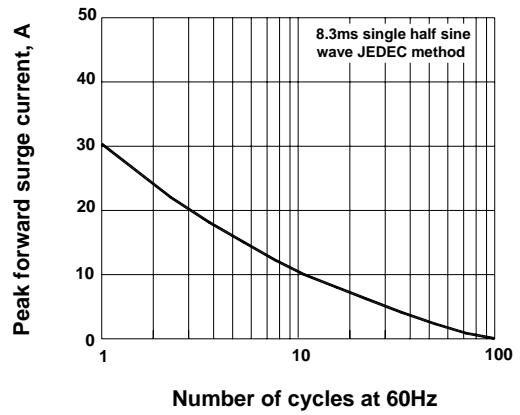
<sup>3)</sup> Thermal resistance junction to terminal 6.0 mm<sup>3</sup> copper pads to each terminal

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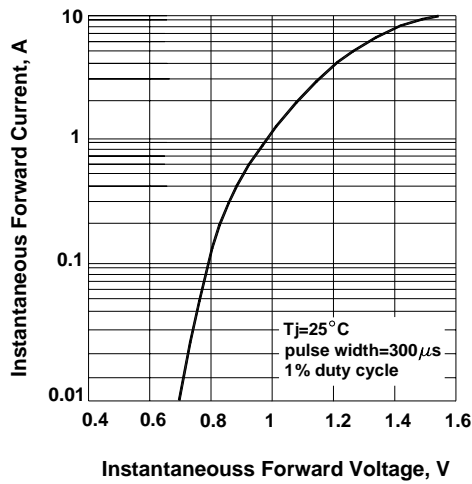
Typical forward current derating curve



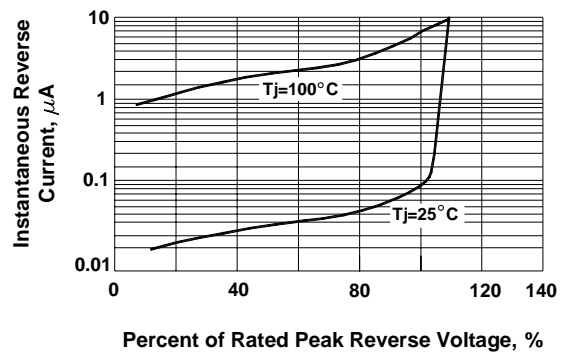
Maximum non-repetitive forward surge current



Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical junction capacitance

