

SM4001...SM4007

SURFACE MOUNT SILICON RECTIFIERS

Voltage Range - 50 to 1000 V

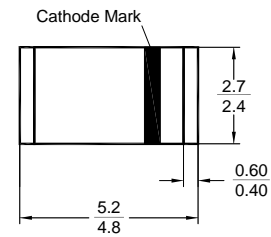
Forward Current - 1 A

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_a = 25 °C)

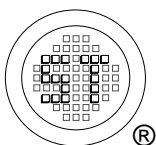
Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	SM4001	SM4002	SM4003	SM4004	SM4005	SM4006	SM4007	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T _A = 75 °C	I _{F(AV)}	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)	I _{FSM}	30							A
Maximum Forward Voltage at 1 A	V _F	1.1							V
Maximum Full Load Reverse Current (Full Cycle Average)	I _{R(AV)}	30							μA
Maximum DC Reverse Current at Rated DC Blocking Voltage T _A = 25 °C T _A = 125 °C	I _R	5 50							μA
Typical Junction Capacitance ¹⁾	C _J	15							pF
Maximum Thermal Resistance	R _{θJL} ²⁾ R _{θJA} ³⁾	20 50							°C/W
Operating and Storage Temperature Range	T _J , T _{stg}	- 65 to + 150							°C

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 V D.C

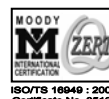
²⁾ Thermal resistance from junction to terminal 6.0 mm³ copper pads to each terminal

³⁾ Thermal resistance junction to terminal 6.0 mm³ copper pads to each terminal

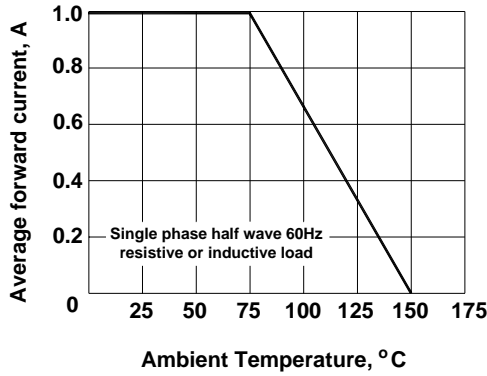


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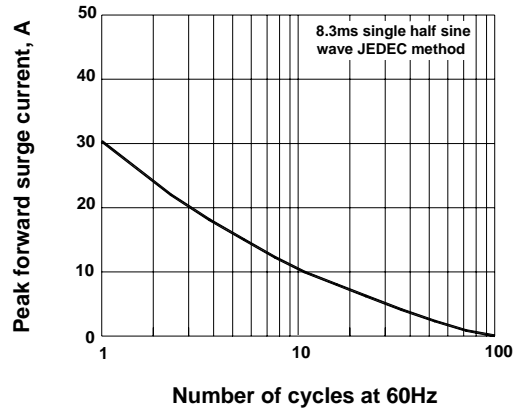
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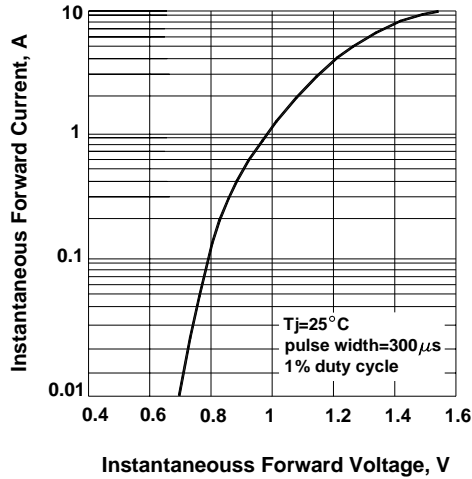
Typical forward current derating curve



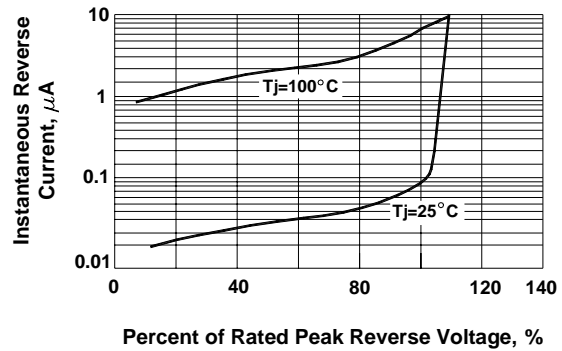
Maximum non-repetitive forward surge current



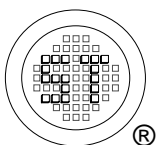
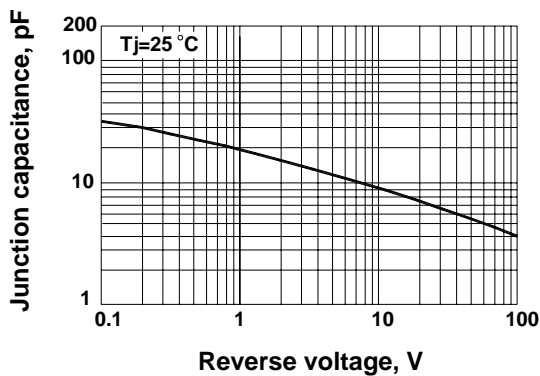
Typical Instantaneous Forward Characteristics



Typical Reverse Characteristics



Typical junction capacitance



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