

**1.0 A Surface Mount Silicon Rectifier**  
Rectifier Reverse Voltage 50 to 1000V



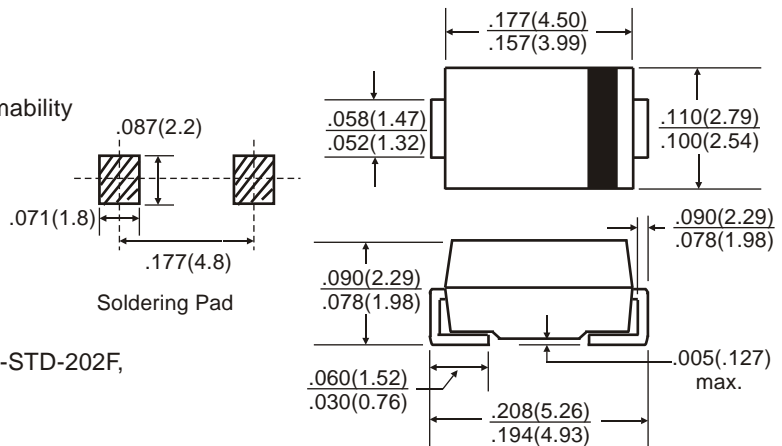
SMA / DO-214AC

**Features**

- Ideal for surface mount application
- Surge overload rating to 30A peak
- Plastic material has UL recognition flammability classification 94V-0
- Built-in strain relief

**Mechanical Data**

Case: Molded plastic  
 Terminals: Solder plated solderable per MIL-STD-202F, Method 208  
 Polarity: Color band denotes cathode end  
 Mounting Position: Any  
 Weight: 0.063grams (approx)



All dimensions inches and (millimeters)

**Maximum Ratings & Thermal Characteristics**

Rating at 25°C ambient temperature unless otherwise specified, Resistive or Inductive load, 60 Hz.  
 For Capacitive load derate current by 20%.

Parameter	Symbol	SM 4001	SM 4002	SM 4003	SM 4004	SM 4005	SM 4006	SM 4007	unit
Maximum repetitive peak reverse voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS bridge input voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	VDC	50	100	200	400	600	800	1000	V
Maximum average forward rectified output current at TA=100°C	IF(AV)	1.0							A
Peak forward surge current single sine-wave superimposed on rated load (JEDEC Method)	IFSM	30.0							A
Typical thermal resistance per element (1)	ReJA	28							°C/W
Typical junction capacitance per element (2)	Cj	10							pF
Operating junction and storage temperature range	TJ, TSTG	-65 to + 150							°C

**Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified. Resistive or Inductive load, 60Hz.  
 For Capacitive load derate by 20 %.

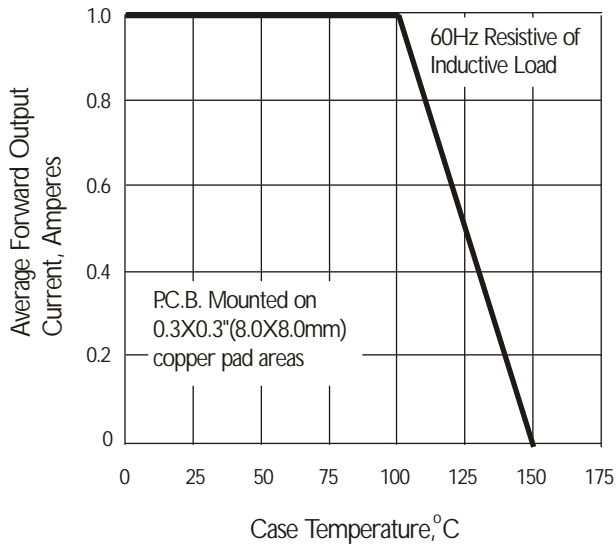
Parameter	Symbol	SM 4001	SM 4002	SM 4003	SM 4004	SM 4005	SM 4006	SM 4007	Unit
Maximum instantaneous forward voltage drop per leg at 1.0A	VF	1.1							V
Maximum DC reverse current at rated DC blocking voltage per element	IR	5.0 100							μA

**Notes:** (1) Thermal resistance from Junction to Ambient on P.C. board mounting.  
 (2) Measured at 2.0MHz and applied reverse voltage of 4.0 volts.

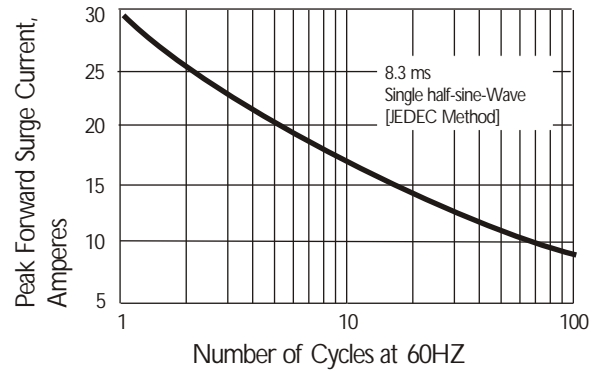
# Rating and Characteristic Curves ( $T_A=25^{\circ}\text{C}$ Unless otherwise noted )

## SM4001 thru SM4007

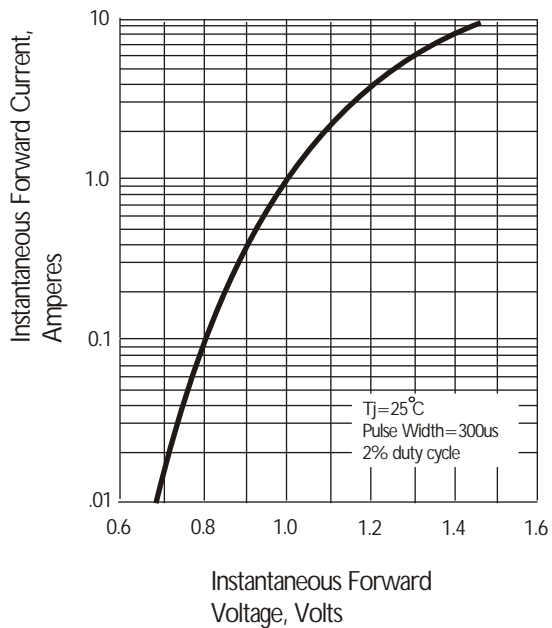
**Fig. 1 Derating Curve for Output Rectified Current**



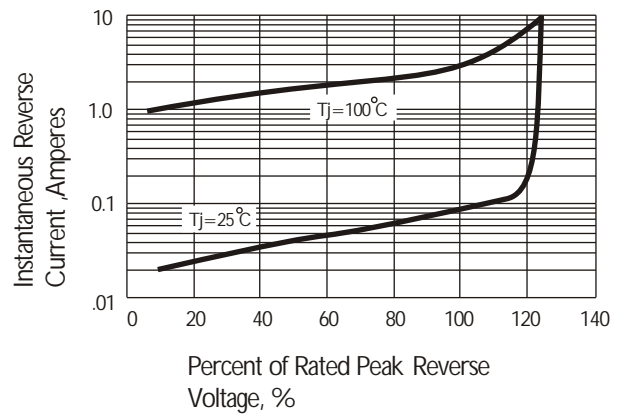
**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics**



**Fig. 5 Typical Junction Capacitance**

