



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT**

**GLASS PASSIVATED SILICON RECTIFIER**

**VOLTAGE RANGE 50 - 1000 Volts CURRENT 1.0 Ampere**

**SM4001SGP**

**THRU**

**SM4007SGP**

**FEATURES**

- \* Low leakage current
- \* Ideal for surface mounted applications
- \* Metallurgically bonded construction
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Glass passivated junction
- \* High temperature soldering guaranteed : 260°C/10 seconds at terminals

**MECHANICAL DATA**

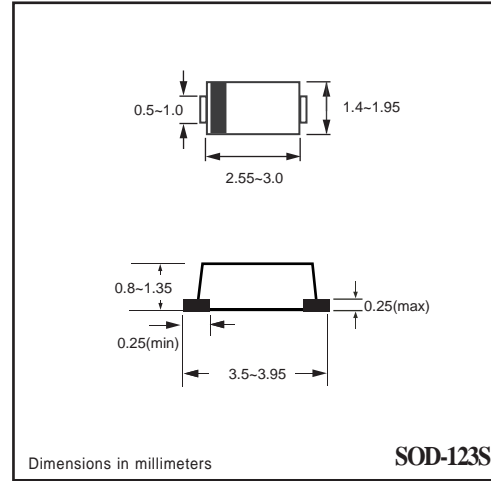
**Case:** JEDEC SOD-123S molded plastic  
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity:** Indicated by cathode band

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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%.



**SOD-123S**



**SOD-123S**

**MAXIMUM RATINGS ( At TA = 25°C unless otherwise noted )**

RATINGS		SYMBOL	SM4001SGP	SM4002SGP	SM4003SGP	SM4004SGP	SM4005SGP	SM4006SGP	SM4007SGP	UNITS
Maximum Recurrent Peak Reverse Voltage		VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage		VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		Vdc	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current TL = 110°C		Io	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)		IFSM	30							Amps
Typical Junction Capacitance (Note 1)		CJ	15							pF
Maximum Thermal Resistance	(Note 2)	R θ JL	20							°C / W
	(Note 3)	R θ JA	50							°C / W
Operating and Storage Temperature Range		TJ, TSTG	-65 to +175							°C

**ELECTRICAL CHARACTERISTICS ( At TA = 25°C unless otherwise noted )**

CHARACTERISTICS		SYMBOL	SM4001SGP	SM4002SGP	SM4003SGP	SM4004SGP	SM4005SGP	SM4006SGP	SM4007SGP	UNITS
Maximum Instantaneous Forward Voltage at 1.0 A DC		VF	1.0							Volts
Maximum Full Load Reverse Current, Full cycle Average at TA = 75°C		IR	30							uAmps
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ TA = 25°C		5.0							uAmps
	@ TA = 125°C		50							uAmps

- NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts  
 2. Thermal Resistance Junction to terminal, 6.0 mm<sup>2</sup> copper pads to each terminal  
 3. Thermal Resistance Junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal

2009-06

# RATING CHARACTERISTIC CURVES ( SM4001SGP THRU SM4007SGP )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

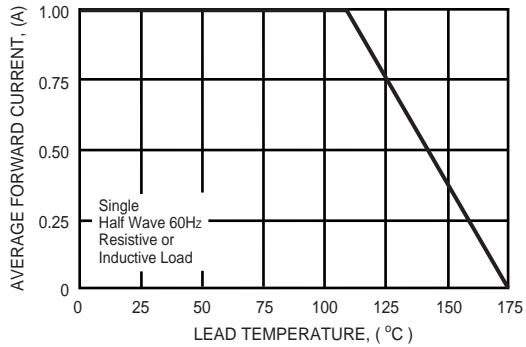


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

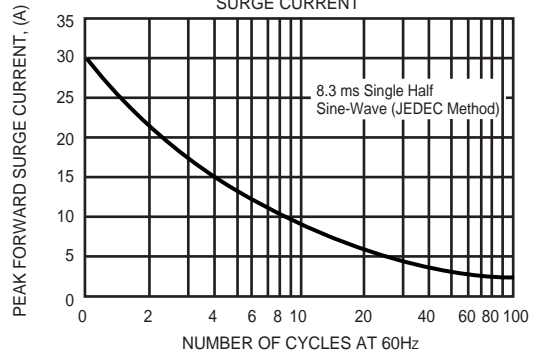


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

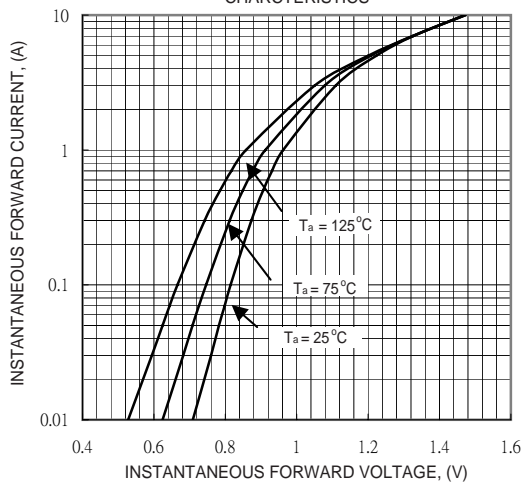


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

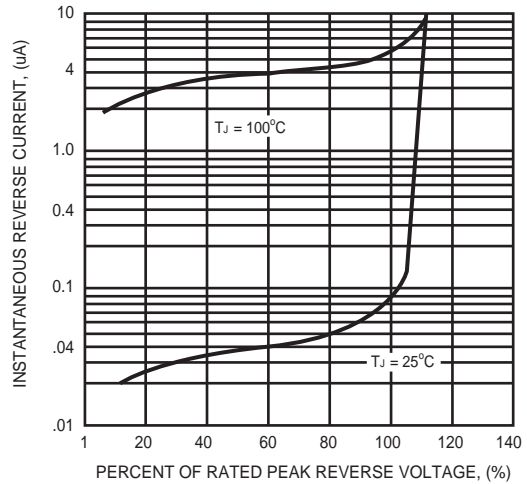


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

