



# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT

GLASS PASSIVATED SILICON RECTIFIER  
VOLTAGE RANGE 50 - 1000 Volts CURRENT 1.0 Ampere

**SM4001SPT  
THRU  
SM4007SPT**

Lead free devices

### FEATURES

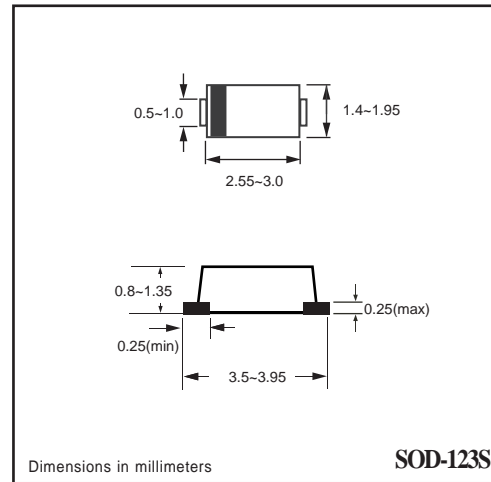
- \* Low leakage current
- \* Ideal for surface mounted applications
- \* Metallurgically bonded construction
- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Glass passivated junction
- \* High temperature soldering guaranteed : 260°C/10 seconds at terminals

### 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%.



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

RATINGS		SYMBOL	SM4001SPT	SM4002SPT	SM4003SPT	SM4004SPT	SM4005SPT	SM4006SPT	SM4007SPT	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 θJL	20								°C / W
	(Note 3)	R θJA	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	SM4001SPT	SM4002SPT	SM4003SPT	SM4004SPT	SM4005SPT	SM4006SPT	SM4007SPT	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

# RATING CHARACTERISTIC CURVES ( SM4001SPT THRU SM4007SPT )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

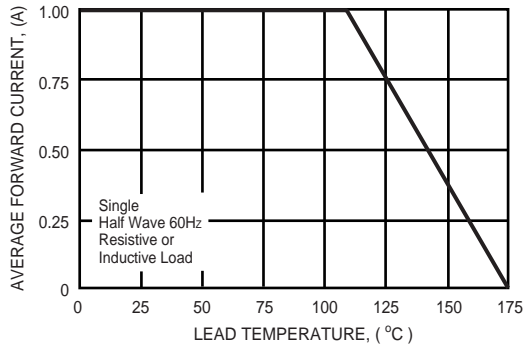


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

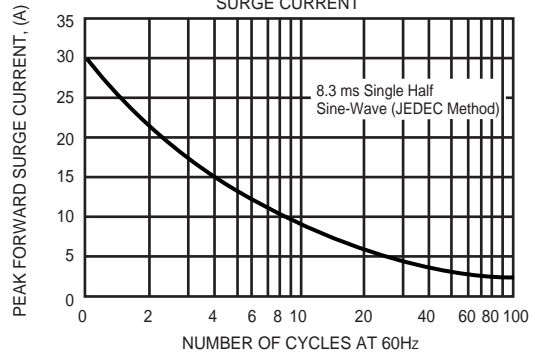


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

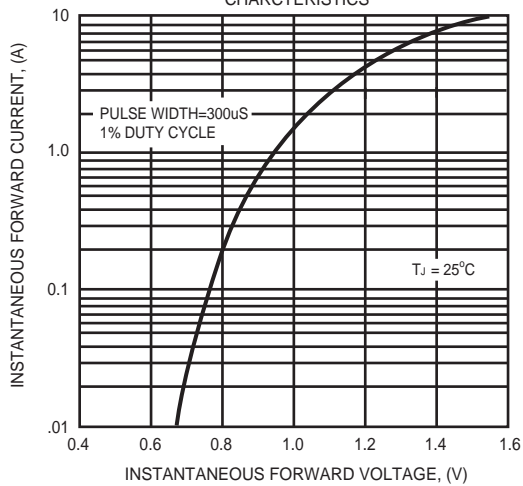


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

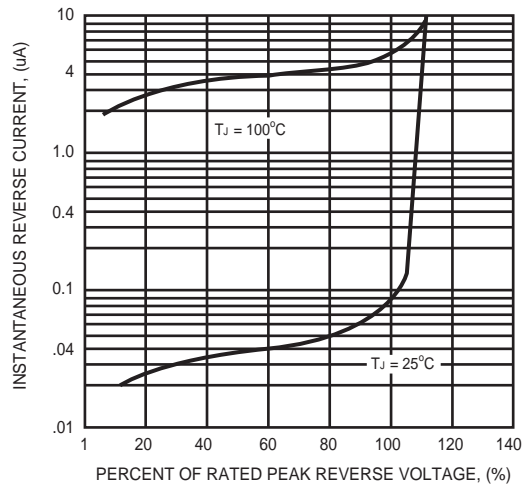


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

