



# CHENMKO ENTERPRISE CO.,LTD

## SURFACE MOUNT GLASS PASSIVATED SUPER FAST SILICON RECTIFIER

VOLTAGE RANGE 50 - 1000 Volts CURRENT 1.0 Ampere

**USM11SPT  
THRU  
USM18SPT**

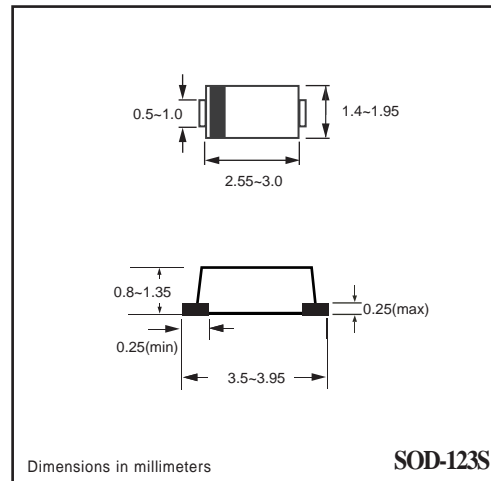
Lead free devices

### FEATURES

- \* Small surface mounting type. (SOD-123S)
- \* Low forward voltage, high current capability
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Glass passivated junction
- \* High temperature soldering guaranteed :  
260°C/10 seconds at terminals



SOD-123S



SOD-123S

### CIRCUIT



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

RATINGS	SYMBOL	USM11SPT	USM12SPT	USM13SPT	USM14SPT	USM15SPT	USM16SPT	USM17SPT	USM18SPT	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	300	400	600	800	1000	Volts
Maximum RMS Voltage	VRMS	35	70	140	210	280	420	560	700	Volts
Maximum DC Blocking Voltage	VDC	50	100	200	300	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				10				pF
Operating and Storage Temperature Range	TJ, TSTG	-65 to +150								°C

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

CHARACTERISTICS	SYMBOL	USM11SPT	USM12SPT	USM13SPT	USM14SPT	USM15SPT	USM16SPT	USM17SPT	USM18SPT	UNITS
Maximum Instantaneous Forward Voltage at 1.0 A DC	VF	0.95			1.27		1.75			Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage at TA = 25°C	IR	5.0								uAmps
Maximum Full Load Reverse Current Average, Full Cycle at TA = 55°C	IR	50								uAmps
Maximum Reverse Recovery Time (Note 2)	trr	35				45				nSec

NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts  
2. Test Conditions : IF = 0.5 A, IR = -1.0 A, IRR = -0.25 A

2004-07

# RATING CHARACTERISTIC CURVES ( USM11SPT THRU USM18SPT )

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

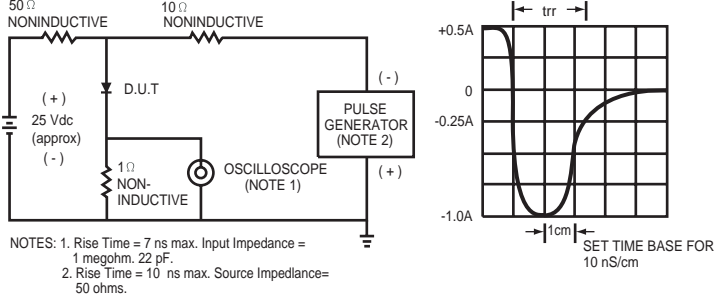


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

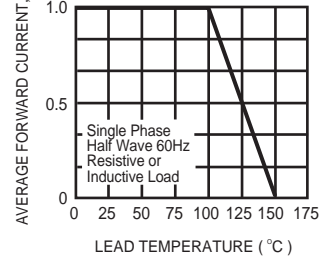


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

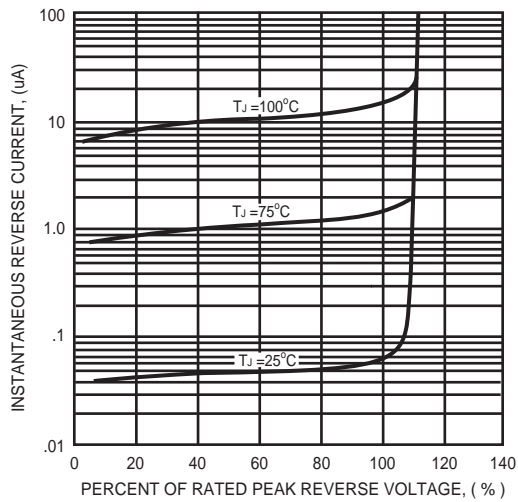


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

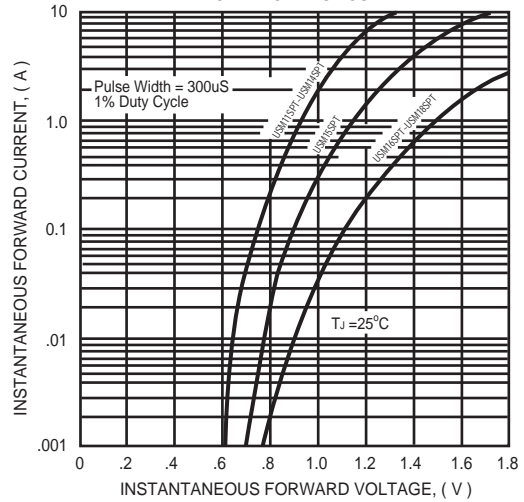


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

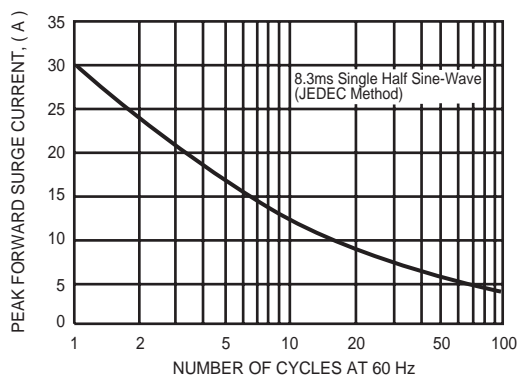


FIG. 6 - TYPICAL JUNCTION CAPACITANCE

