



SD1002 THRU SD1006

1.0A Surface Mount Schottky Barrier Rectifier



Voltage Range
20 to 60 Volts
450m Watts Power Dissipation

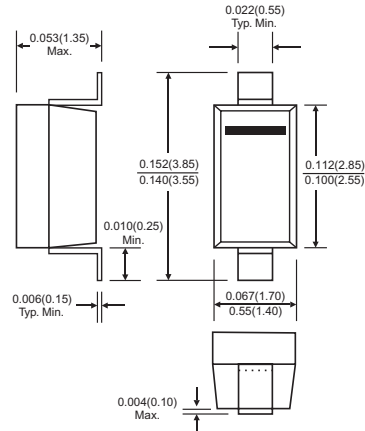
Features

- ✧ Schottky barrier chip
- ✧ Guard ring die construction for transient protection
- ✧ Low power loss, high efficiency
- ✧ High surge capability
- ✧ High current capability and low forward voltage drop
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection application
- ✧ Plastic material: UL flammability Classification rating 94V-0

Mechanical Data

- ✧ Case: SOD-123, Plastic
- ✧ Leads: Solderable per MIL-STD-202, Method 208
- ✧ Polarity: Cathode Band
- ✧ Marking: Date Code and Type Code or Date Code only
Type Code: SL
- ✧ Weight: 0.01 grams (approx.)

SOD-123



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

Type Number	Symbol	SD 1002	SD 1003	SD 1004	SD 1006	Units
Repetitive Peak Reverse Voltage Working Peak Reverse Voltage, @ IR=1.0mA DC Blocking Voltage	VRRM VRWM VR	20	30	40	60	V
RMS Reverse Voltage	VR(RMS)	28			42	V
Average Rectifier Output Current @ TL= 90°C	IO	1.0				A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	IFSM	25				A
Power Dissipation (Note 2)	Pd	450				mW
Typical Thermal Resistance Junction to Ambient Air (Note 2)	RθJA	222				°C/W
Operating and Storage Temperature Range	TJ, TSTG	-65 to + 125				°C

Electrical Characteristics

Forward Voltage (Note 1) IF=1.0A		0.45	0.50	0.55	0.70	V
			Typ	Max		
Reverse Leakage Current (Note 1) VR=40V, TA=25°C VR=40V, TA=100°C VR=4V, TA=25°C VR=4V, TA=100°C VR=6V, TA=25°C VR=6V, TA=100°C	IR	-	10 1 15 1.5	1.0 10 50 2 75 3	1.0	mA mA uA mA uA mA
Junction Capacitance VR=4V, f=1.0MHz	Cj	-	110			pF

Notes: 1. Pulse Test: Pulse width = 300 us, Duty Cycle ≤ 2%.

2. Valid Provided that Leads are Kept at Ambient Temperature at a Distance of 9.5mm from the case.

RATINGS AND CHARACTERISTIC CURVES (SD1002THRU SD1006)

FIG.1- FORWARD CURRENT DERATING CURVE

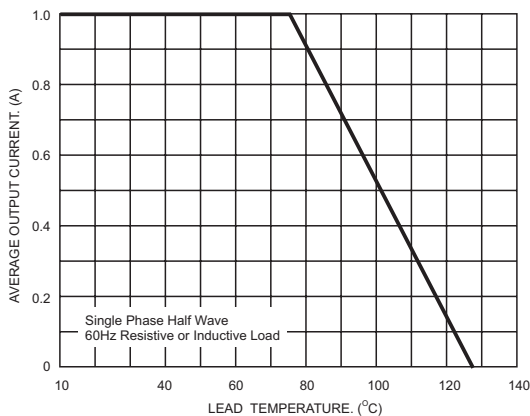


FIG.2-TYPICAL FORWARD CHARACTERISTICS

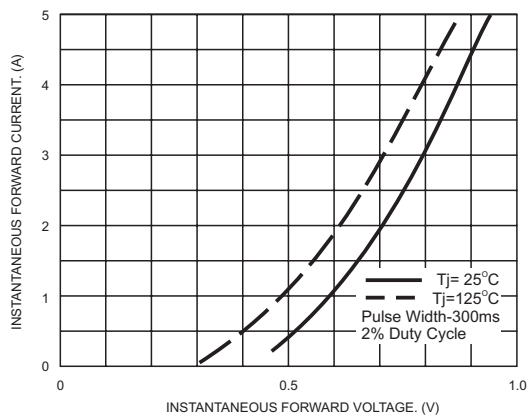


FIG.3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

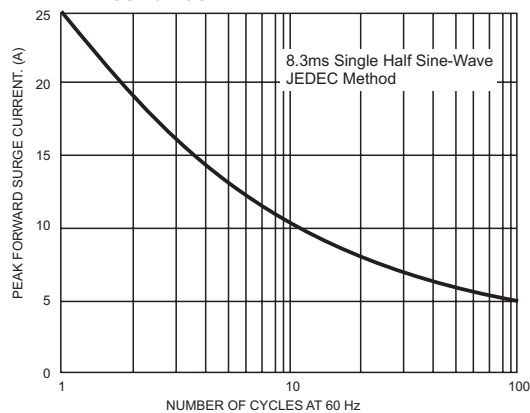


FIG.4- TYPICAL JUNCTION CAPACITANCE

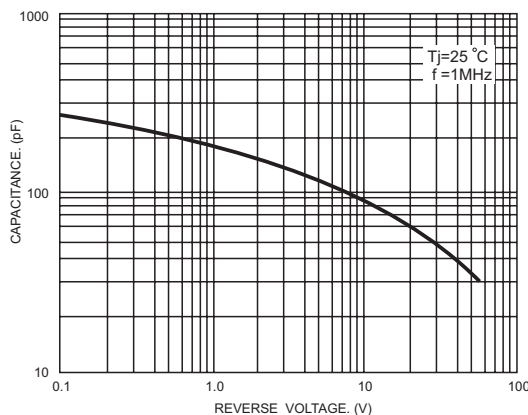


FIG.5- TYPICAL SAFE OPERATING AREA

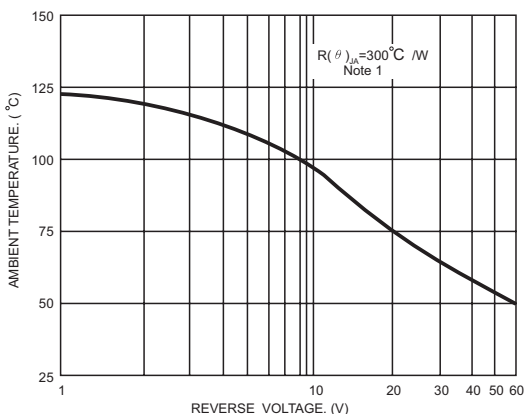


FIG.6- TYPICAL REVERSE CHARACTERISTICS

