



SD1002 THRU SD1006

1.0A Surface Mount Schottky Barrier Rectifier



Voltage Range
20 to 60 Volts
450m Watts Power Dissipation

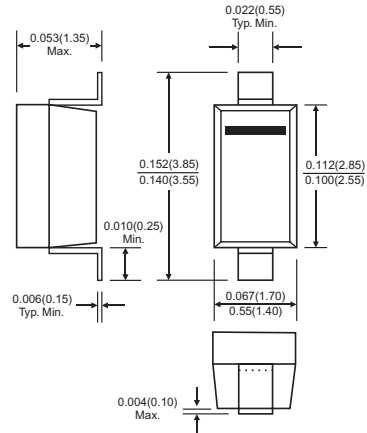
Features

- ✦ 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	VRRM	20	30	40	60	V
Working Peak Reverse Voltage, @ IR=1.0mA	VRWM					
DC Blocking Voltage	VR					
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

Maximum Forward Voltage (Note 1) IF=1.0A	VF	0.45	0.50	0.55	0.70	V
			Typ	Max		
Reverse Leakage Current (Note 1)	IR	-	10	1.0	1.0	mA
VR=40V, TA=25°C				10		
VR=40V, TA=100°C				50		
VR=4V, TA=25°C				1		
VR=4V, TA=100°C				2		
VR=6V, TA=25°C				15		
VR=6V, TA=100°C	1.5	3				
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

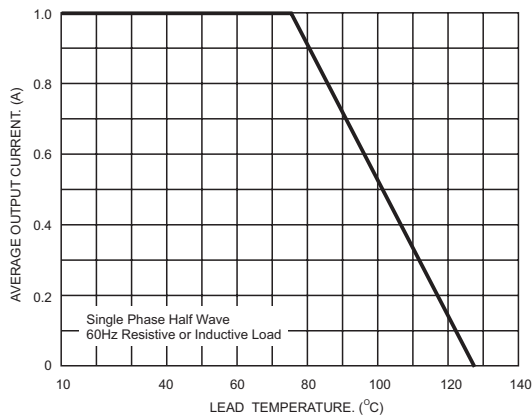


FIG.2-TYPICAL FORWARD CHARACTERISTICS

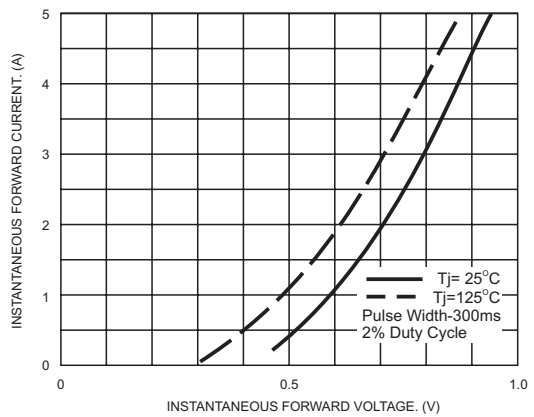


FIG.3-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

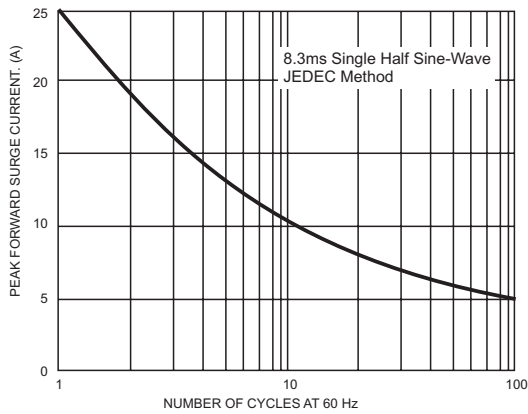


FIG.4- TYPICAL JUNCTION CAPACITANCE

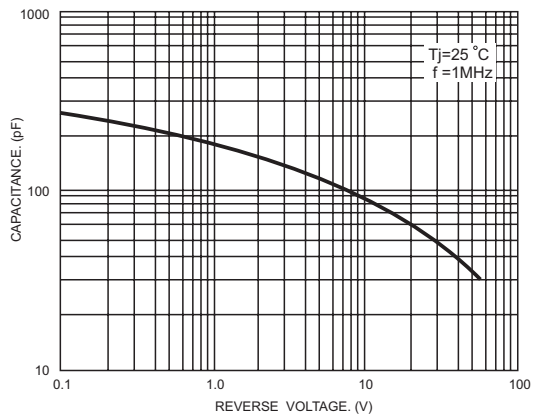


FIG.5- TYPICAL SAFE OPERATING AREA

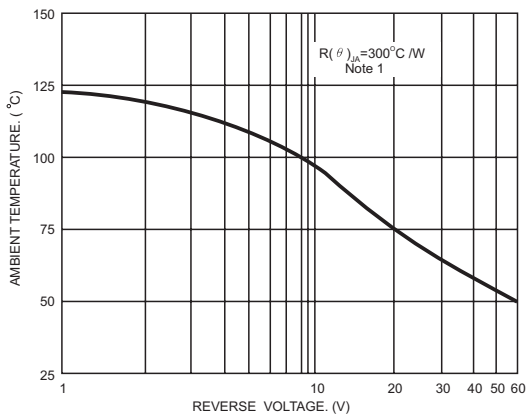


FIG.6- TYPICAL REVERSE CHARACTERISTICS

