

Surface Mount Standard Rectifiers

SOD-323



RoHS
COMPLIANT

Major Ratings and Characteristics

$I_{F(AV)}$	1 A
V_{RRM}	50 V to 1000 V
I_{FSM}	10A
I_R	5 μ A
V_F	1.15V
$T_J \text{ max.}$	125°C

Features

- Low profile space
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:
260°C/10 seconds at terminals

Mechanical Data

- **Case:** SOD-323 molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per JESD22-B102
- **Polarity:** Laser band denotes cathode end

Maximum Ratings & Thermal Characteristics

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Items	Symbol	1N4001W A1	1N4002W A2	1N4003W A3	1N4004W A4	1N4005W A5	1N4006W A6	1N4007W A7	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L = 90^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	10							A
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	35							°C/W
Operating junction range	T_J	-55 to +125							°C
storage temperature range	T_{STG}	-55 to +125							°C

Note 1: Mounted on PCB with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Items	Test conditions	Symbol	Min	Type	Max	UNIT
Instantaneous forward voltage	$I_F = 0.5\text{A}$	V_F	-	0.95	-	V
	$I_F = 1\text{A}$ ⁽²⁾			1		
Reverse current	$V_R = V_{DC}$	I_R	-	-	5	μ A
					$T_A = 125^\circ\text{C}$	

Note 2: Pulse test: 300 μ s pulse width, 1% duty cycle.

Characteristic Curves ($T_A=25\text{ }^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

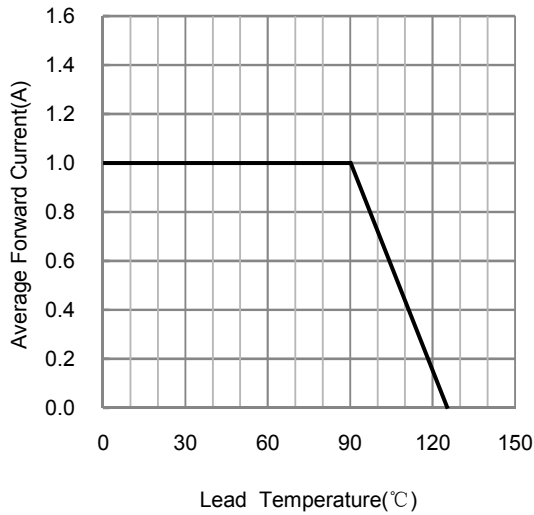


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

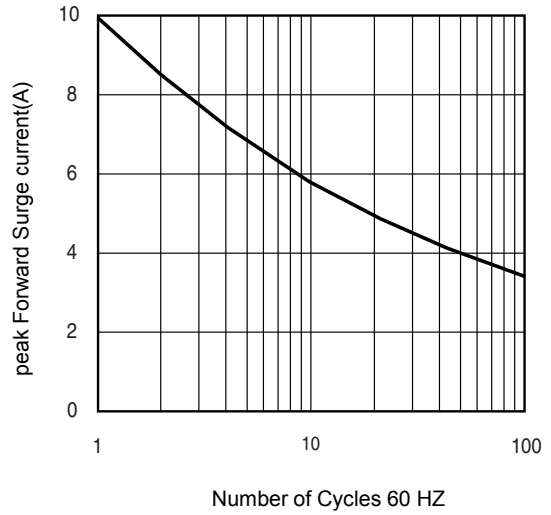


Fig.3 Typical Instantaneous Forward Characteristics

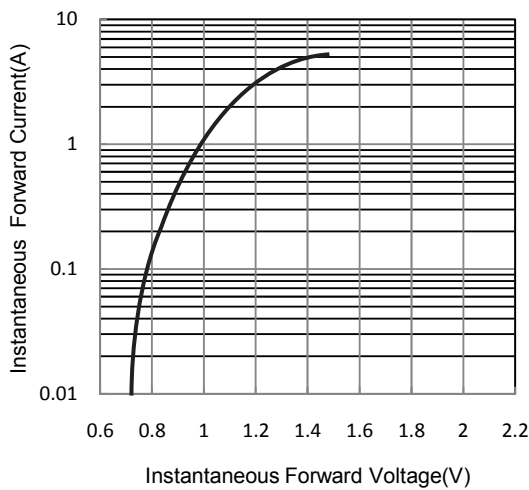
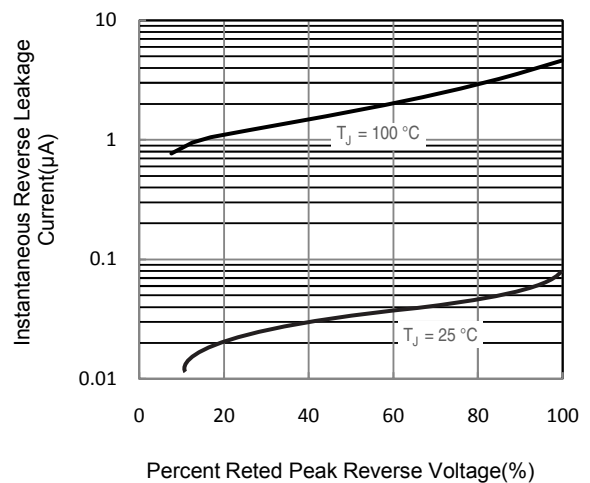
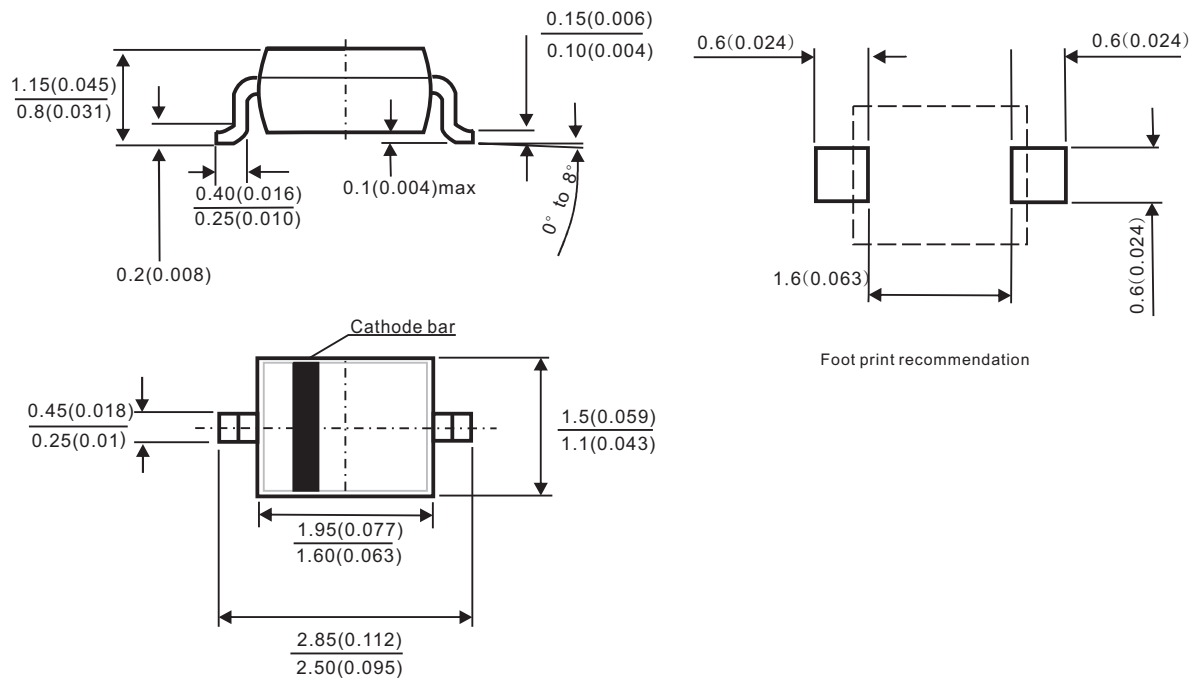


Fig.4 Typical Reverse Leakage Characteristics



Package Outline

SOD-323



Dimensions in millimeters and (inches)