

Surface Mount Glass Passivated Standard Rectifier
Reverse Voltage -50~1000 V
Forward Current - 1.0A

FEATURES

- ◆Low Forward Voltage Drop
- ◆Guard Ring Construction for Transient Protection
- ◆Negligible Reverse Recovery Time
- ◆Low Capacitance
- ◆Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ◆Case: SOD-323
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 5.48mg /0.00019oz

Pinning

1.Cathode	2.Anode
	
SOD-323	

Marking Code

SM4001WS	1A
SM4002WS	2A
SM4003WS	3A
SM4004WS	4A
SM4005WS	5A
SM4006WS	6A
SM4007WS	7A

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbols	SM4001WS	SM4002WS	SM4003WS	SM4004WS	SM4005WS	SM4006WS	SM4007WS	Units
Peak Repetitive Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
RMS reverse voltage	V_{RMS}	35	70	140	280	420	560	700	V
Working Peak Reverse Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed On Rated Load	I_{FSM}	15							A
Maximum Instantaneous Forward Voltage 1A	V_F	1.1							v
Maximum DC Reverse Current $T_a=25\text{ }^{\circ}\text{C}$ at Rated DC Blocking Voltage $T_a=125\text{ }^{\circ}\text{C}$	I_R	5 50							uA
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$	55							°C/W
Typical reverse recovery time ⁽²⁾	T_{rr}	1.8							uS
Typical junction capacitance ⁽³⁾	C_j	5							pF
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

①) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.

②) Measured with $I_F=0.5A, I_R=1A, I_{rr}=0.25A$

③) Measured at 1 MHz and applied reverse voltage of 4 V D.C

Fig.1 Forward Current Derating Curve

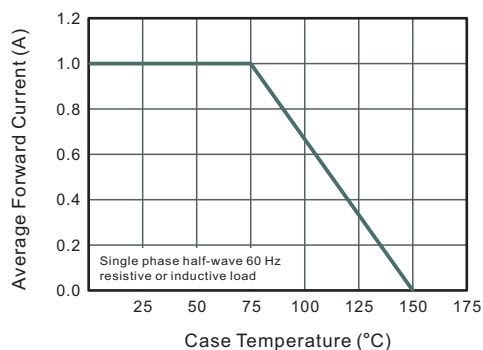


Fig.2 Typical Instantaneous Reverse Characteristics

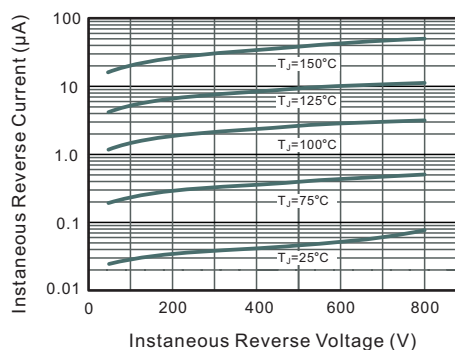


Fig.3 Typical Forward Characteristic

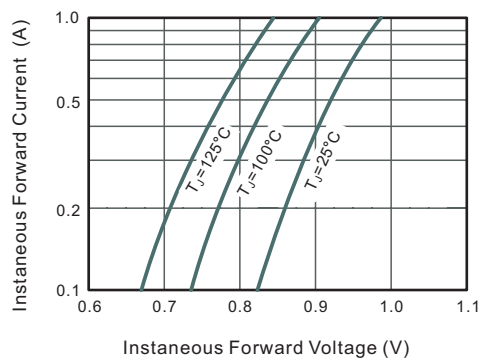


Fig.4 Typical Junction Capacitance

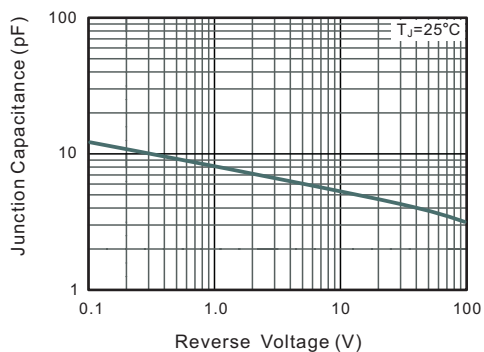
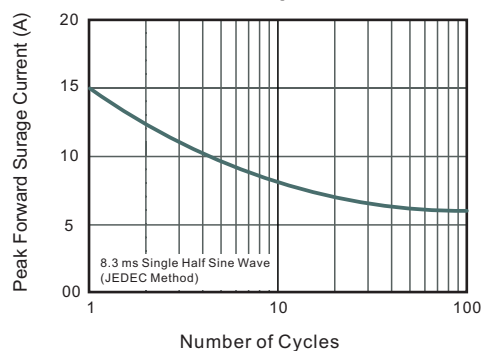


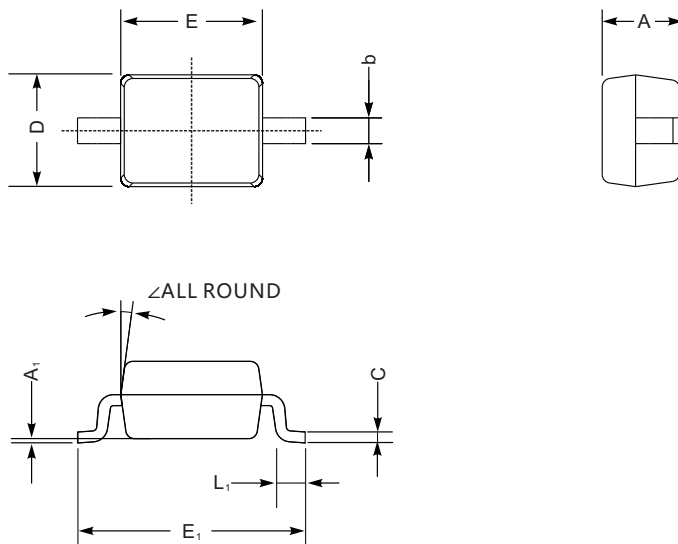
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

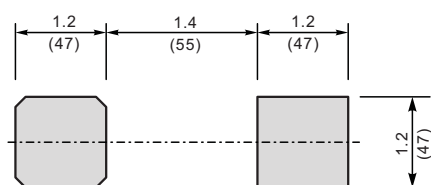
SOD-323

Plastic surface mounted package; 2 leads



UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{(\text{mil})}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-323	Tape/Reel, 7" reel	3000	EIA-481-1