

Features

- For surface mounted applications in order to optimize board space.
- Low profile package.
- Excellent clamping capability.
- IEC61000-4-2 ESD 30kV Air,30kV contact compliance
- Protects one I/O line
- Lead-free parts meet RoHS requirements.
- Compliant to Halogen-free

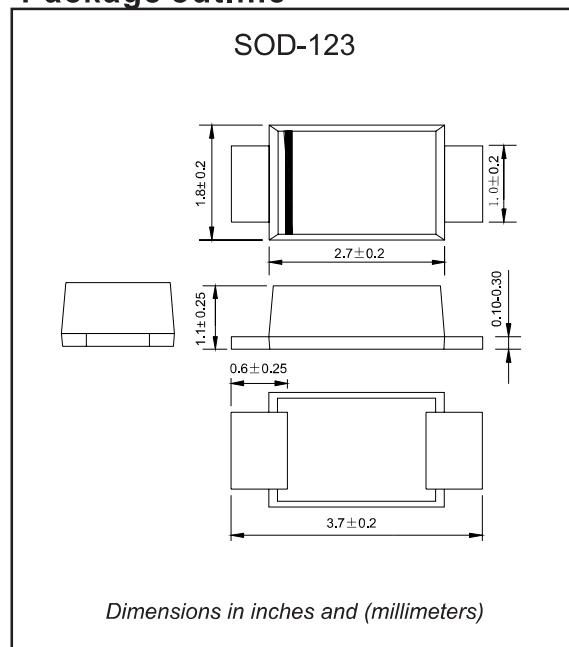
Applications

- Personal digital assistants (PDA)
- Cellular handsets & Accessories
- Portable devices
- Portable instrumentation
- Handhelds and notebooks
- Digital cameras

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any

Package outline



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

PARAMETER	CONDITIONS	Symbol	Value	UNIT
Peak Power Dissipation	Peak Pulse Power Dissipation at $T_A=25^\circ\text{C}$ by $10 \times 1000\mu\text{s}$ (Note 1)	P_{PPM}	400	W
Operating junction temperature range		T_J	-55 to +150	$^\circ\text{C}$
Storage temperature range		T_{STG}	-55 to +150	$^\circ\text{C}$

Note: 1. Non-repetitive current pulse, per Fig. 2 and derated above $T_A=25^\circ\text{C}$ per Fig. 1

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

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage $V_{BR} @ I_T$			Maximum Reverse Leakage I_R @ V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage $V_C @ I_{PP}$ (V)
		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
PTVS3V3S1UR	PTVS3V3S1BR	A1	CA1	5.40	6.00	10	500	3.3	47.0	8.50

Rating and characteristic curves

FIG.1 - PULSE DERATING CURVE

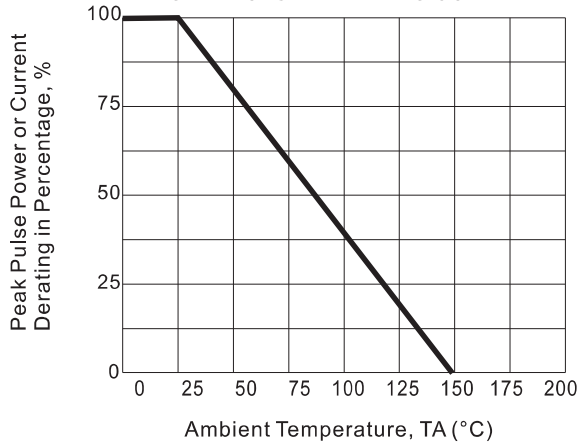


FIG.2 - 10X1000us PULSE WAVEFORM

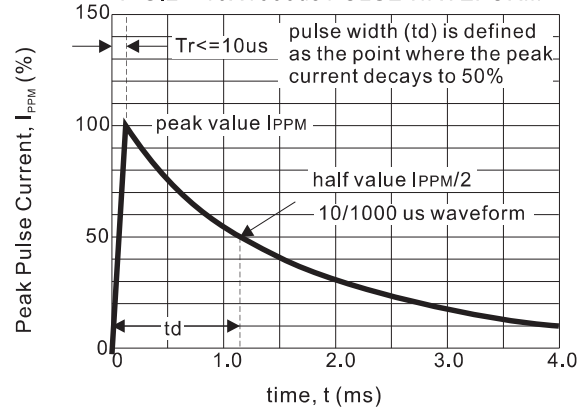


FIG.3 - 8X20us PULSE WAVEFORM

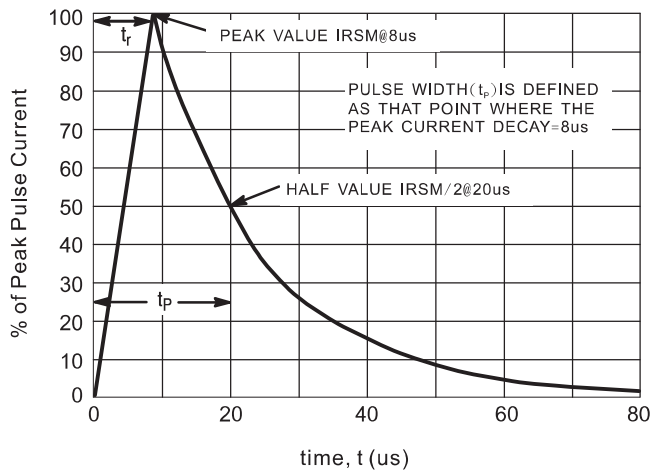


FIG.4 - PEAK PULSE POWER RATING CURVE

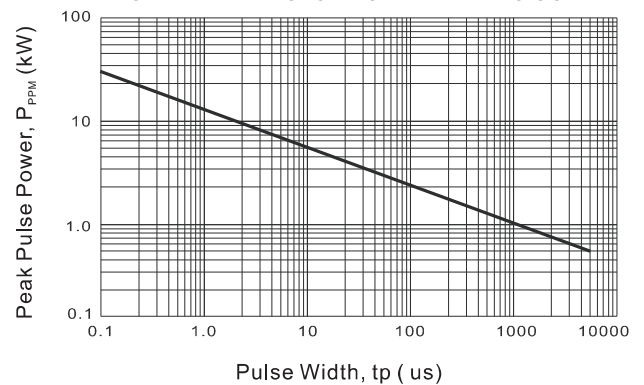
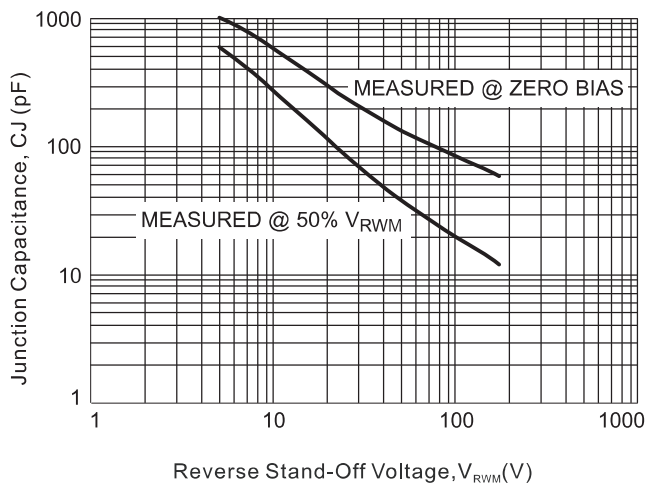


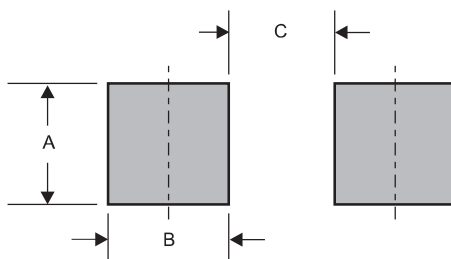
FIG.5 - TYPICAL JUNCTION CAPACITANCE



Pinning information

Pin	Simplified outline	Symbol
Uni-Directional Pin1 cathode Pin2 anode		
Bi-Directional		

Suggested solder pad layout

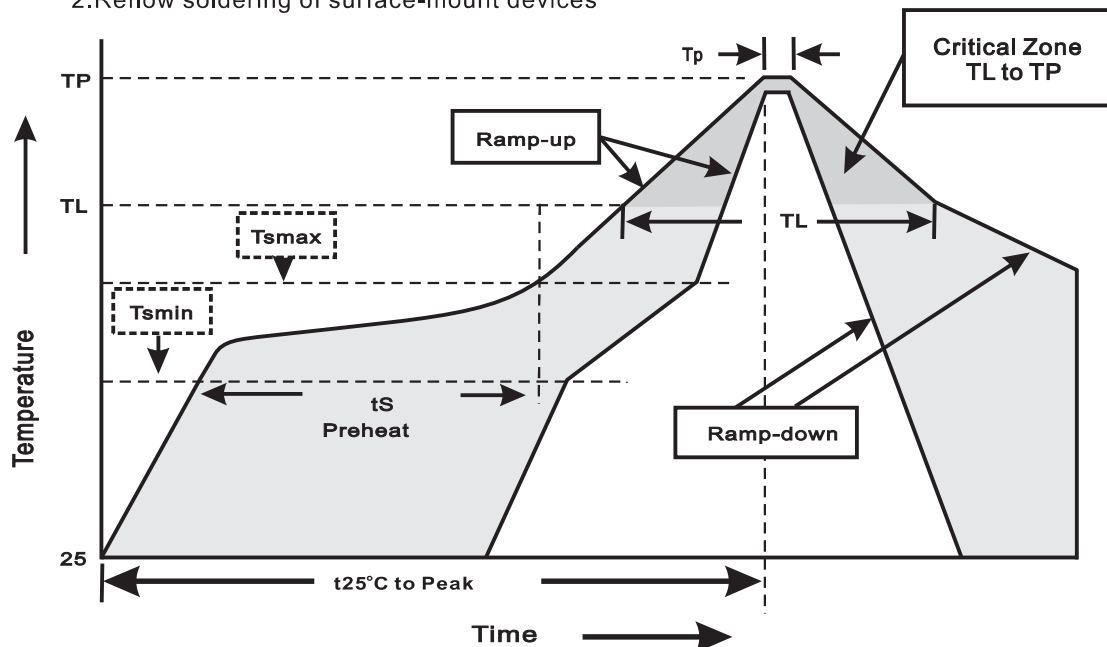


Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-123	0.044 (1.10)	0.040 (1.00)	0.079 (2.00)

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes