

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

XESD2FD3V3B

Product specification

Features

- 100W peak pulse power per line ($t_p = 8/20\mu s$)
- SOD-882 package
- Replacement for MLV(0402)
- Bidirectional configurations
- Response time is typically $< 1ns$
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC61000-4-2(ESD) $\pm 30KV$ (air), $\pm 30KV$ (contact); IEC61000-4-4 (EFT) 40A (5/50ns)

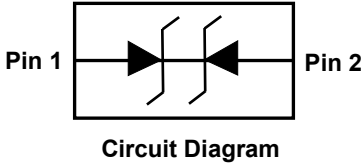
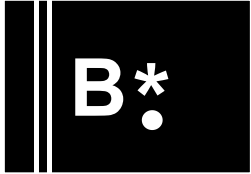
Mechanical Characteristics

- Mounting position: Any
- Qualified max reflow temperature: $260^{\circ}C$
- Device meets MSL1 requirements
- SOD-882 without plating

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

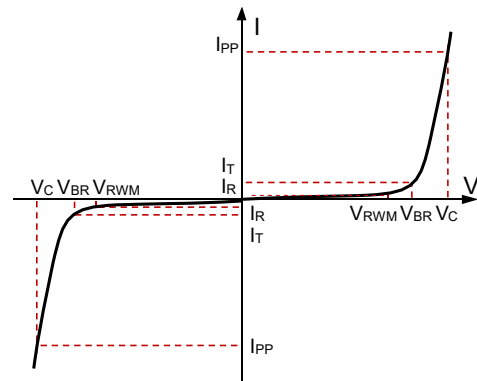
Reference News

SOD-882	PIN Configuration	Marking
	 Circuit Diagram	

Electronics Parameter

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

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
P_{pk}	Peak Power Dissipation
C	Capacitance @ $V_R = 0$ and $f = 1.0 MHz$



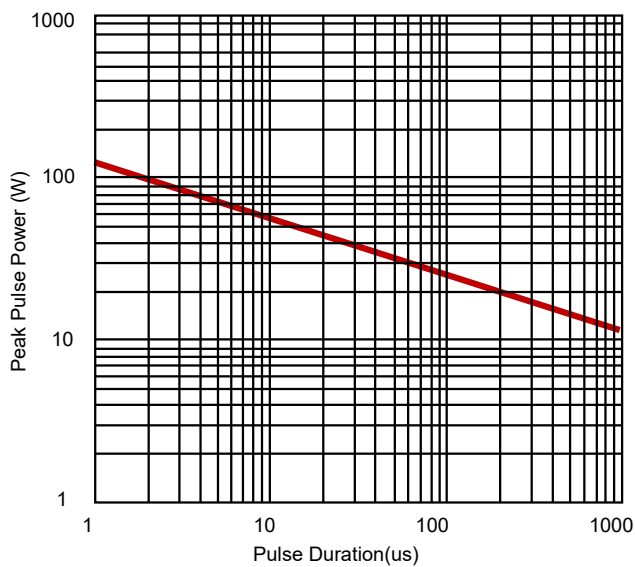
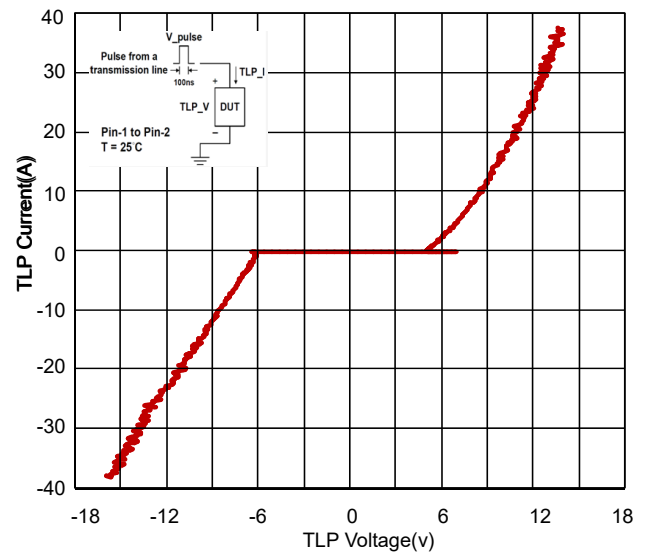
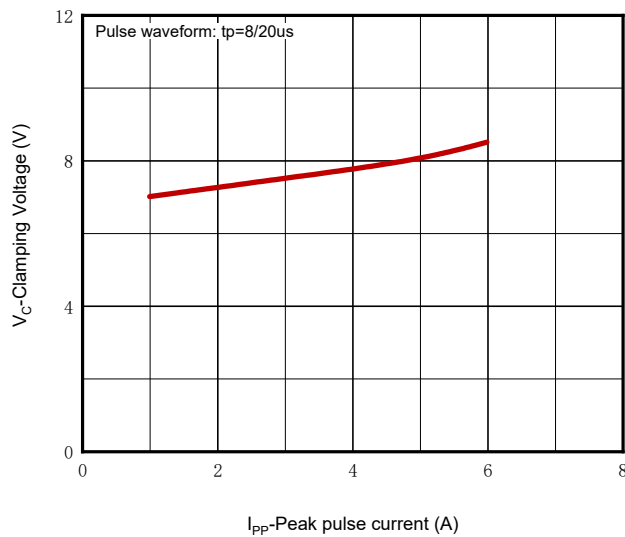
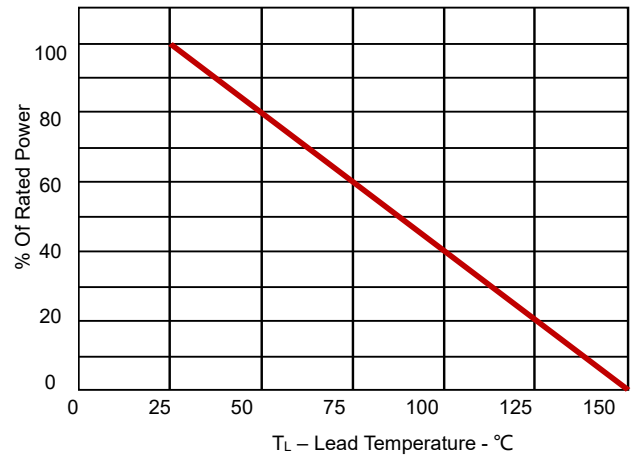
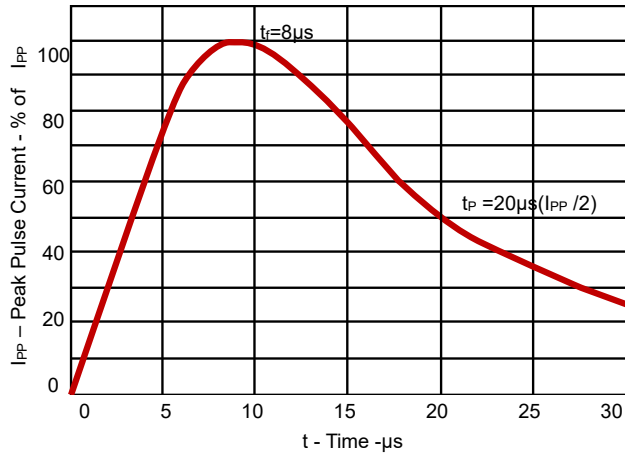
Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	4.5			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3V$ $T=25^{\circ}C$			1.0	μA
Clamping Voltage	V_{CL}	$I_{PP} = 16A$ $t_p = 100ns$		10		V
Clamping Voltage	V_C	$I_{PP} = 8A$		8.5	12.0	V
Junction Capacitance	C_j	$V_R = 0V$ $f = 1MHz$		12		pF

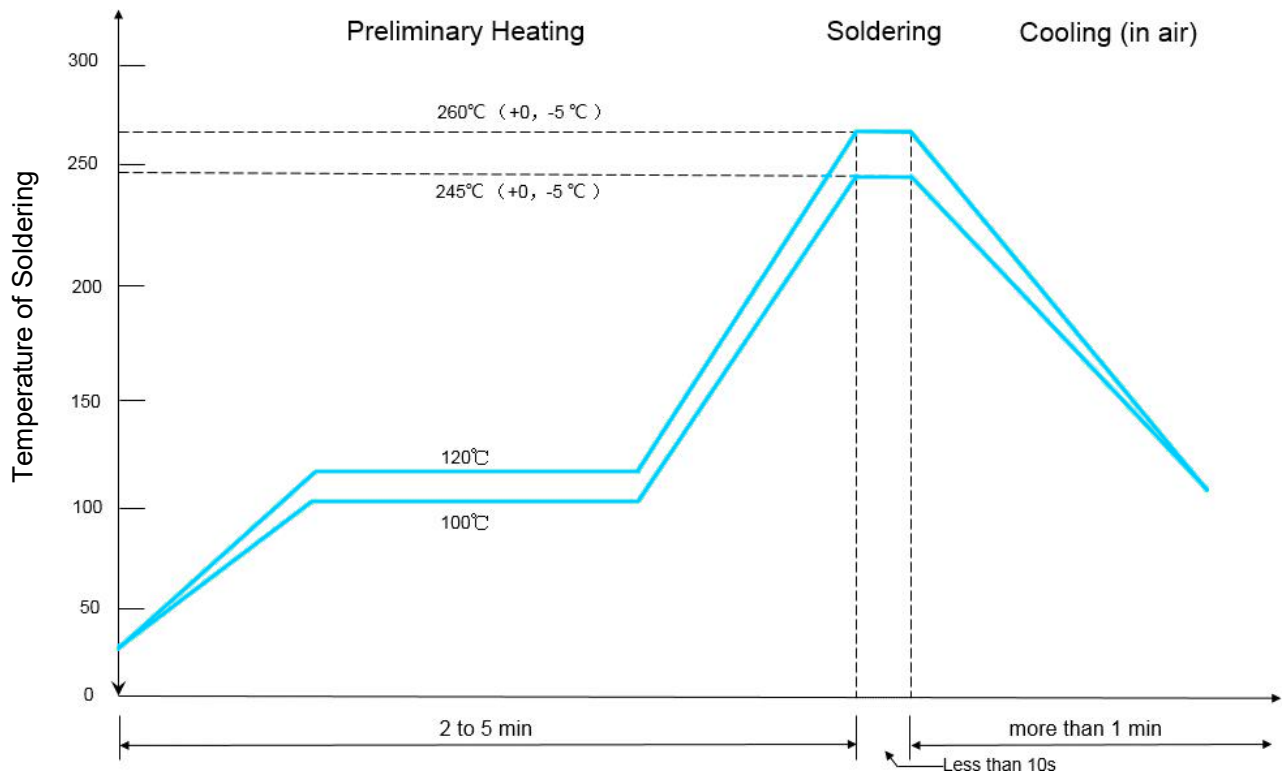
Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Unidirectional Peak Pulse Power	P_{pp}	100	W
Peak Pulse Current ($t_p=8/20\mu s$)	I_{pp}	8	A
Operating Temperature	T_J	-55 to 150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}C$

Typical Characteristics



Solder Reflow Recommendation



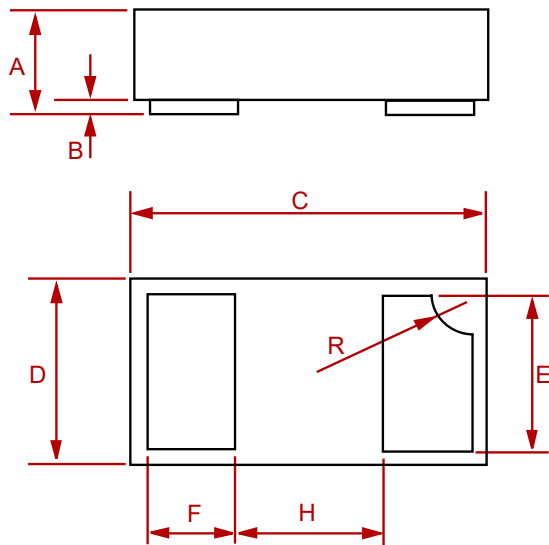
Remark: Pb free for 260°C; Pb for 245°C

PCB Design

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

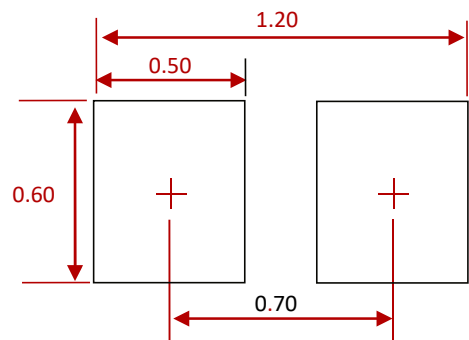
- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.

PACKAGE MECHANICAL DATA



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.0125	0.02	0.32	0.52
B	0.000	0.002	0.00	0.05
C	0.037	0.043	0.95	1.080
D	0.022	0.027	0.55	0.680
E	0.016	0.024	0.40	0.60
F	0.008	0.012	0.20	0.30
H	0.015Typ.		0.40Typ.	
R	0.001	0.005	0.05	0.15

Suggested Pad Layout



- NOTES:
1. CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
 2. THIS LAND PATTERN IS FOR REFERENCE PURPOSES ONLY.
CONSULT YOUR MANUFACTURING GROUP TO ENSURE YOUR
COMPANY'S MANUFACTURING GUIDELINES ARE MET.

Order information

Orderable Device	Package	Packing Option
XESD2FD3V3B	SOD-882	10000PCS

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