

MSKSEMI 美森科

SEMICONDUCTOR



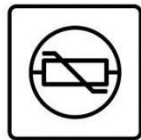
ESD



TVS



TSS



MOV



GDT



PLED

ESD9L5.0ST5G

Product specification

FEATURES

- 40W peak pulse power per line ($t_P = 8/20\mu s$)
- SOD-923 package
- Replacement for MLV(0402)
- Bidirectional configurations
- Response time is typically $< 1ns$
- High ESD protection
- Low clamping voltage
- RoHS compliant


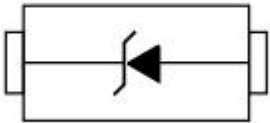

MACHANICAL DATA

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 μm
- Pin flatness: $\leq 3mil$

APPLICATIONS

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

Reference News

PACKAGE OUTLINE	PIN CONFIGURATION	Marking
		
<p>SOD-923</p>		

ABSOLUTE MAXIMUM RATING

Symbol	Parameter	Value	Units
PPP	Peak Pulse Power (8/20 μ s)	40	W
TOPT	Operating Temperature	-55~150	$^{\circ}$ C
TSTG	Storage Temperature	-55~150	$^{\circ}$ C

ELECTRICAL CHARACTERISTICS (Tamb=25 $^{\circ}$ C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
	Reverse Working Voltage				5.0	V
VBR	Reverse Breakdown Voltage	IT = 1mA	5.6	6.7	7.8	V
IR	Reverse Leakage Current	VRWM = 5V T=25 $^{\circ}$ C			100	nA
VC	Clamping Voltage	I _{PP} = 1A			9	V
CJ	Junction Capacitance	VR = 0V, f = 1MHz		0.5		pF

ELECTRICAL CHARACTERISTICS CURVE

Typical Characteristics

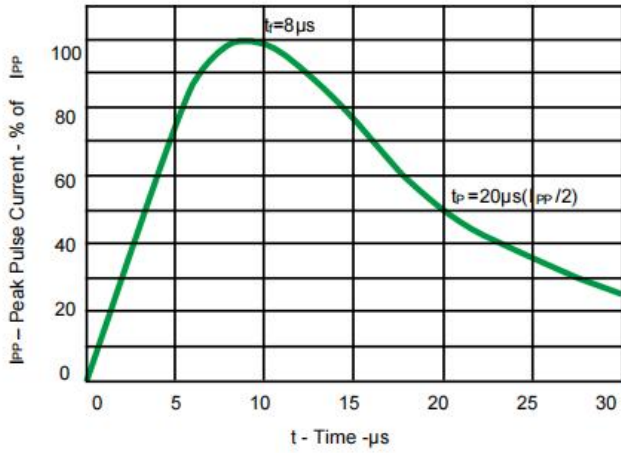


Fig 1. Pulse Waveform

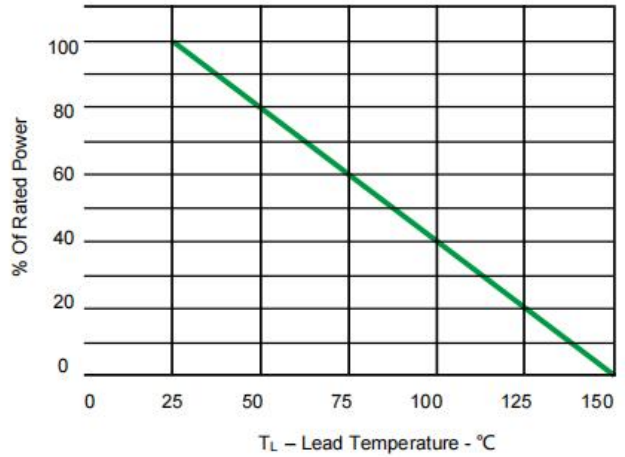


Fig 2. Power Derating Curve

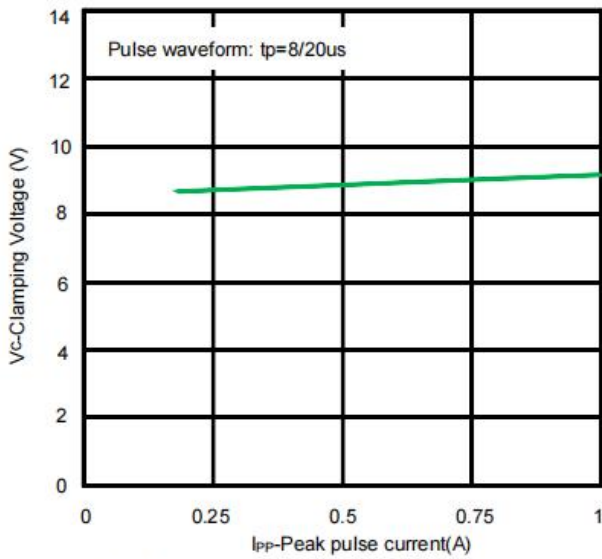


Fig 3. Clamping voltage vs. Peak pulse current

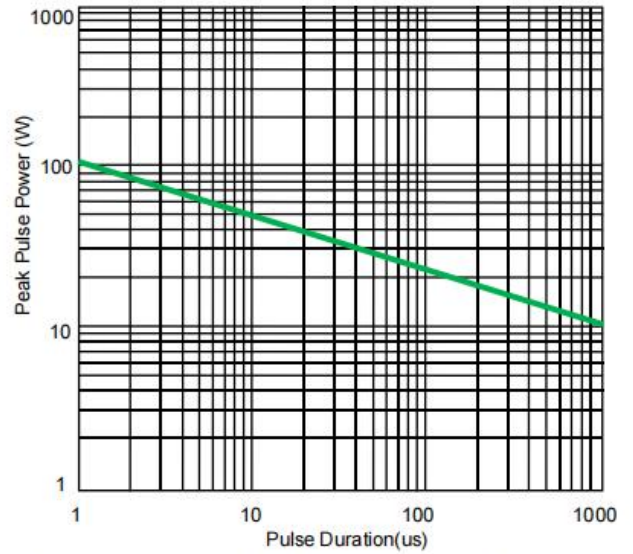
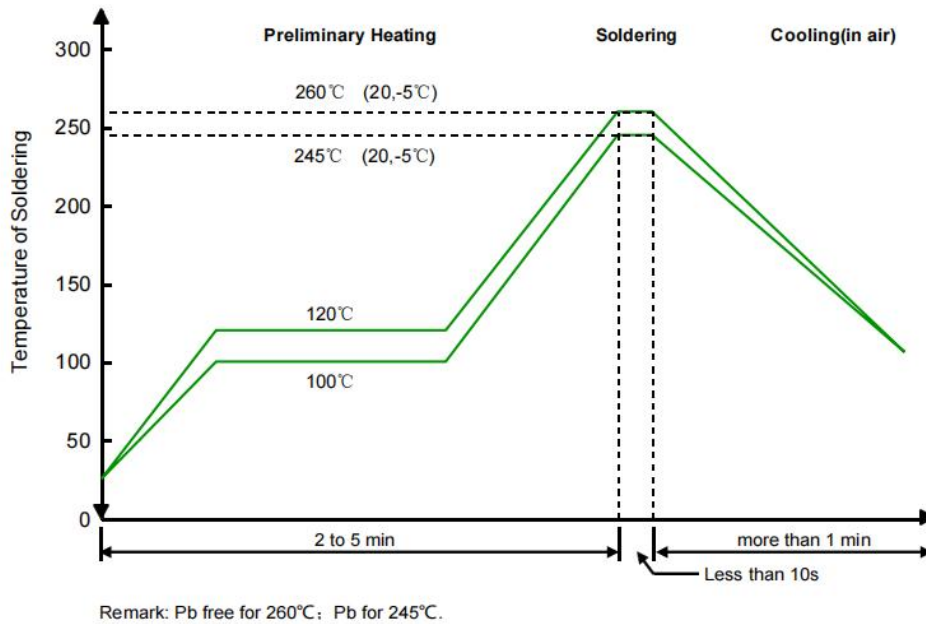


Fig 4. Non Repetitive Peak Pulse Power vs. Pulse time

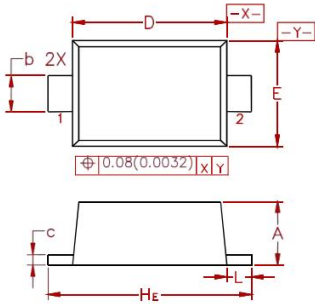
Solder Reflow Recommendation



PCB Design

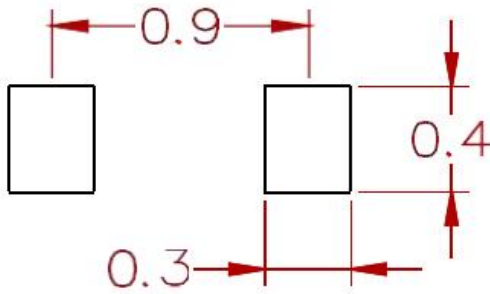
- For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:
 - Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
 - 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	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	0.36	0.40	0.43	0.014	0.016	0.017
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
HE	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

Suggested Pad Layout



Dimensions: Millimeters

REEL SPECIFICATION

P/N	PKG	QTY
ESD9L5.0ST5G	SOD-923	8000

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