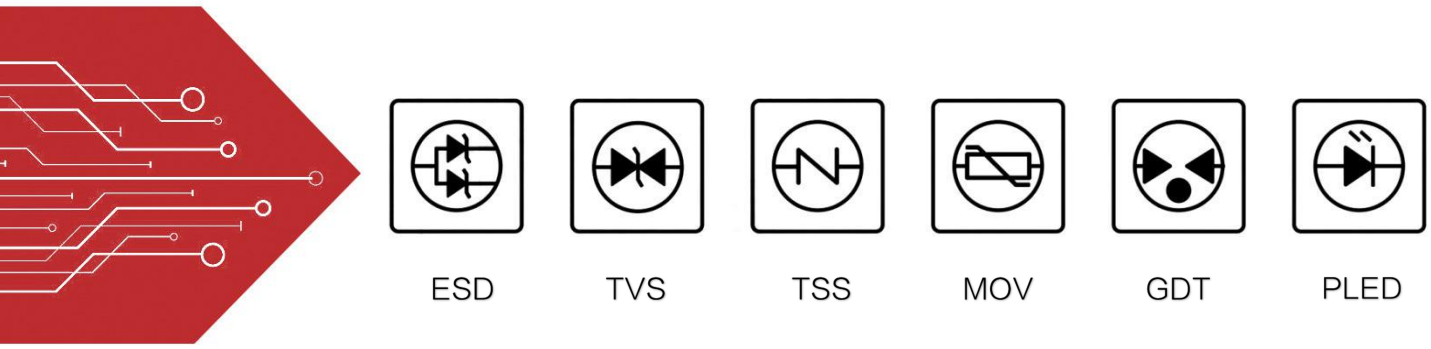
MSKSEMI
SEMICONDUCTOR



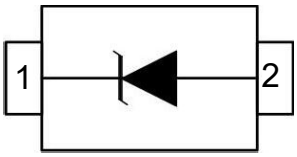
Product data sheet

www.msksemi.com

PACKAGE OUTLINE

SOD-323

PIN CONFIGURATION



Feature

- 1400W Peak pulse power per line (t_P = 8/20μs)
- SOD-323 package
- Response time is typically < 1 ns
- Protect one I/O or power line
- Low clamping Voltage
- RoHS compliant
- Transient protection for data lines to IEC61000-4-2(ESD) ±30KV(air), ±30KV(contact);
  IEC 61000-4-4 (EFT) 40A (5/50ns)
  61000-4-5 (Lightning) 70A (8/20us)

Applications

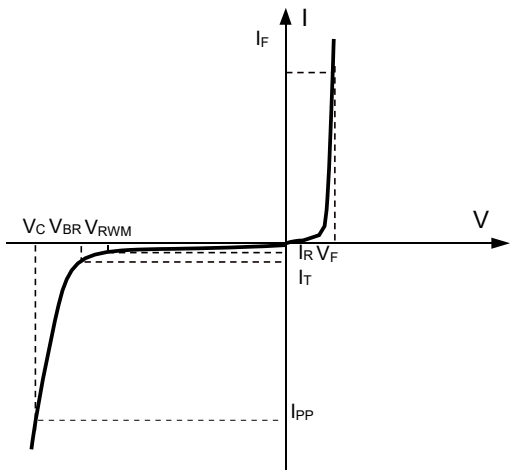
- Cell phone handsets and accessories
- Personal digital assistants (PDA's)
- Notebooks, desktops, and servers
- Portable instrumentation
- Cordless phones
- Digital cameras
- Peripherals

Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260℃
- Device meets MSL 3 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness：≤3mil

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



Absolute maximum rating@25℃

Rating	Symbol	Value	Units
Peak Pulse Power (t_P = 8/20μS)	P_{pp}	1400	W
Lead Soldering Temperature	T_L	260 (10 sec)	℃
Operating Temperature	T_J	-55 to 125	℃
Storage Temperature	T_{STG}	-55 to 150	℃

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				4.5	V
Breakdown Voltage	V_{BR}	I_t =1mA	5		7	V
Reverse Leakage Current	I_R	V_{RWM} =4.5V			5	μA
Clamping Voltage	V_C	I_{PP}=40A t_P = 8/20μs		9.5	11	V
Clamping Voltage	V_C	I_{PP}=70A t_P = 8/20μs		11	12	V
Clamping Voltage	V_C	I_{PP}=100A t_P = 8/20μs		13.5	15	V
Junction Capacitance	C_j	V_R=0V f = 1MHz	750	850	950	pF

Typical Characteristics

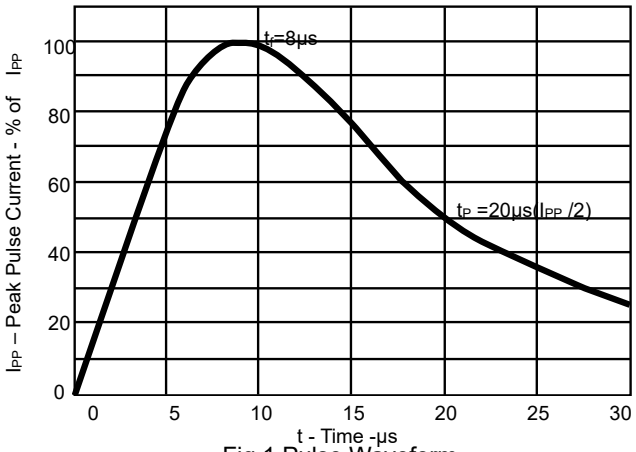


Fig 1.Pulse Waveform

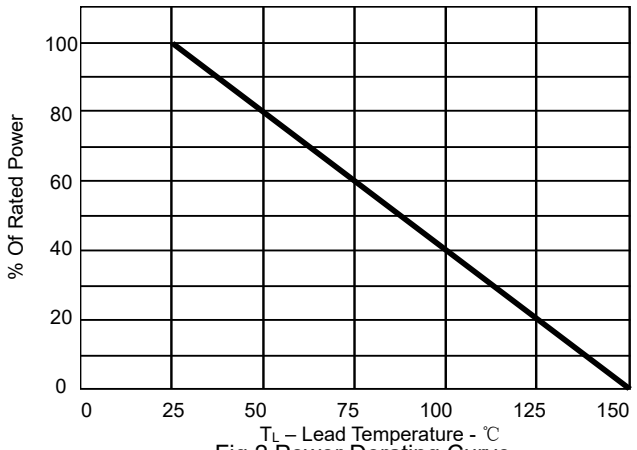


Fig 2.Power Derating Curve

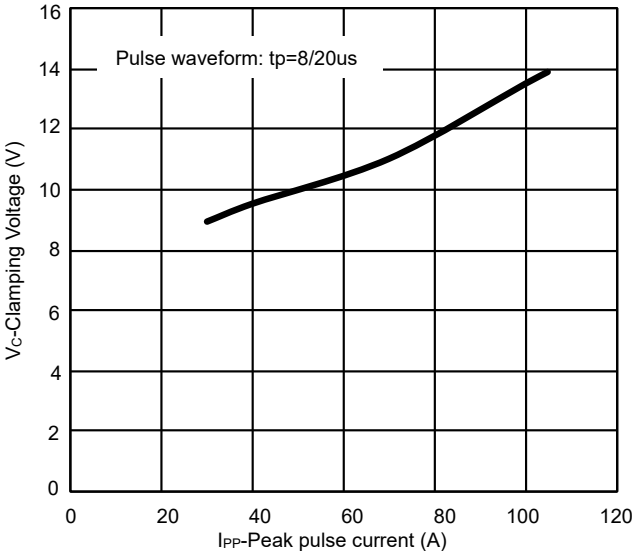


Fig 3. Clamping voltage vs. Peak pulse current

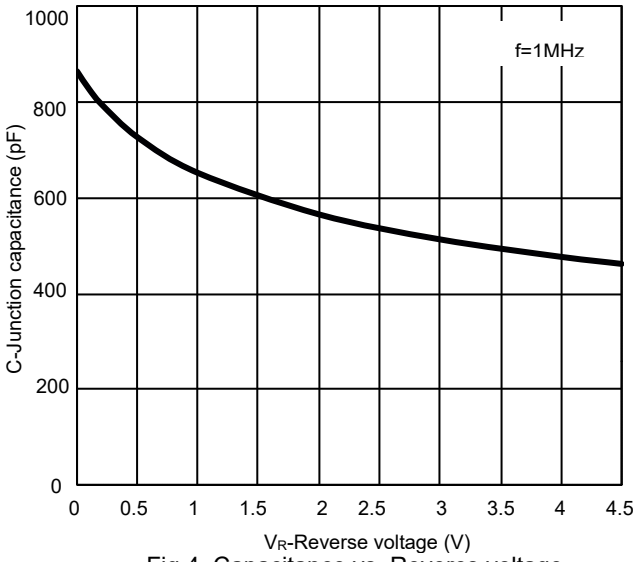


Fig 4. Capacitance vs. Reveres voltage

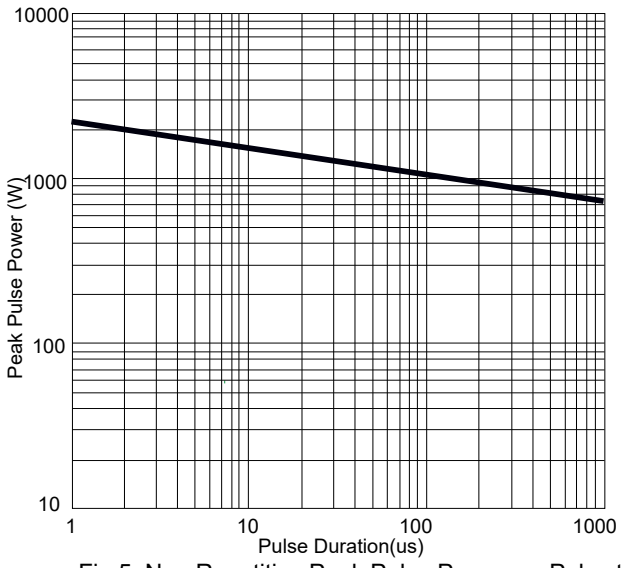


Fig 5. Non Repetitive Peak Pulse Power vs. Pulse time

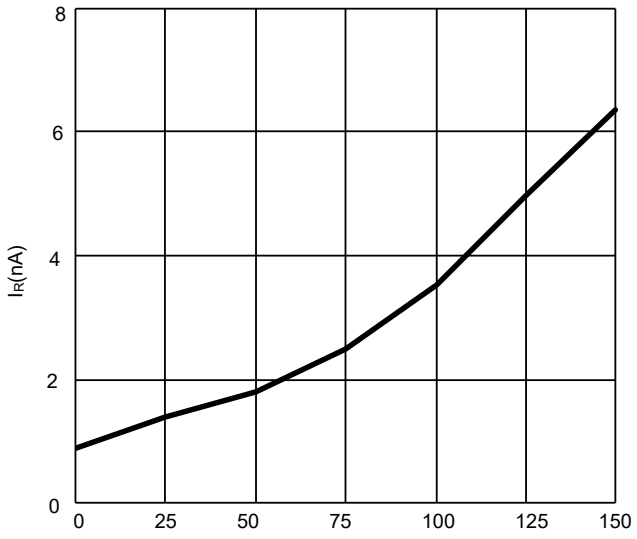
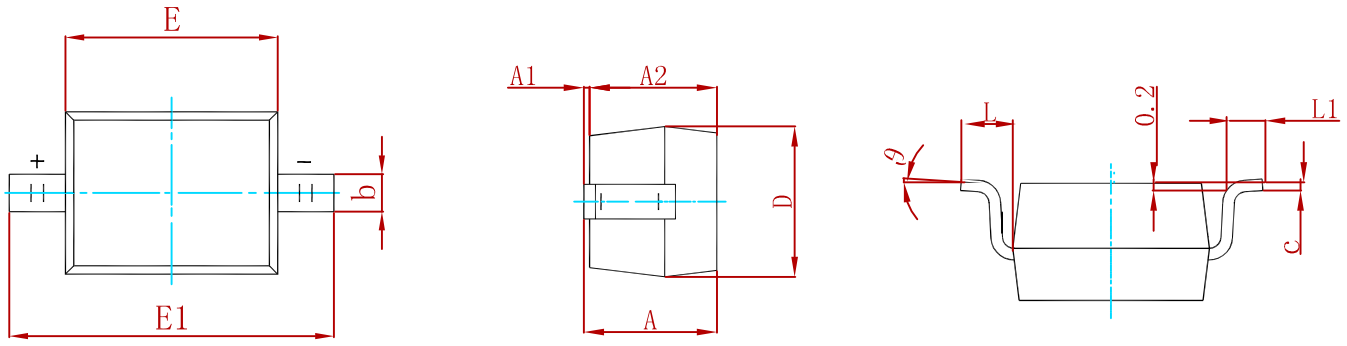


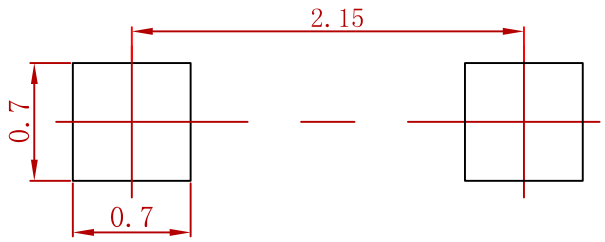
Fig 6. Typical Leakage Current vs. Temperature

PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
PTVSHC3D4V5U-MS	SOD-323	3000

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