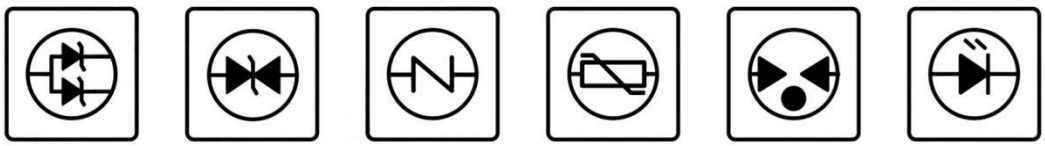
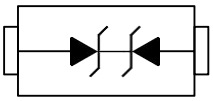
MSKSEMI
SEMICONDUCTOR



Product data sheet



SOD-923



Feature

80W peak pulse power per line (t_P = 8/20μs)
SOD-923 package
Replacement for MLV(0402)
Bidirectional configurations
Response time is typically < 1ns
Low clamping voltage
RoHS compliant
Transient protection for data lines to
EC61000-4-2(ESD) ±30KV(air), ±30KV(contact);
IEC61000-4-4 (EFT) 40A (5/50ns)

Applications

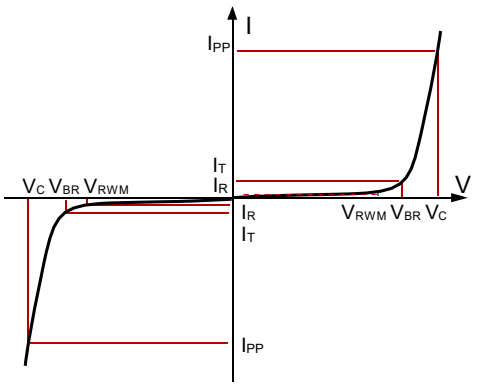
Cellular phones
Portable devices
Digital cameras
Power supplies

Mechanical Characteristics

Lead finish:100% matte Sn(Tin)
Mounting position: Any
Qualified max reflow temperature:260℃
Device meets MSL 1 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



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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_t = 1mA	5.6	6.7	7.8	V
Reverse Leakage Current	I_R	V_{RWM} = 5V T=25℃			1.0	μA
Maximum Reverse Peak Pulse Current	I_{PP}			5		A
Clamping Voltage	V_C	I_{PP}=1A			8	V
Clamping Voltage	V_C	I_{PP}=3A			13	V
Clamping Voltage	V_C	I_{PP}=5A			15	V
Junction Capacitance	C_j	V_R=0V f = 1MHz		12	15	pF

Absolute maximum rating@25℃

Rating	Symbol	Value	Units
Peak Pulse Power (t_p=8/20μs)	P_{pp}	80	W
Operating Temperature	T_J	-55 to +150	℃
Storage Temperature	T_{STG}	-55 to +150	℃

Typical Characteristics

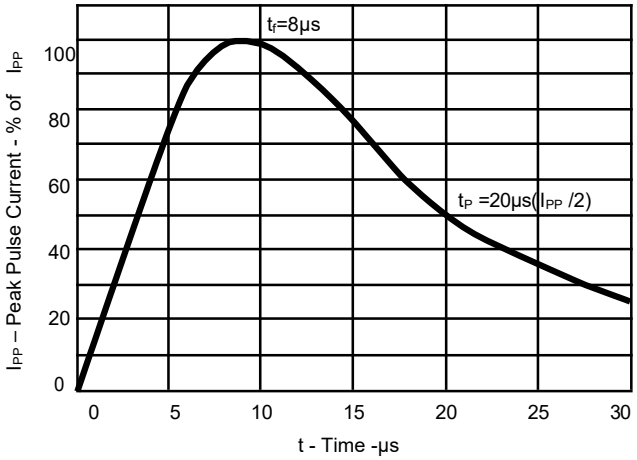


Fig 1.Pulse Waveform

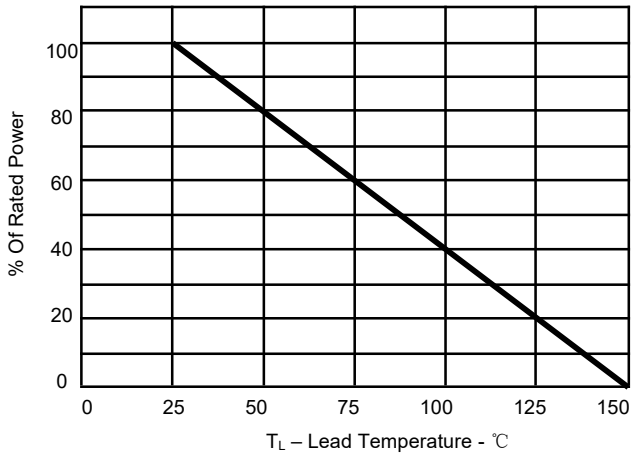


Fig 2.Power Derating Curve

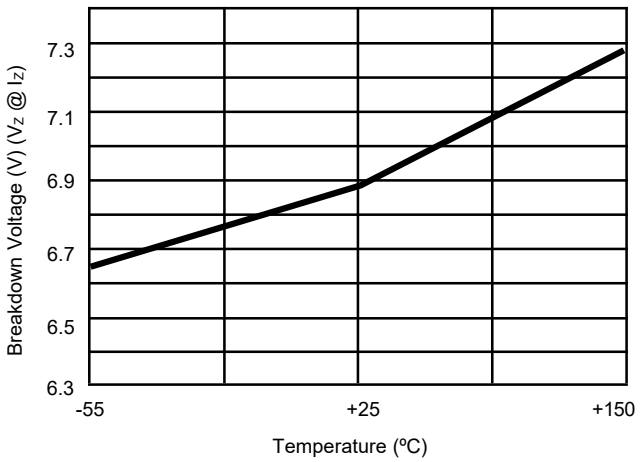


Fig 3.Typical Breakdown Voltage vs. Temperature

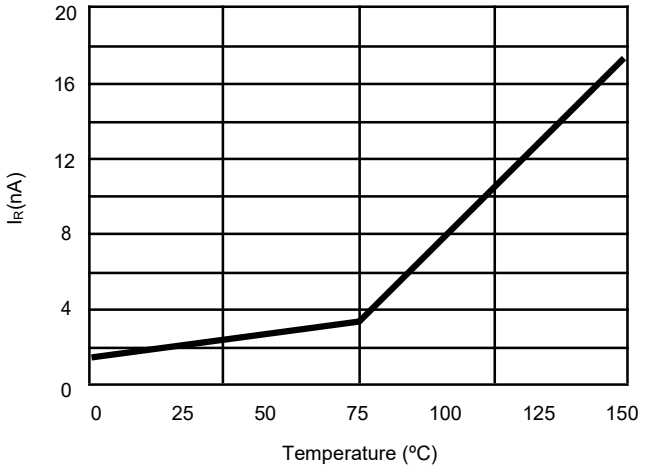


Fig 4.Typical Leakage Current vs. Temperature

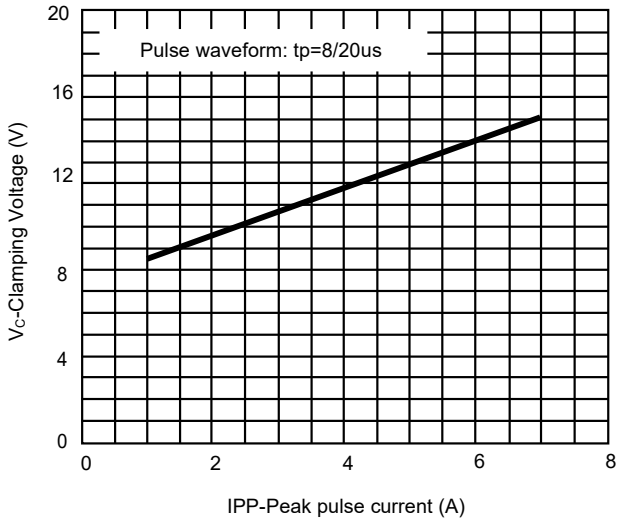


Fig 5. Clamping voltage vs. Peak pulse current

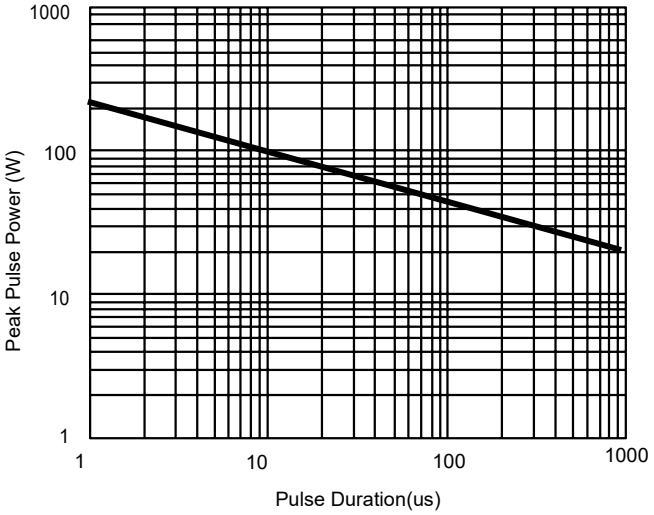
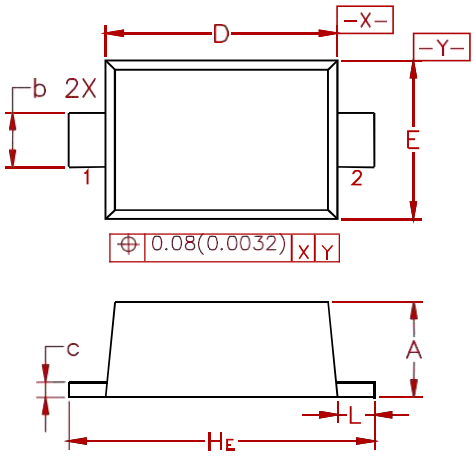


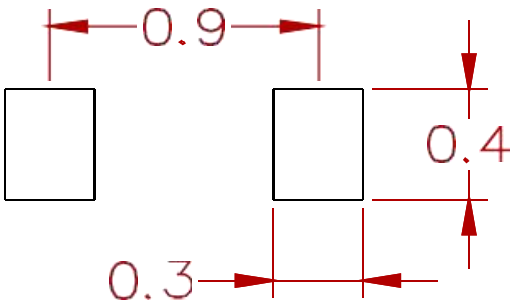
Fig 6. Non-Repetitive Peak Pulse Power vs. Pulse time

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
ESD9X5.0ST5G	SOD-923	8000

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