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ESD



TVS



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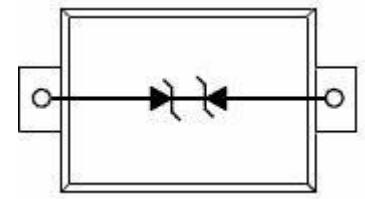
PLED

Product data sheet

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Feature

- 80W peak pulse power per line ($t_p = 8/20\mu s$)
- SOD-523 package
- Replacement for MLV(0603)
- Bidirectional configurations
- Protects one power or I/O port
- Low clamping voltage
- RoHS compliant
- Transient protection for data lines to IEC 61000-4-2(ESD)
±30kV(air), ±30kV(contact); IEC 61000-4-4 (EFT) 40A (5/50ns)



SOD- 523

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°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness: ≤3mil

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

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Peak Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	$I_T = 1mA$	5.8		7.8	V
Reverse Leakage Current	I_R	$V_{RWM} = 5V T=25^\circ C$			1.0	μA
Clamping Voltage ¹⁾	V_C	$TLP = 16A, t_p = 100ns$		9.0		V
Dynamic resistance ¹⁾	R_{DYN}			0.15		Ω
Clamping Voltage ²⁾	V_C	$I_{PP}=10A$		8	10	V
Junction Capacitance	C_J	$V_R=0V f = 1MHz$		33		pF

Notes:

1. TLP parameter: $Z_0=50\Omega, t_p=100ns, t_r=2ns$, averaging window from 60ns to 80ns. R_{DYN} is calculated from 4A to 16A.
- 2.Non-repetitive current pulse, according to IEC61000-4-5.

Absolute maximum rating@25?

Rating	Symbol	Value	Unit
Peak Pulse Power ($t_p=8/20\mu s$)	P_{pp}	80	W
Operating Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

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

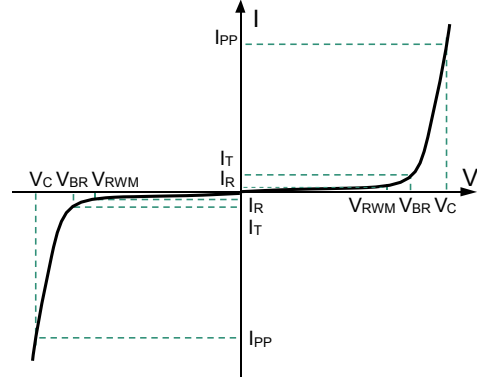


FIG1: Pulse Waveform

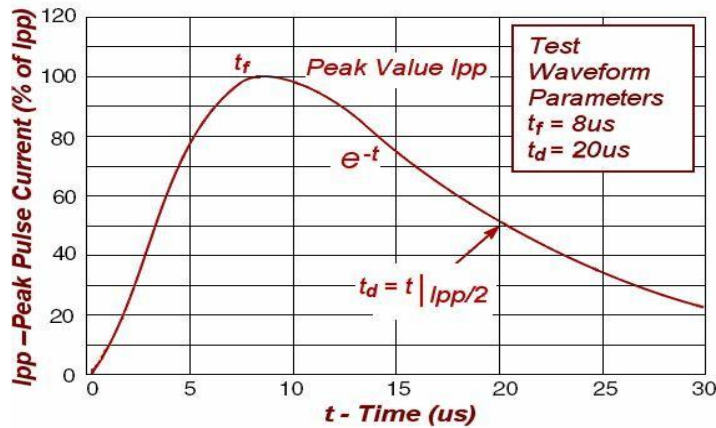
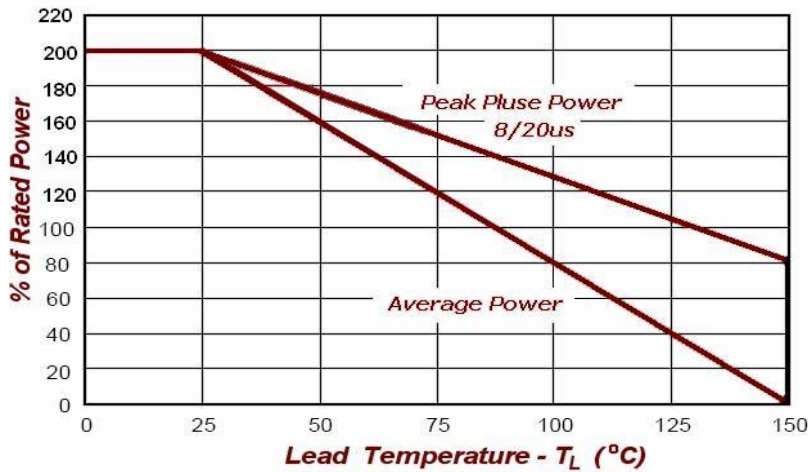
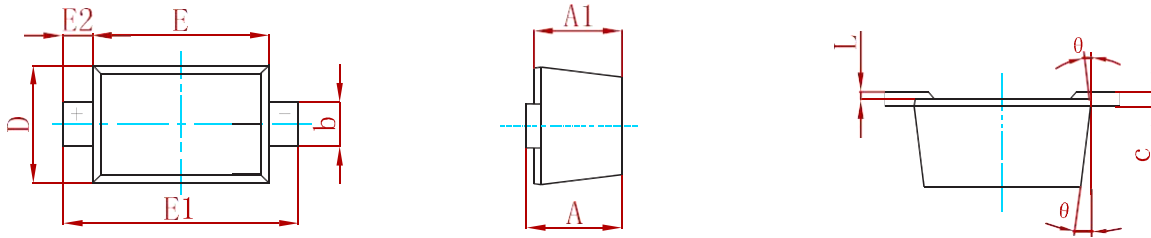


FIG2: Power Derating

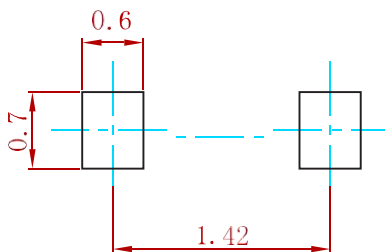


PACKAGE MECHANICAL DATA



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
0	7° REF		7° REF	

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

REEL SPECIFICATION

P/N	PKG	QTY
ESD5V0D5B-TP	SOD-523	3000

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