

Features

- AEC-Q101 Qualified
- Protects One Data or Power Line
- Low Leakage
- Ultra Low clamping Voltage
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 1)
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C

MCC Part Number	Device Marking
ESD12VD3BHE3	12B.

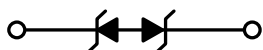
IEC61000-4-2(ESD)	Air Contact	±30KV ±30KV
Peak Pulse Power (8/20µs)	P _{PK}	280W

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Marking Information

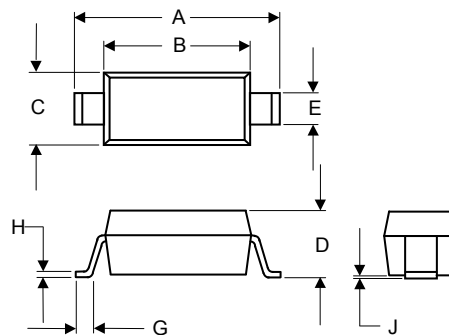


Internal Structure



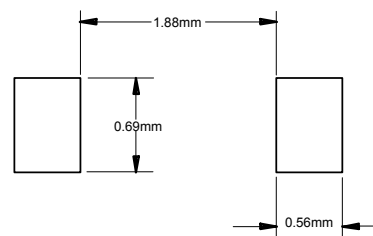
ESD Protection Device

SOD-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.090	0.107	2.30	2.70	
B	0.063	0.071	1.60	1.80	
C	0.045	0.053	1.15	1.35	
D	0.031	0.045	0.80	1.15	
E	0.010	0.016	0.25	0.40	
G	0.004	0.018	0.10	0.45	
H	0.004	0.010	0.10	0.25	
J	----	0.006	----	0.15	

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				12	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	13.3			V
Reverse Leakage Current	I_R	$V_{RWM} = 12\text{V}$			1.0	μA
Peak Pulse Current	I_{PP}	$t_p = 8/20\mu\text{s}$			10	A
Clamping Voltage ^{Note1}	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			18.5	V
Clamping Voltage ^{Note1}	V_C	$I_{PP} = 10\text{A}, t_p = 8/20\mu\text{s}$			28	V
Dynamic Resistance ^{Note2}	R_{DYN}	TLP, $t_p = 100\text{ns}$		0.29		Ω
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		30	50	pF

Note:

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

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

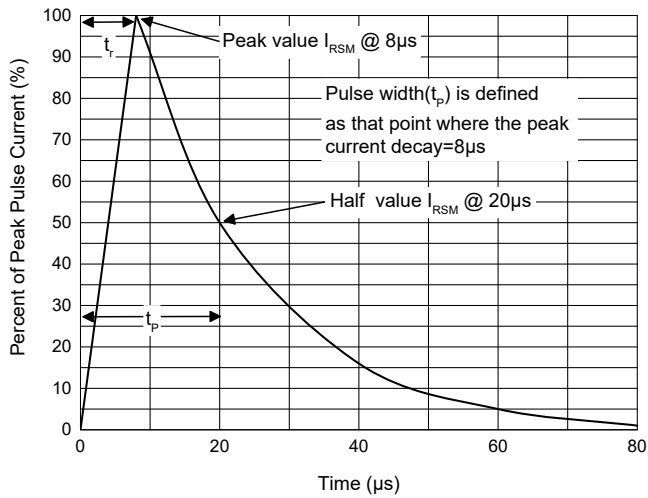


Fig. 2 - Non-Repetitive Peak Pulse Power

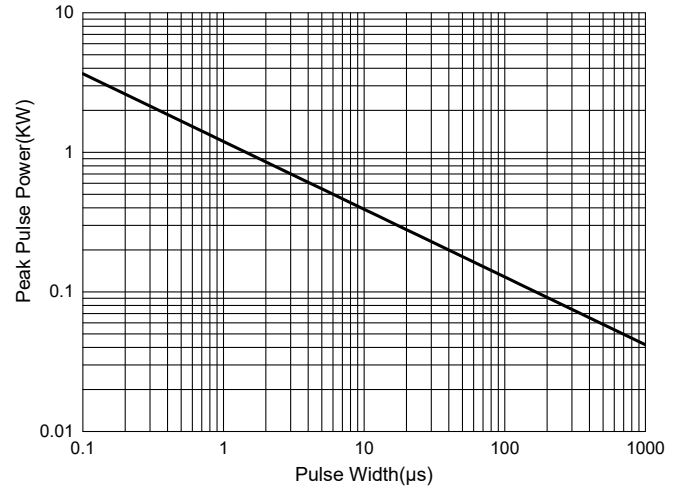


Fig. 3 - Capacitance Characteristics

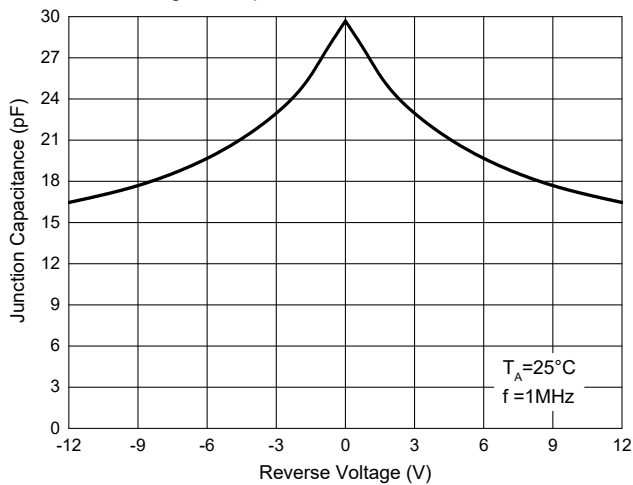


Fig. 4 - TLP Measurement

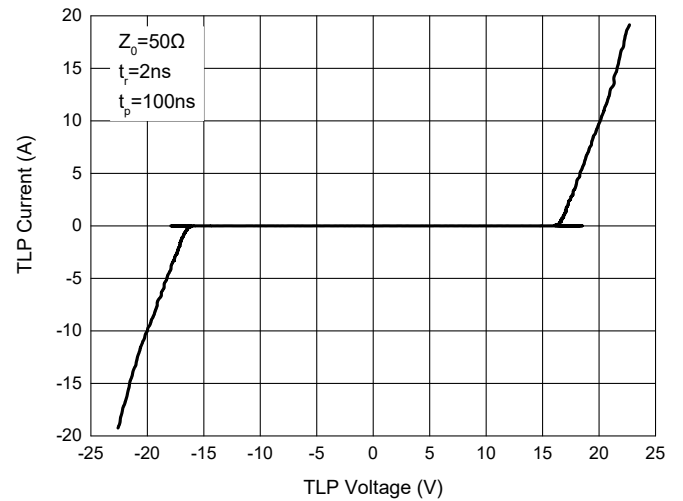
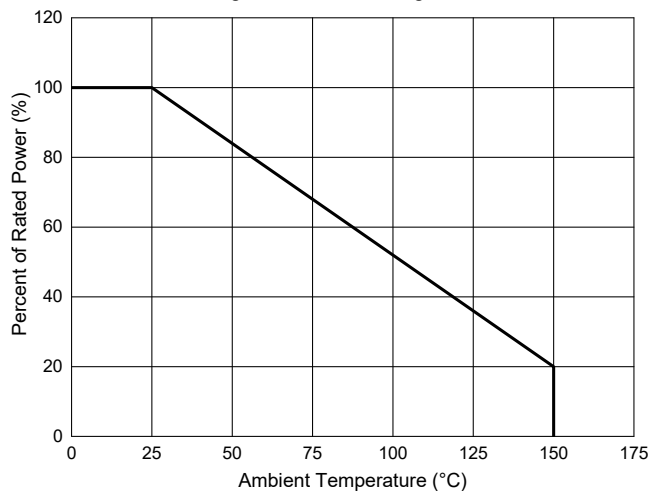


Fig. 5 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel

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