

Features

- For Sensitive ESD Protection
- Excellent Clamping Capability
- Low Leakage
- Fast Response, Response Time Less than 1ns.
- 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
ESD3V3D9	E1

IEC61000-4-2(ESD)	Air Contact	±15KV ±8KV
JESD22-A114-B(ESD)	Human Body	16KV
Peak Pulse Power (8/20us)	P _{PK}	100W

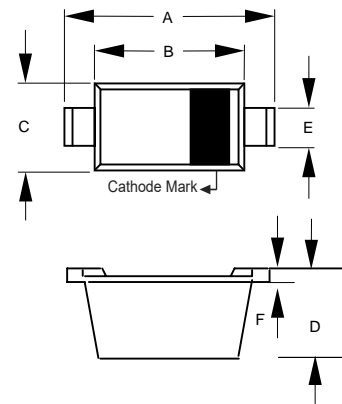
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

Internal Structure



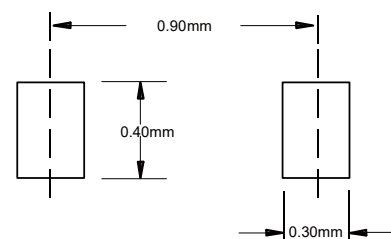
ESD Protection Device

SOD-923



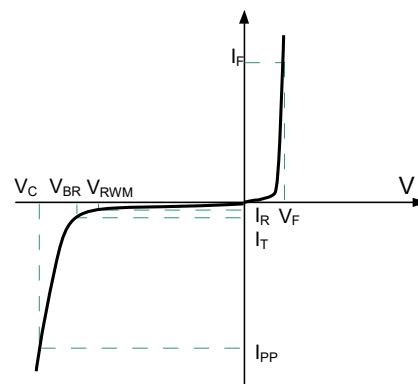
DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.037	0.041	0.95	1.05	
B	0.030	0.033	0.75	0.85	
C	0.022	0.026	0.55	0.65	
D	0.014	0.017	0.36	0.43	
E	0.006	0.010	0.15	0.25	
F	0.003	0.007	0.07	0.17	

Suggested Solder Pad Layout



ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

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 @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	5			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3\text{V}$		0.005	1	μA
Forward Voltage	V_F	$I_F = 10\text{mA}$		0.8		V
Clamping Voltage	V_C	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			5.8	V
Clamping Voltage	V_C	$I_{PP} = 5\text{A}, t_p = 8/20\mu\text{s}$			8.8	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		35	50	pF
Junction Capacitance	C_J	$V_R = 2.5\text{V}, f = 1\text{MHz}$		20	27	pF

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

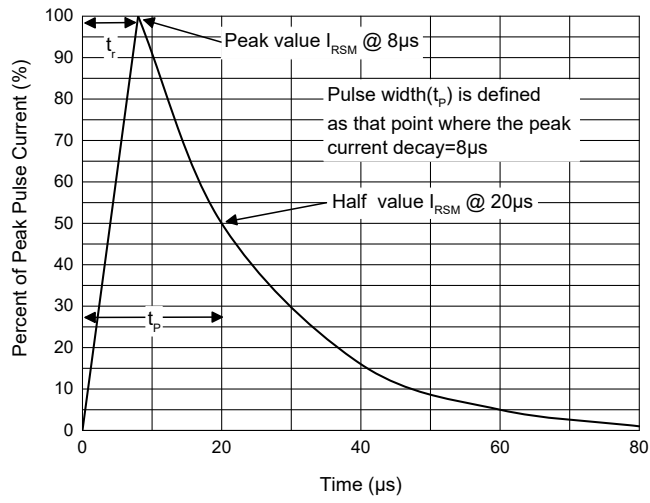
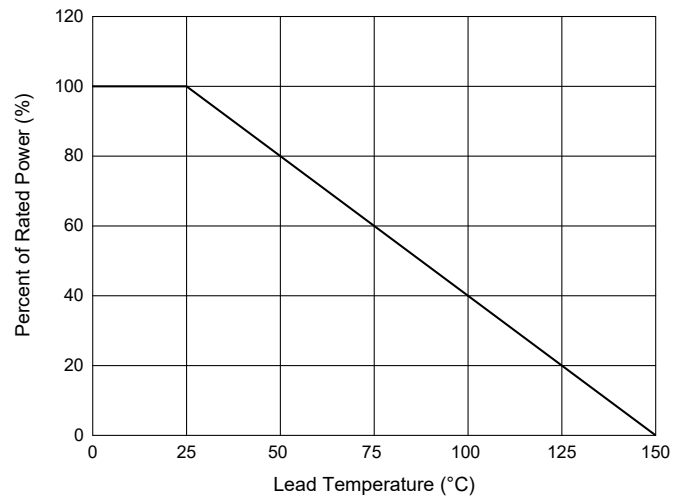


Fig. 2 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 8Kpcs/Reel

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