

Features

- AEC-Q101 Qualified
- 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

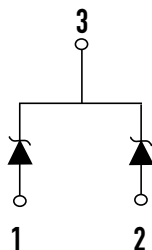
IEC61000-4-2(ESD)	Air	±30KV
	Contact	±30KV
Peak Pulse Power (8/20μs)	P _{PK}	300W
Peak Pulse Current (8/20μs)(Note 2)	I _{PP}	20A
Operating Junction Temperature Range	T _J	-55°C to +150°C
Storage Temperature Range	T _{STG}	-55°C to +150°C

Note:

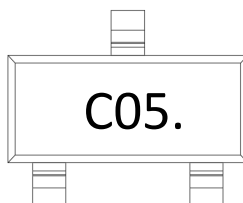
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.

Internal Structure

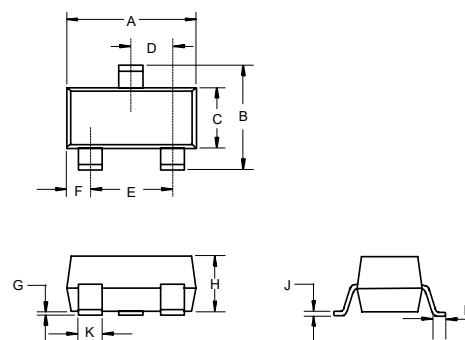


Marking Code



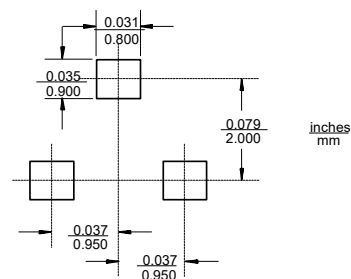
ESD Protection Device

SOT-23

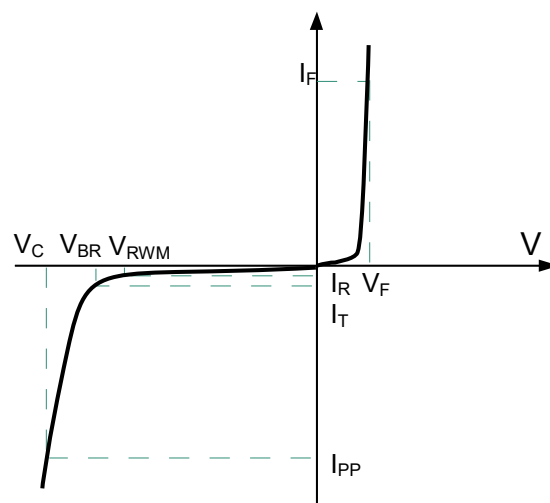


DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.110	0.120	2.80	3.04	
B	0.083	0.104	2.10	2.64	
C	0.047	0.055	1.20	1.40	
D	0.034	0.041	0.85	1.05	
E	0.067	0.083	1.70	2.10	
F	0.018	0.024	0.45	0.60	
G	0.0004	0.006	0.01	0.15	
H	0.035	0.043	0.90	1.10	
J	0.003	0.007	0.08	0.18	
K	0.012	0.020	0.30	0.51	
L	0.007	0.020	0.20	0.50	

Suggested Solder Pad Layout



Symbol	Parameter
VRWM	Peak Reverse Working Voltage
IR	Reverse Leakage Current @ VRWM
VBR	Breakdown Voltage @ IT
IT	Test Current
IPP	Maximum Reverse Peak Pulse Current
VC	Clamping Voltage @ IPP
PPP	Peak Pulse Power
CJ	Junction Capacitance
IF	Forward Current
VF	Forward Voltage @ IF



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.2		7.5	V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			1.0	μA
Forward Voltage	V_F	$I_F = 10\text{mA}$			1.1	V
Clamping Voltage ^{Note1 Note3}	V_C	$I_{PP} = 5\text{A}$, $t_p = 8/20\mu\text{s}$			9	V
Clamping Voltage ^{Note1 Note3}	V_C	$I_{PP} = 15\text{A}$, $t_p = 8/20\mu\text{s}$			12	V
Clamping Voltage ^{Note1 Note3}	V_C	$I_{PP} = 20\text{A}$, $t_p = 8/20\mu\text{s}$			15	V
Dynamic Resistance ^{Note2 Note3}	R_{DYN}	TLP, $t_p = 100\text{ns}$		0.089		Ω
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		140	160	pF

Note:

1. Non-repetitive current pulse, according to IEC61000-4-5.

2. 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.

3. Measured from Pin3 to Pin1 or Pin 3 to Pin2.

Curve Characteristics

Fig. 1 - 8 X 20 μ s Pulse Waveform

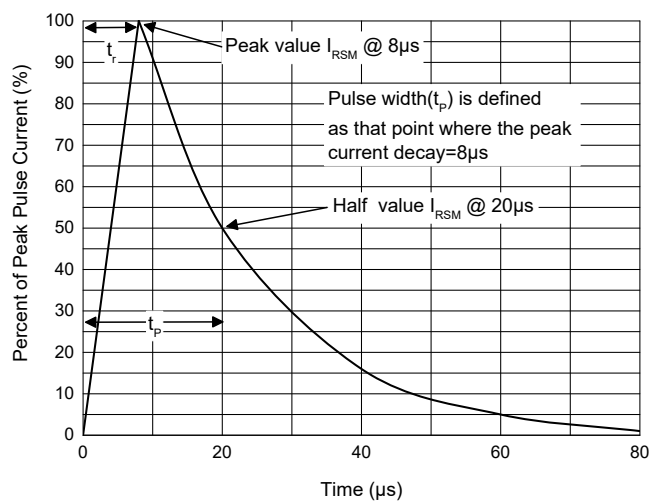


Fig. 2 - Non-Repetitive Peak Pulse Power

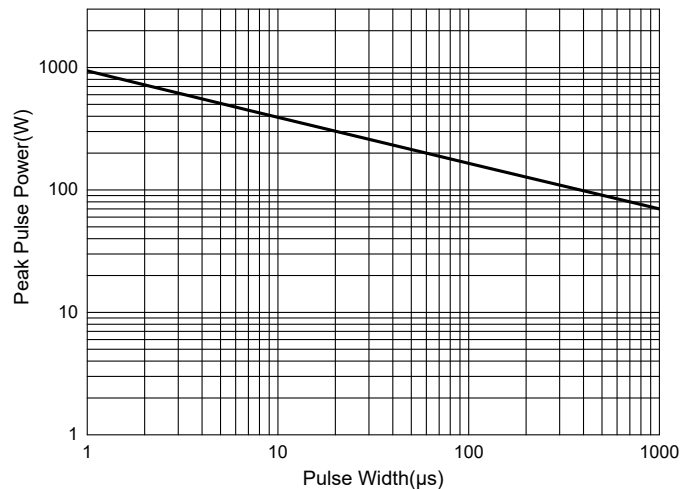


Fig. 3 - Capacitance Characteristics

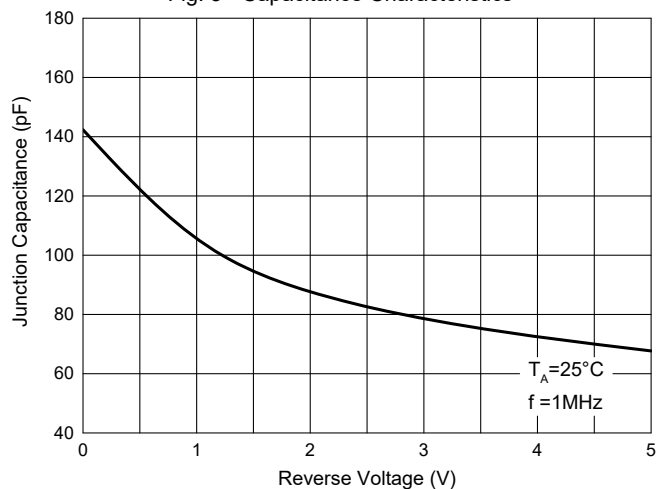


Fig. 4 - Clamping Voltage Characteristics

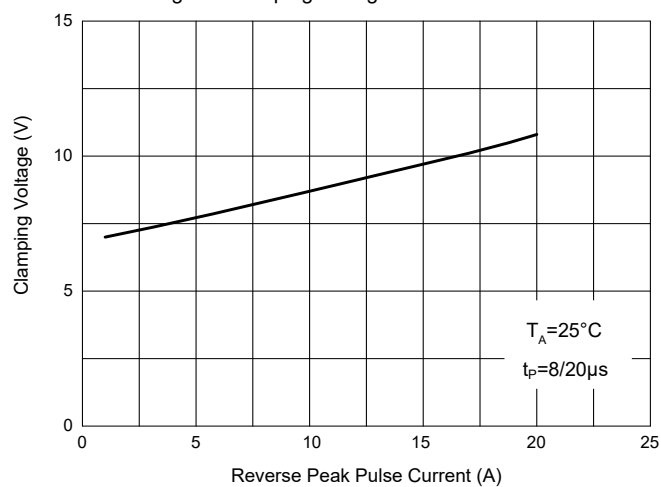


Fig.5 - TLP Measurement

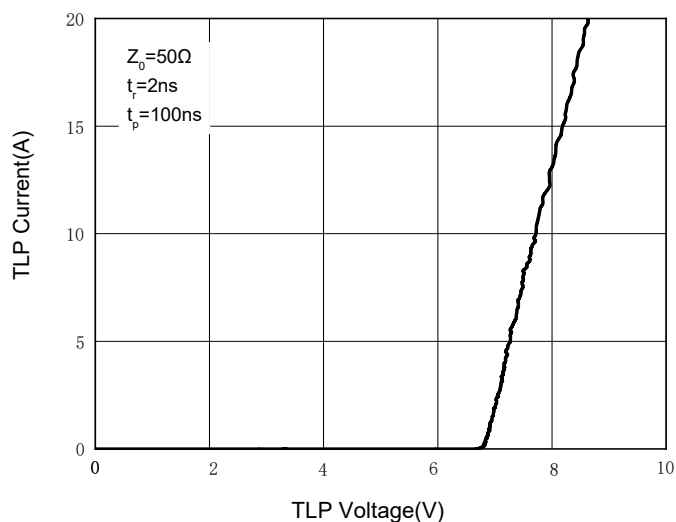
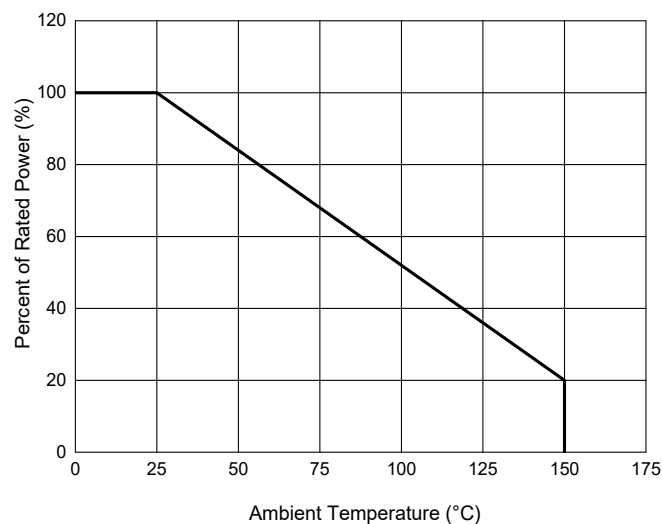


Fig. 6 - Pulse Derating Curve



Ordering Information

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

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