Features

- Ultra Low Leakage
- 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 +125°C
- Storage Temperature Range: -55°C to +150°C

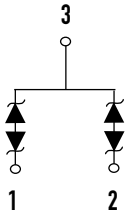
MCC Part Number	Device Marking
SM712H	H712

IEC61000-4-2(ESD)	Air Contact	±30KV ±30KV
IEC61000−4−4 (EFT) @5/50ns		40A
IEC61000-4-5(Lightning) Note 2 Peak Pulse Current (8/20μs)	I_{PP}	36A
Peak Pulse Power (8/20μs) Pin 1 or 2 to Pin 3	P_{PK}	1000W
Peak Pulse Power (8/20μs) Pin 3 to Pin 1 or 2	P_{PK}	600W

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

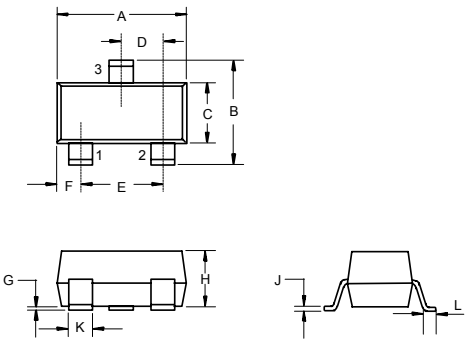
2.Compatible with IEC 61000-4-5 ((Lightning): 36A, 8/20μs - Level 3(Line-Ground) & Level 2 (Line-Line).

Internal Structure



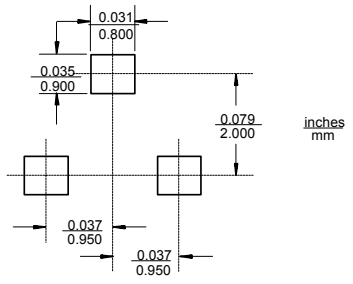
ESD Protection Device

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	

Solder Pad Layout



Electrical Characteristics @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	V_{RWM}	Pin 1 or 2 to Pin 3			12	V
		Pin 3 to Pin 1 or 2			7	V
Reverse Breakdown Voltage	V_{BR}	I_T = 1mA, Pin 1 or 2 to Pin 3	13.3			V
		I_T = 1mA, Pin 3 to Pin 1 or 2	7.5			V
Reverse Leakage Current	I_R	V_R=V_{RWM}			0.1	μA
Clamping Voltage	V_C	I_{PP}=1A, t_P=8/20μs, Pin 1 or 2 to Pin 3			19	V
		I_{PP}=1A, t_P=8/20μs, Pin 3 to Pin 1 or 2			10	V
		I_{PP}=25A, t_P=8/20μs, Pin 1 or 2 to Pin 3			25	V
		I_{PP}=25A, t_P=8/20μs, Pin 3 to Pin 1 or 2			15	V
		I_{PP}=36A, t_P=8/20μs, Pin 1 or 2 to Pin 3			28	V
		I_{PP}=36A, t_P=8/20μs, Pin 3 to Pin 1 or 2			17	V
Junction Capacitance	C_J	V_R=0V, f=1MHz			75	pF

Curve Characteristics

Fig. 1 - 8 X 20μs Pulse Waveform

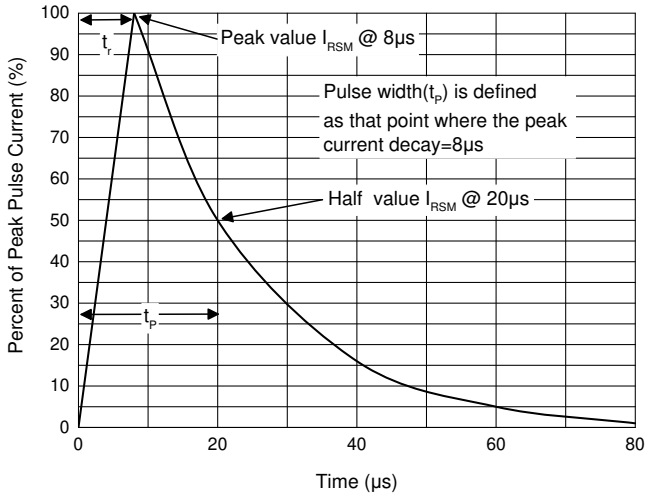


Fig. 2 - Non-Repetitive Peak Pulse Power

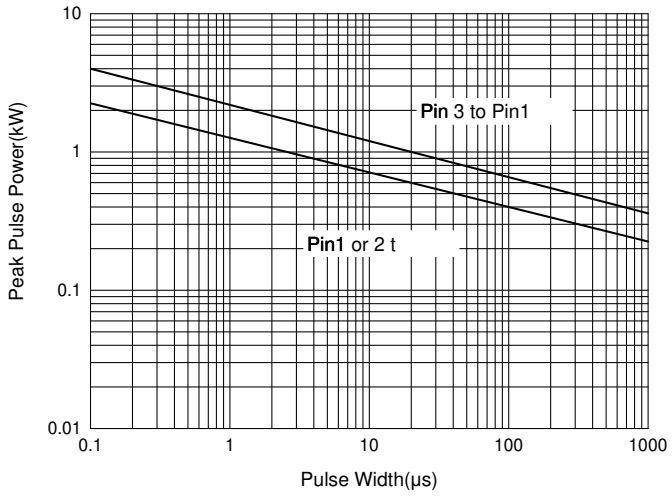


Fig. 3 - Pulse Derating Curve

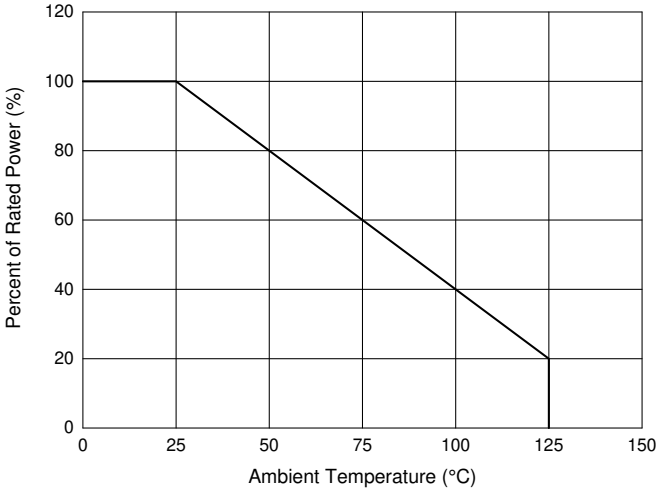


Fig. 4 - Capacitance Characteristics

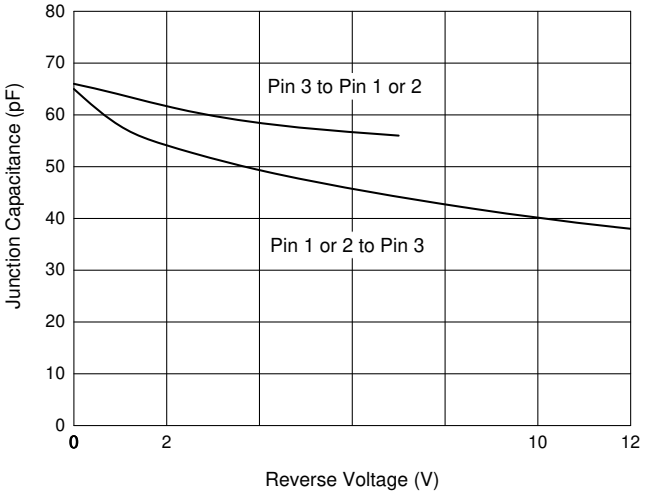
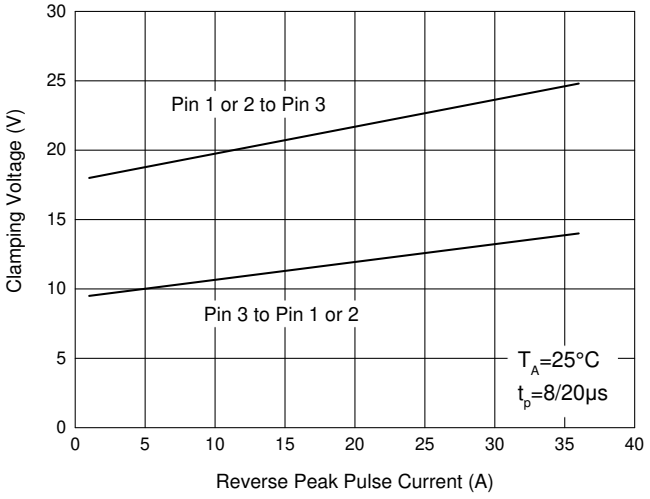


Fig. 5 - Clamping Voltage Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 3Kpcs/Reel
Part Number-13P	Tape&Reel: 10Kpcs/Reel

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