

### Features

- Protects One Data or Power Line
- Ultra 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 +125°C
- Storage Temperature Range: -55°C to +150°C

MCC Part Number	Device Marking
SD05CH	05
SD08CH	08
SD15CH	15
SD36CH	36

IEC61000-4-2(ESD)	Air Contact	±30KV ±30KV
Peak Pulse Power (8/20µs)	P <sub>PK</sub>	500W

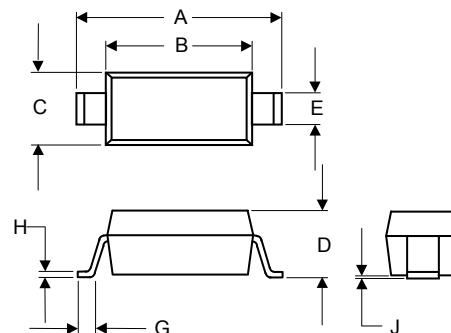
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

### Internal Structure



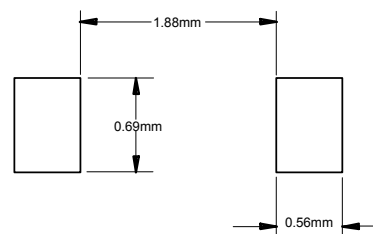
## ESD Protection Device

### SOD-323



DIM	INCHES		MM		NOTE
	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)**

**SD05CH**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				5	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	6			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 5V$			0.2	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			34	A
Clamping Voltage	$V_C$	$I_{PP} = 5A, t_p = 8/20\mu s$			9.5	V
Clamping Voltage	$V_C$	$I_{PP} = 34A, t_p = 8/20\mu s$			15	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$			200	pF

**SD08CH**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				8	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	8.5			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 8V$			0.2	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			30	A
Clamping Voltage	$V_C$	$I_{PP} = 1A, t_p = 8/20\mu s$			11	V
Clamping Voltage	$V_C$	$I_{PP} = 30A, t_p = 8/20\mu s$			18	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$			120	pF

**SD15CH**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				15	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	16.7			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 15V$			0.2	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			16	A
Clamping Voltage	$V_C$	$I_{PP} = 1A, t_p = 8/20\mu s$			20	V
Clamping Voltage	$V_C$	$I_{PP} = 16A, t_p = 8/20\mu s$			31	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$			80	pF

**Electrical Characteristics @ 25°C (Unless Otherwise Specified)**

**SD36CH**

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Working Voltage	$V_{RWM}$				36	V
Reverse Breakdown Voltage	$V_{BR}$	$I_T = 1mA$	38			V
Reverse Leakage Current	$I_R$	$V_{RWM} = 36V$			0.2	$\mu A$
Peak Pulse Current	$I_{PP}$	$t_p = 8/20\mu s$			6	A
Clamping Voltage	$V_C$	$I_{PP} = 1A, t_p = 8/20\mu s$			50	V
Junction Capacitance	$C_J$	$V_R = 0V, f = 1MHz$			30	pF

**Curve Characteristics**

Fig. 1 - 8 X 20 $\mu s$  Pulse Waveform

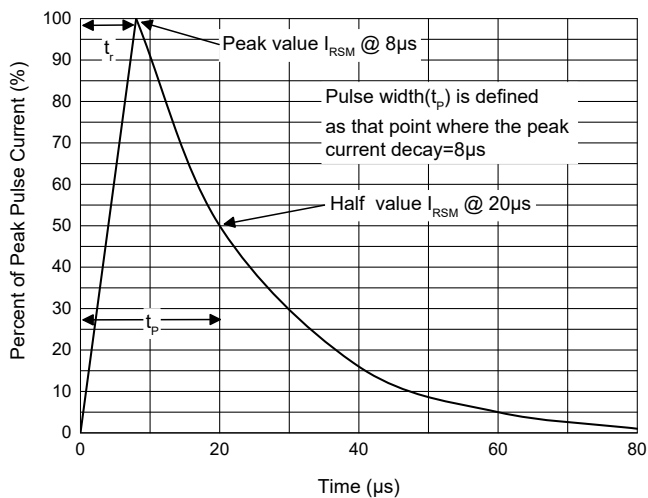


Fig. 2 - Non-Repetitive Peak Pulse Power

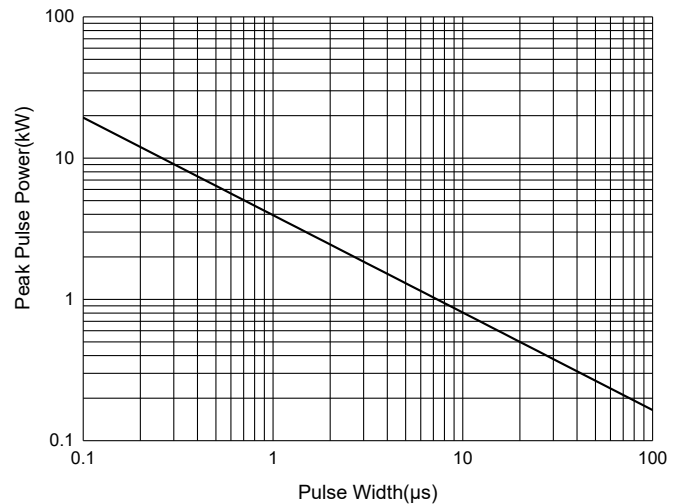
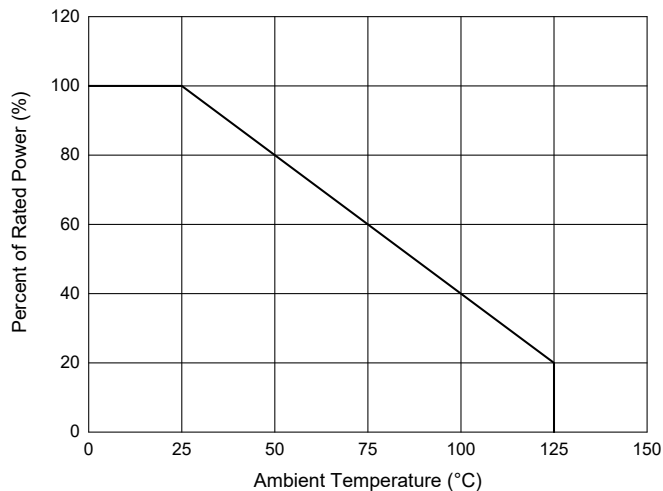


Fig. 3 - Pulse Derating Curve



## Ordering Information

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

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