

**Features**

- Solid-state Silicon technology
- Low Capacitance
- Low Clamping Voltage
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- 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
ESDSB3V3D5B	3H

IEC61000-4-2(ESD)	Air Contact	±30KV ±30KV
Peak Pulse Current(8/20µs)	I <sub>PP</sub>	13A
Peak Pulse Power (8/20µs)	P <sub>PK</sub>	140W

Note:

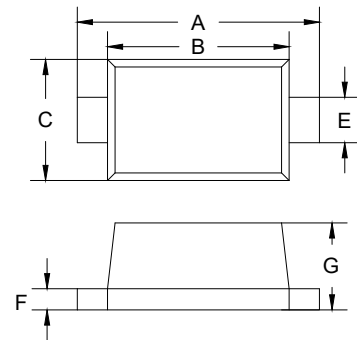
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure**

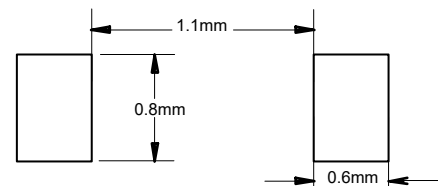


**Snap Back  
ESD Protection  
Device**

**SOD-523**



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	0.059	0.067	1.50	1.70	
B	0.043	0.051	1.10	1.30	
C	0.030	0.033	0.75	0.85	
E	0.010	0.014	0.25	0.35	
F	0.003	0.008	0.08	0.20	
G	0.020	0.026	0.50	0.65	



**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	$V_{BR}$	$I_T=1mA$	3.5	4		V
Reverse Holding Voltage	$V_{HOLD}$	$I_T=50mA$	3.5	4		V
Reverse Leakage Current	$I_R$	$V_{RWM}=3.3V$			100	nA
Clamping Voltage <sup>(Note 2)</sup>	$V_C$	$I_{PP}=16A, t_p=100ns$		7.2		V
Dynamic Resistance <sup>(Note 2)</sup>	$R_{DYN}$			0.17		$\Omega$
Clamping Voltage <sup>(Note 3)</sup>	$V_{CL}$	$V_{ESD}=8KV$		7.5		V
Clamping Voltage <sup>(Note 4)</sup>	$V_C$	$I_{PP}=1A, t_p=8/20\mu s$		4.5	5.5	V
Clamping Voltage <sup>(Note 4)</sup>	$V_C$	$I_{PP}=13A, t_p=8/20\mu s$		7.2	9	V
Junction Capacitance	$C_J$	$V_R=1.5V, f=1MHz$		22	28	pF

Note:

- TLP Parameter:  $Z_0=50\Omega$ ,  $t_p=100ns$ ,  $t_r=2ns$ , Averaging Window from 60ns to 80ns. RDYN is Calculated from 4A to 16A.
- Contact Discharge Mode, According to IEC61000-4-2.
- Non-repetitive Current Pulse, According to IEC61000-4-5.

## Curve Characteristics

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

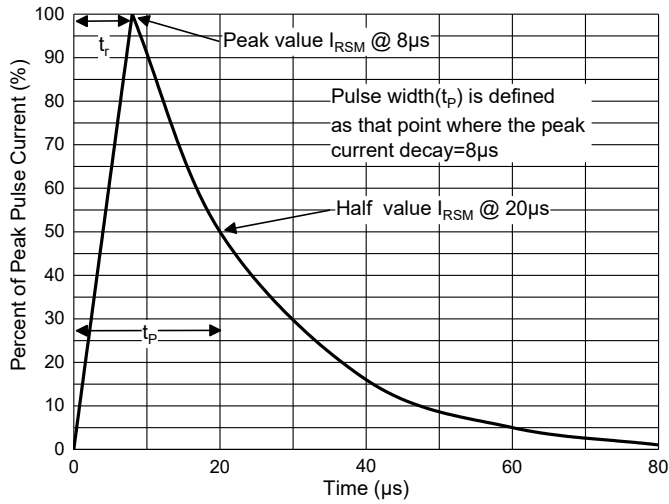


Fig. 2 - Peak Pulse Power Rating Curve

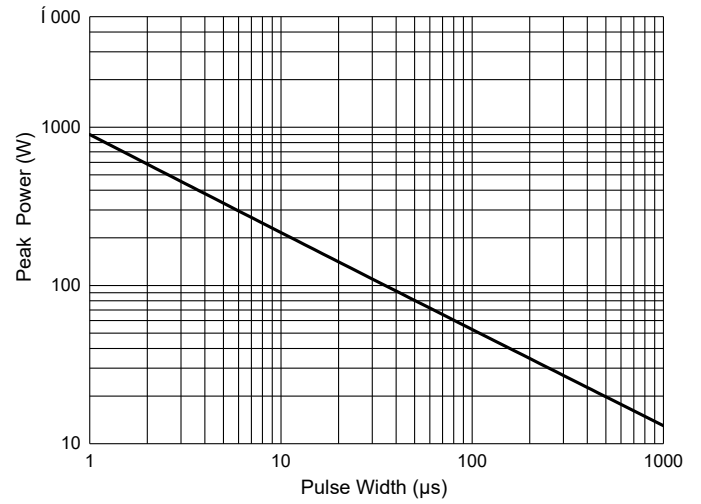


Fig. 3 - Clamping Voltage Characteristics

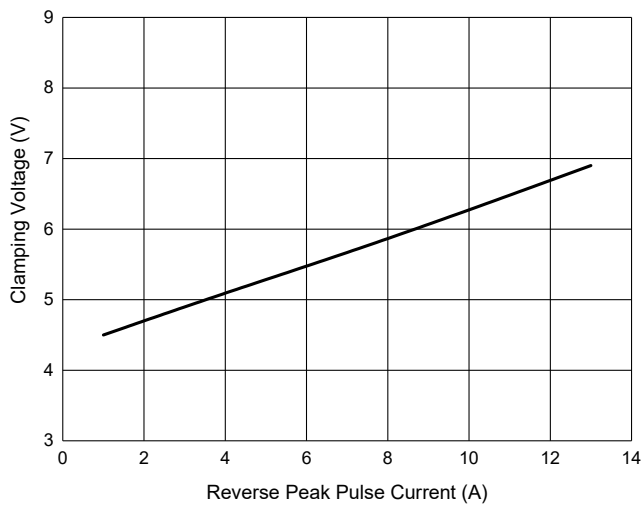


Fig. 4 - Capacitance Characteristics

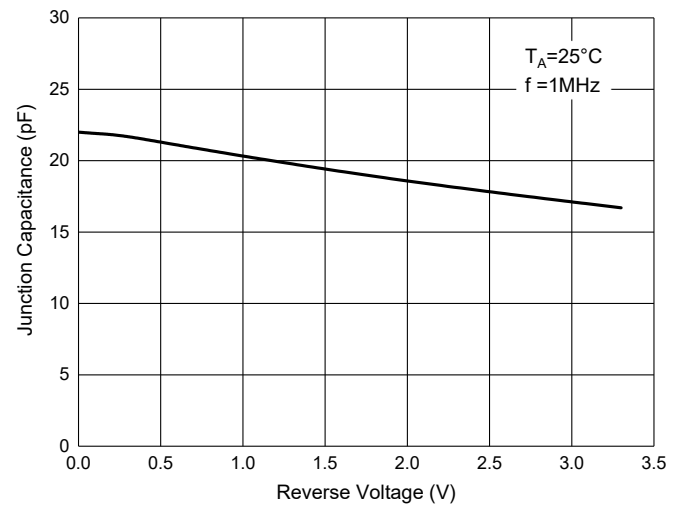


Fig. 5 - Pulse Derating Curve

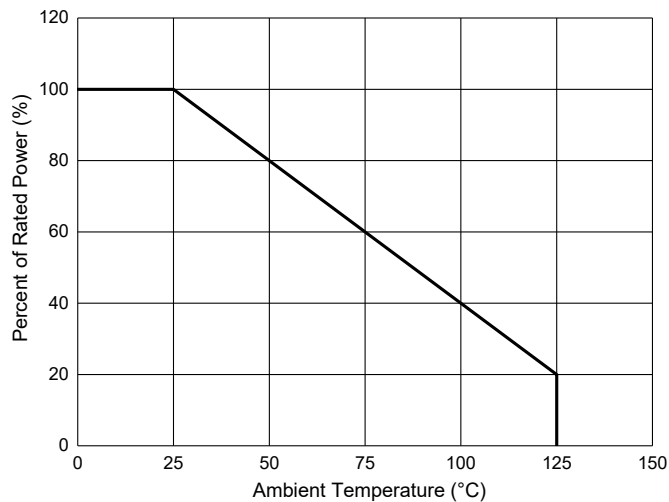


Fig. 6 - TLP Measurement

