



MESD3V3L1P2R1

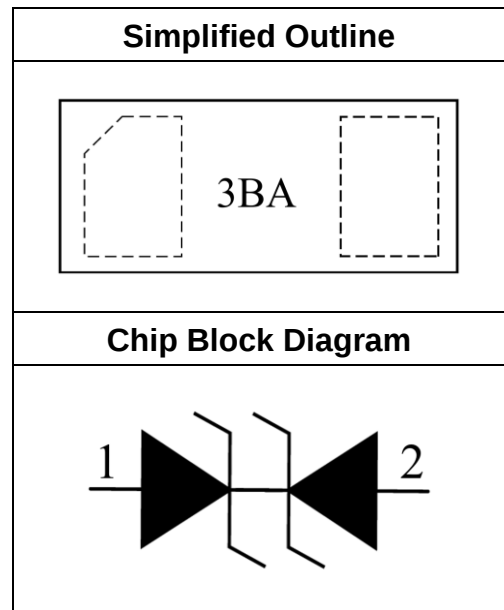
Deep Snap Back ESD

Features

- ◆ IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 10\text{kV}$ Air Discharge
 - $\pm 10\text{kV}$ Contact Discharge
- ◆ Peak Pulse Power Capability: 40W
- ◆ Peak Pulse Current Capability: 4.5A
- ◆ Working Voltage: 3.3V
- ◆ Low Clamping Voltage: 5.5V
- ◆ Low Junction Capacitance: 0.10pF
- ◆ Protecting One Bi-directional Line

Applications

- ◆ TVs and Monitors
- ◆ HDMI and USB 3.2
- ◆ High-speed Interfaces
- ◆ Cellular Handsets and Accessories
- ◆ Digital Cameras, Portable Electronics and Notebooks



Ordering Information

Part Number	Marking	Package	Reel	Inner Box	Outer Carton
MESD3V3L1P2R1	3BA	DFN0603-2L	10000 Pcs	10 Reels	4 Boxes

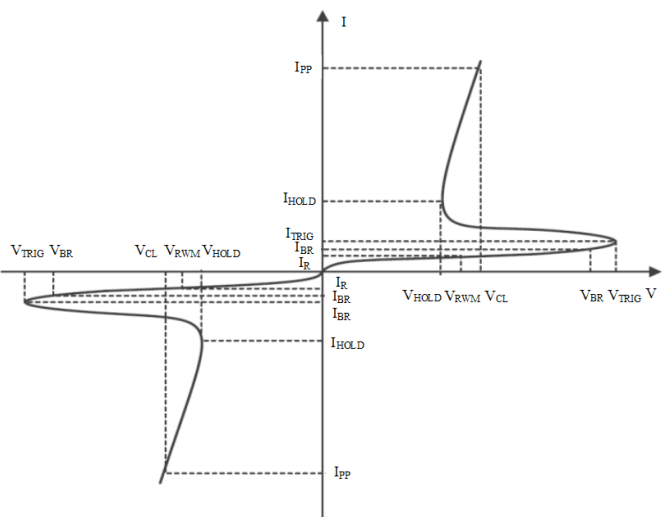
Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ Unless Otherwise Noted

Symbol	Parameter		Min.	Max.	Unit
P_{pk}	Peak Pulse Power	IEC 61000-4-5; $t_p = 8/20\mu\text{s}$	-	40	W
I_{pp}	Peak Pulse Current	IEC 61000-4-5; $t_p = 8/20\mu\text{s}$	-	4.5	A
V_{ESD}	ESD	IEC 61000-4-2 Air Discharge	-	± 10	kV
		IEC 61000-4-2 Contact Discharge	-	± 10	
T_J	Junction Temperature		-	150	$^\circ\text{C}$
T_L	Lead Temperature		-	260	
T_{OP}	Operating Temperature		- 50	125	
T_{STG}	Storage Temperature		- 55	150	

Electrical Characteristics $T_A = 25^\circ\text{C}$ Unless Otherwise Noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_{RWM}	Reverse Stand-off Voltage	-	-	3.3	5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	5.5	7.8	-	
V_{CL}	Clamping Voltage	$I_{PP} = 1.0\text{A}; t_p = 8/20\mu\text{s}$	-	2.5	-	
		$I_{PP} = 4.5\text{A}; t_p = 8/20\mu\text{s}$	-	5.5	-	
I_R	Reverse Leakage Current	$V_{RWM} = 3.3\text{V}$	-	-	100	nA
C_J	Junction Capacitance	$V_R = 0\text{V}; f = 1\text{MHz}$	-	0.10	0.15	pF

Definitions of Electrical Characteristics

Symbol	Parameter	
V_{RWM}	Reverse Stand-off Voltage	
V_{BR}	Reverse Breakdown Voltage	
V_{CL}	Clamping Voltage	
V_{TRIG}	Reverse Trigger Voltage	
V_{HOLD}	Reverse Holding Voltage	
I_R	Reverse Leakage Current	
I_{BR}	Reverse Breakdown Current	
I_{TRIG}	Reverse Trigger Current	
I_{HOLD}	Reverse Holding Current	
I_{PP}	Peak Pulse Current	

■ Characteristic Curve

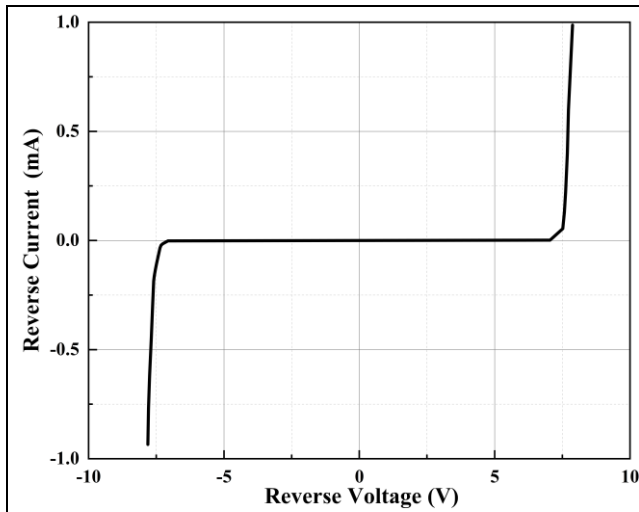


Figure 1. Reverse Current vs. Reverse Voltage

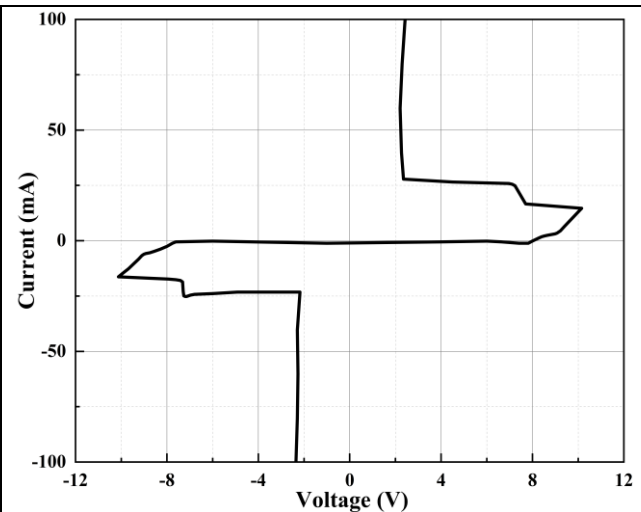


Figure 2. Current vs. Voltage

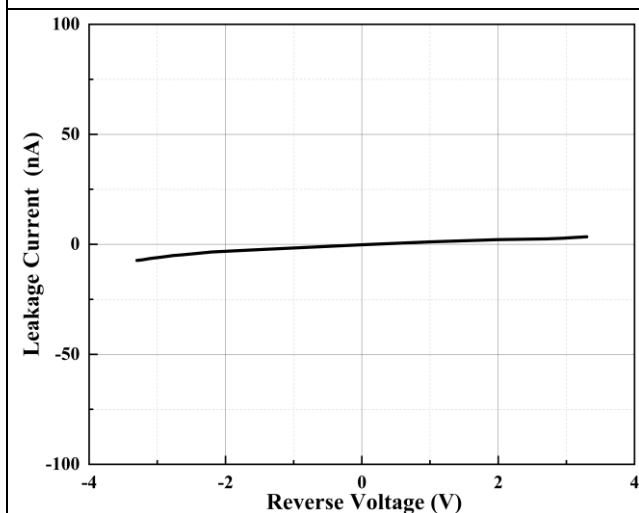


Figure 3. Leakage Current vs. Reverse Voltage

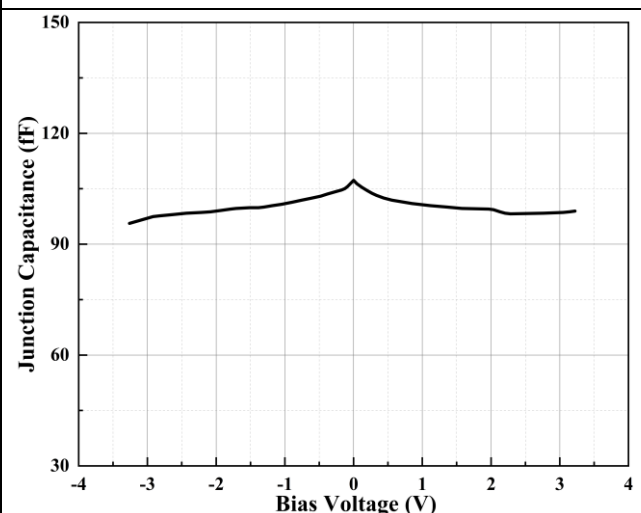


Figure 4. Junction Capacitance vs. Bias Voltage

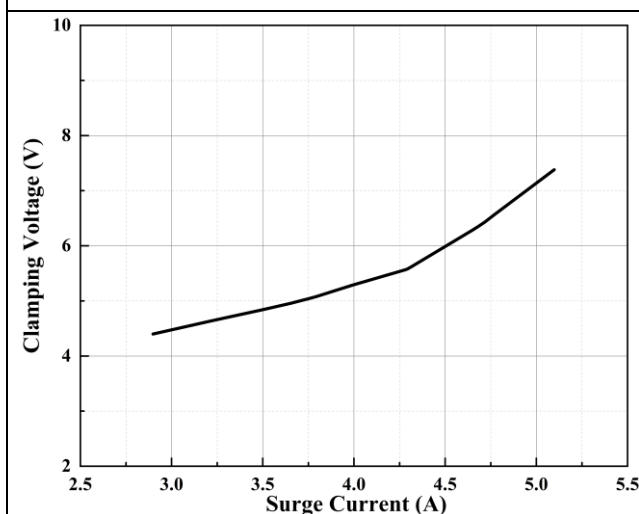


Figure 5. Clamping Voltage vs. Surge Current

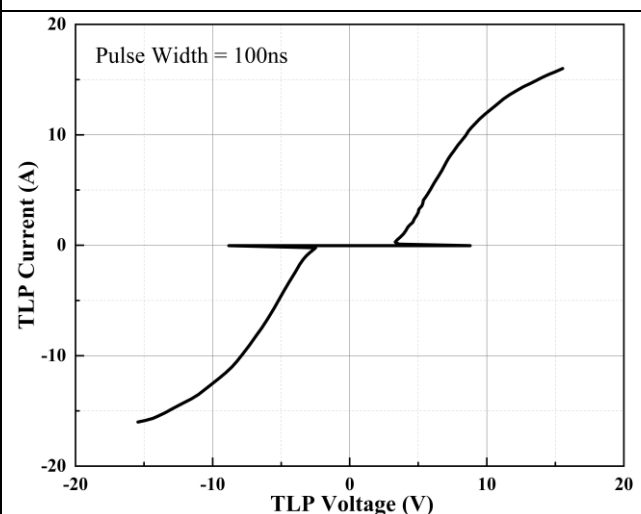


Figure 6. TLP Current vs. TLP Voltage

■ Measurement Wave According to IEC Standard

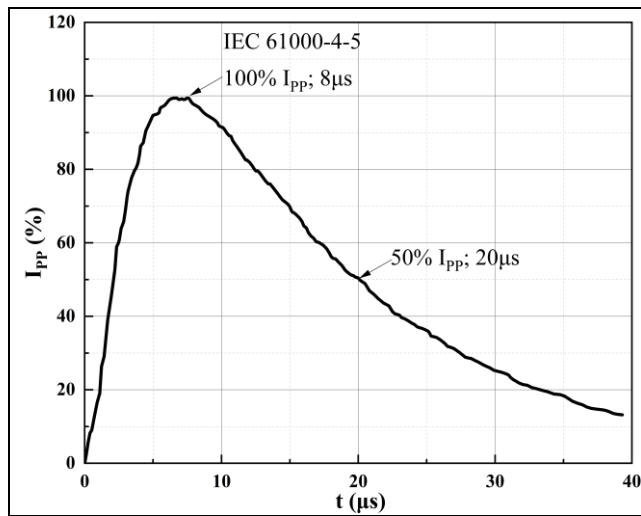


Figure 7. 8/20 μ s Pulse Waveform

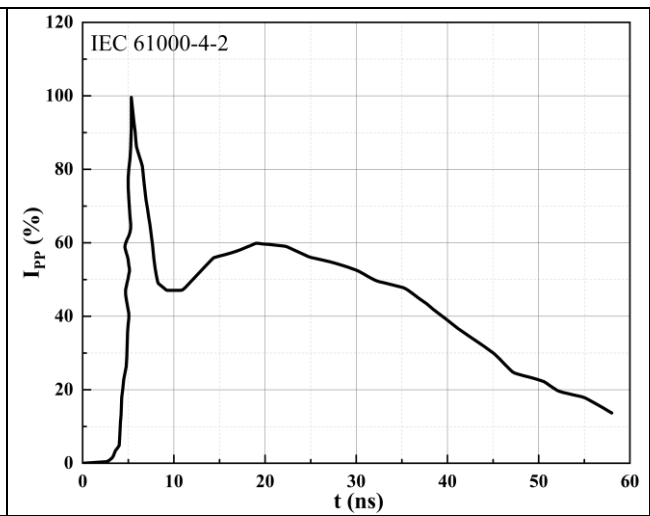
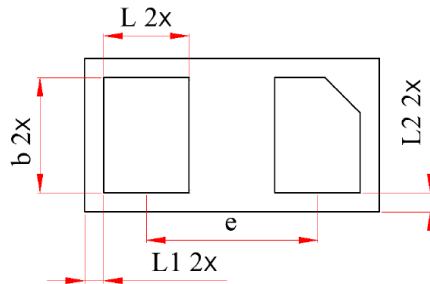


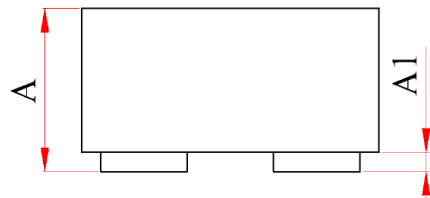
Figure 8. ESD Pulse Waveform

Package Information

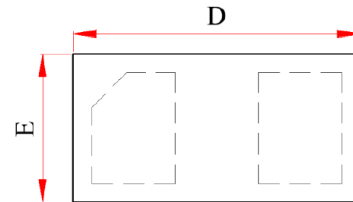
DFN0603-2L



Bottom View



Side View



Top View

Symbol	Dimension In Millimeters			Dimension In Inches		
	Normal	Min	Max	Normal	Min	Max
A	--	0.280	0.340	--	0.011	0.013
A1	--	--	0.050	--	--	0.002
D	0.620	0.590	0.640	0.024	0.023	0.025
E	0.320	0.290	0.340	0.013	0.011	0.013
b	0.240	0.215	0.265	0.009	0.008	0.010
L	0.180	0.155	0.205	0.007	0.006	0.008
L1	0.040 REF			0.002 REF		
L2	0.040 REF			0.002 REF		
e	0.360 BSC			0.014 BSC		

Recommended Soldering Footprint

Unit:mm

