



MESD3V3L4P4R0

Deep Snap Back ESD

Features

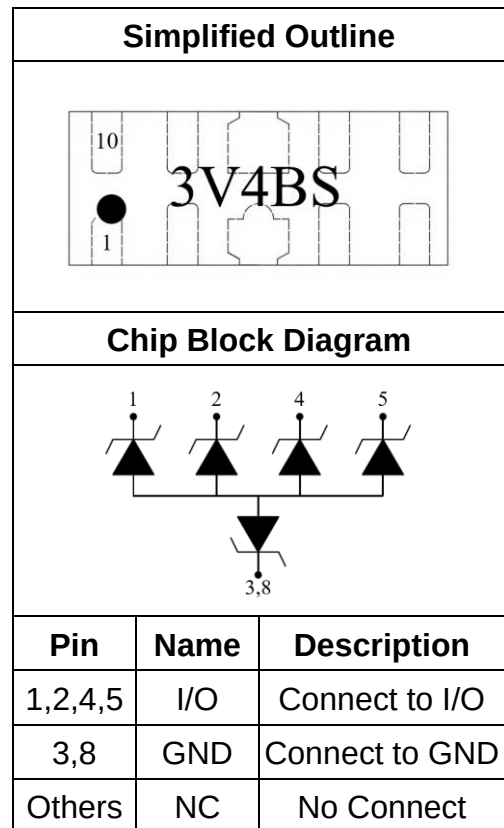
- ◆ IEC 61000-4-2 Level 4 ESD Protection
 - $\pm 15\text{kV}$ Air Discharge
 - $\pm 15\text{kV}$ Contact Discharge
- ◆ Peak Pulse Power Capability: 50W
- ◆ Peak Pulse Current Capability: 6.0A
- ◆ Working Voltage: 3.3V
- ◆ Low Clamping Voltage: 5.5V
- ◆ Low Junction Capacitance: 0.18pF
- ◆ Protecting Four Bi-directional Lines

Applications

- ◆ Display Ports
- ◆ USB 3.0 and 3.1
- ◆ HDMI 2.0 and HDMI 2.1
- ◆ Serial ATA and PCI Express
- ◆ Portable Electronics and Notebooks

Ordering Information

Part Number	Marking	Package	Reel	Inner Box	Outer Carton
MESD3V3L4P4R0	3V4BS	DFN2510-10L	3000 Pcs	10 Reels	4 Boxes



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

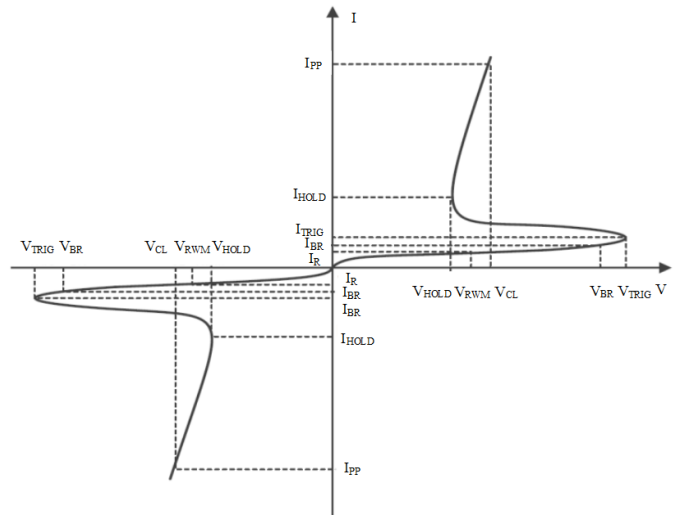
Symbol	Parameter		Min.	Max.	Unit
P_{pk}	Peak Pulse Power	IEC 61000-4-5; $t_p = 8/20\mu\text{s}$	-	50	W
I_{PP}	Peak Pulse Current	IEC 61000-4-5; $t_p = 8/20\mu\text{s}$	-	6.0	A
V_{ESD}	ESD	IEC 61000-4-2 Air Discharge	-	± 15	kV
		IEC 61000-4-2 Contact Discharge	-	± 15	
T_J	Junction Temperature		-	150	$^\circ\text{C}$
T_L	Lead Temperature		-	260	
T_{OP}	Operating Temperature		- 40	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	8.0	-	
V_{CL}	Clamping Voltage	$I_{PP} = 1.0\text{A}; t_p = 8/20\mu\text{s}$	-	2.5	4.0	
		$I_{PP} = 6.0\text{A}; t_p = 8/20\mu\text{s}$	-	5.5	7.0	
I_R	Reverse Leakage Current	$V_{RWM} = 3.3\text{V}$	-	-	100	nA
R_{DYN}	Dynamic Resistance	$I_R = 10\text{A}$	-	300	350	m Ω
C_J	Junction Capacitance	$V_R = 0\text{V}; f = 1\text{MHz};$ I/O to GND	-	0.18	0.20	pF
		$V_R = 0\text{V}; f = 1\text{MHz};$ I/O to I/O	-	0.12	0.15	

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

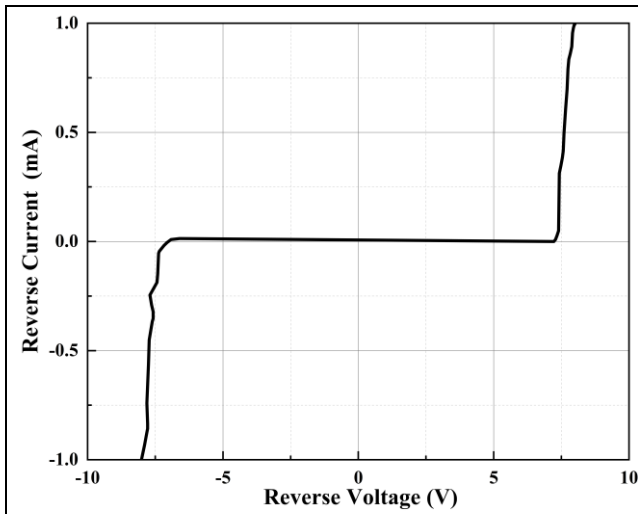


Figure 1. Reverse Current vs. Reverse Voltage

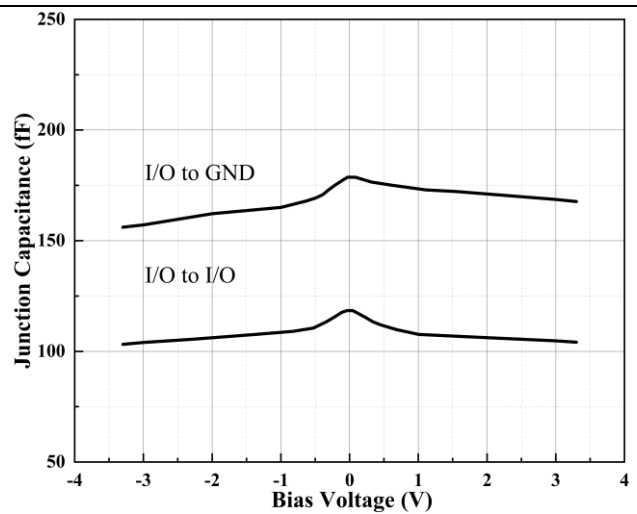


Figure 2. Junction Capacitance vs. Bias Voltage

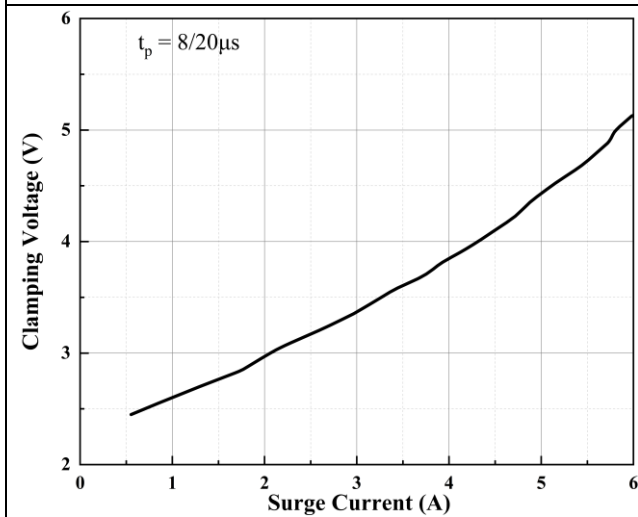


Figure 3. Clamping Voltage vs. Surge Current

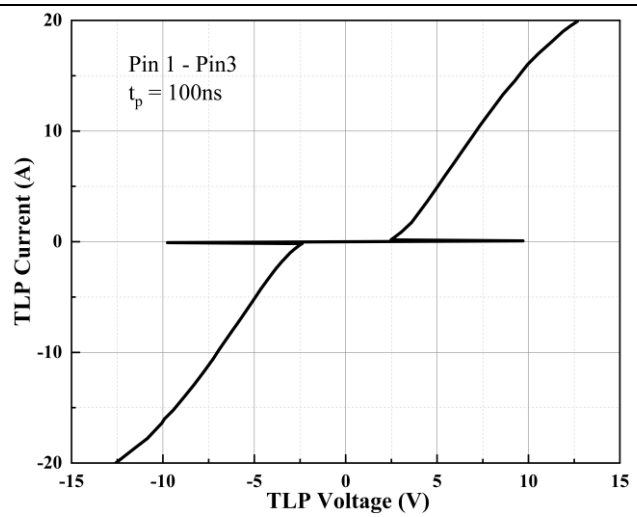


Figure 4. TLP Current vs. TLP Voltage

■ Measurement Wave According to IEC Standard

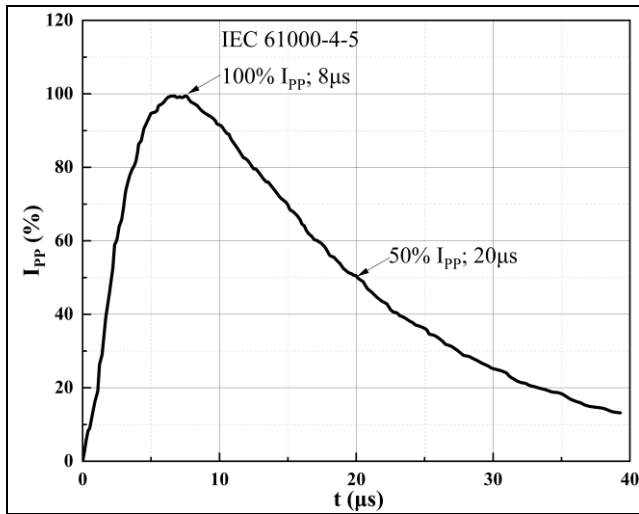


Figure 5. 8/20 μ s Pulse Waveform

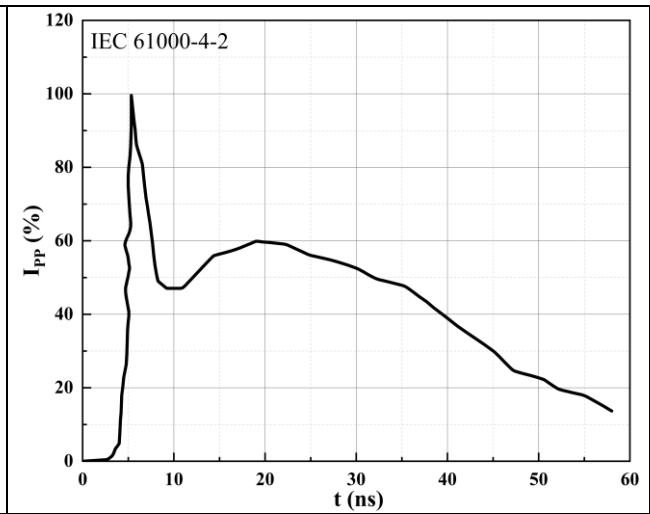
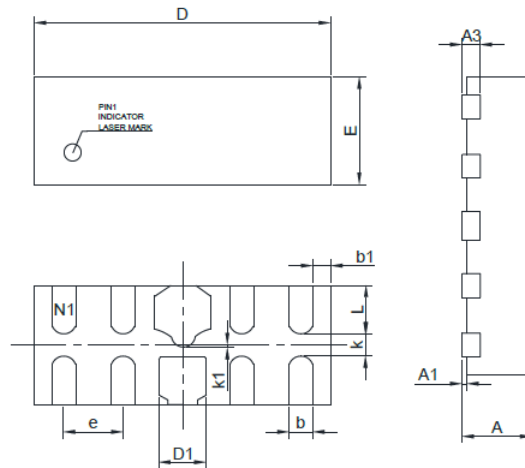


Figure 6. ESD Pulse Waveform

Package Information

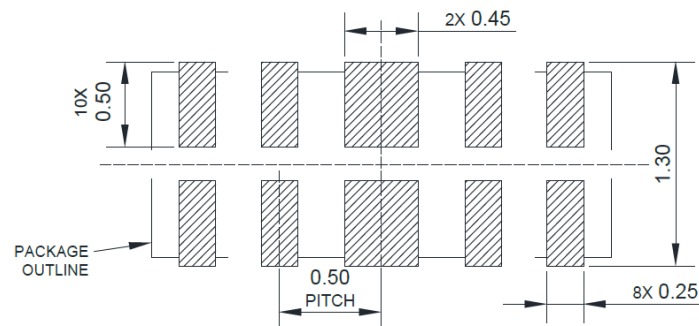
DFN2510-10L

POD A(C)



Dimensions in Millimeter							
Symbol	Min.	Nom.	Max.	Symbol	Min.	Nom.	Max.
A	0.450	0.500	0.550	D	2.450	2.500	2.550
A1	0.000	0.025	0.050	E	0.950	1.000	1.050
A3	0.110 REF			e	0.500 TYP		
b	0.180	0.220	0.260	k1	0.060	0.080	0.100
b1	0.100	0.150	0.200	L	0.350	0.400	0.450
D1	0.350	0.400	0.450	K	0.210	0.220	0.230

Recommended Soldering Footprint



DIMENSIONS: MILLIMETERS