



DWPMB0511D1 ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 60Watts peak pulse power ($t_p=8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 0.18pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 12kV$ contact $\pm 18kV$ air
- IEC 61000-4-5 (Lightning) 3A (8/20 μs)

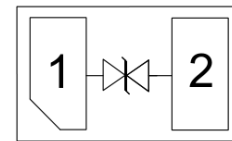
Application

- Smart phones
- Display Ports
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI) Audio Players
- PCI Express and Serial SATA Ports

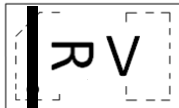
Mechanical Data

- Package: DFN0603-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DWPMB0511D1	DFN0603-2L		10000 Tape & Reel	7 inches



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

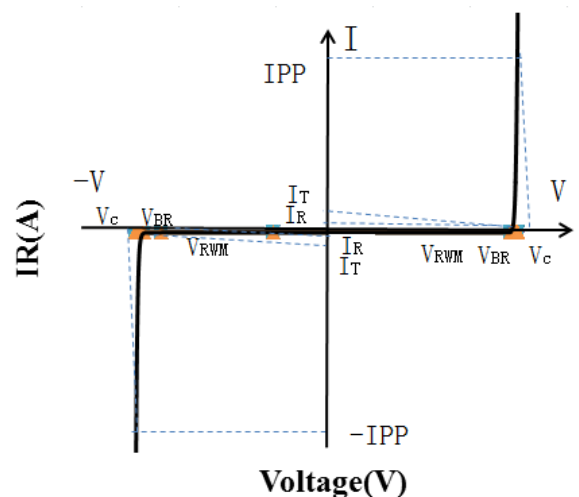
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppk	60	W
Peak Pulse Current (8/20 μs)	I _{PP}	3	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	± 18 ± 12	kV
Operating Temperature Range	T _J	-55 to +125	$^{\circ}\text{C}$
Storage Temperature Range	T _{stg}	-55 to +150	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V _{RWM}				5	V
Breakdown Voltage	V _{BR}	I _T = 1mA	6.0	7.5	9.0	V
Reverse Leakage Current	I _R	V _{RWM} = 5V			0.5	μA
Clamping Voltage	V _C	I _{PP} = 1A (8 x 20 μs pulse)			12	V
Clamping Voltage	V _C	I _{PP} = 3A (8 x 20 μs pulse)		18	20	V
Junction Capacitance	C _J	V _R = 0V, f = 1MHz		0.18	0.25	pF

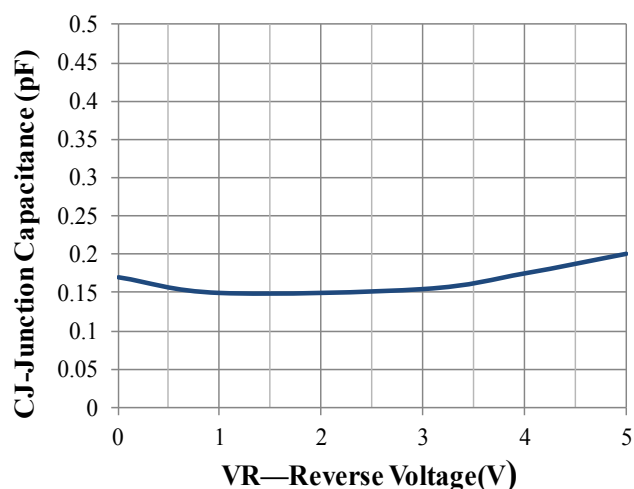
Electrical Parameters

Symbol	Parameter
I _T	Test Current
I _{PP}	Maximum Reverse Peak Pulse Current
V _C	Clamping Voltage @I _C

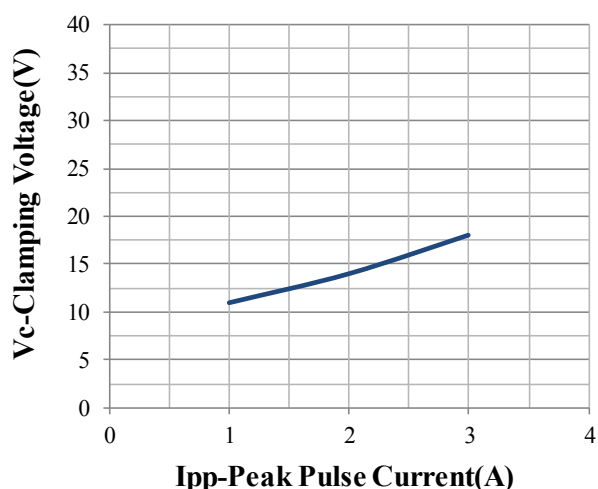




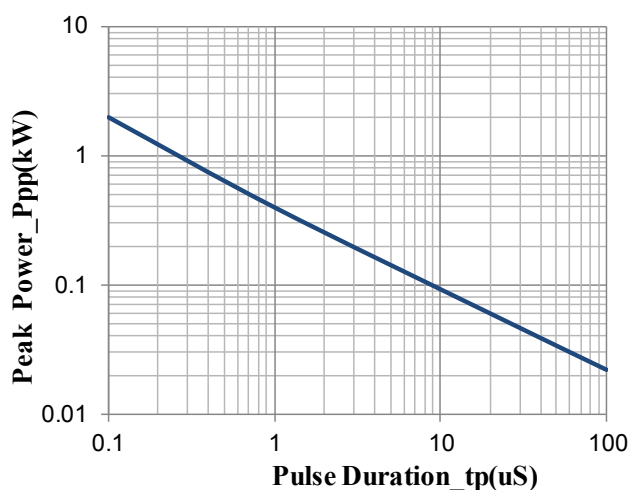
Typical Characteristics



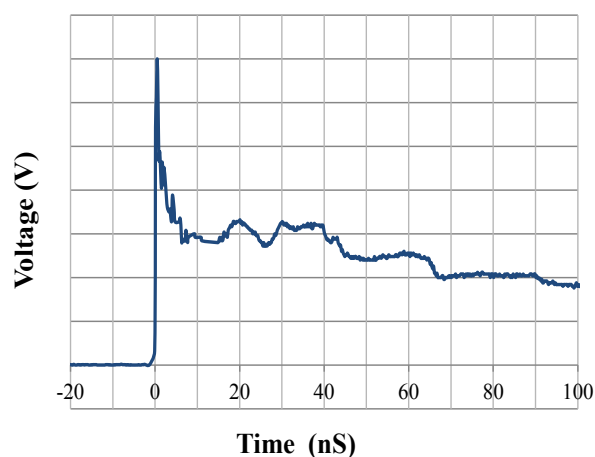
Junction Capacitance vs. Reverse Voltage



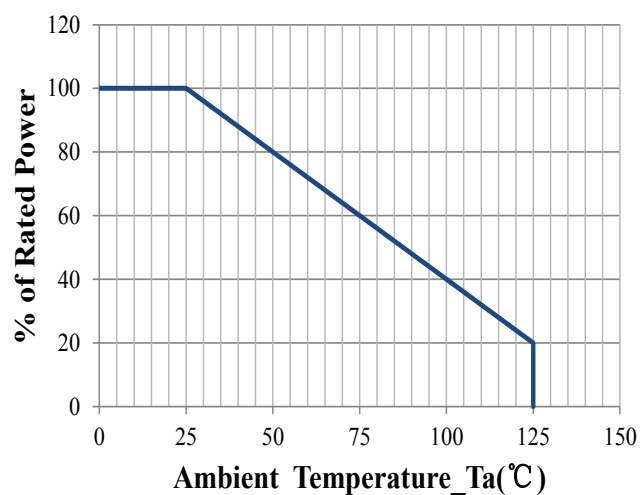
Clamping Voltage vs. Peak Pulse Current



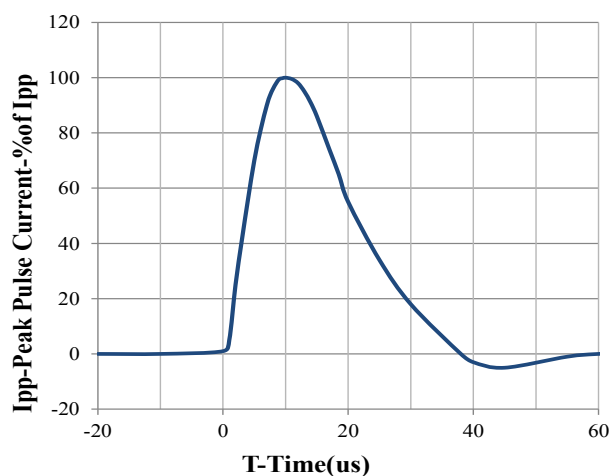
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



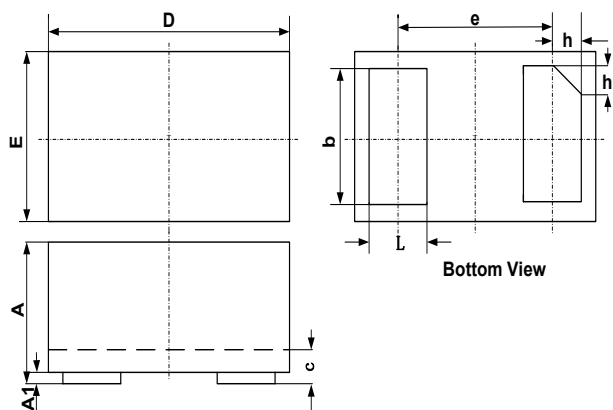
Power Derating Curve



8 X 20us Pulse Waveform



DFN0603-2L Outline Drawing



SYM	DIMENSIONS		
	MILLIMETERS		
	MIN	NOM	MAX
A	0.230		0.330
A1	0.000	0.020	0.050
b	0.215	0.245	0.275
c	0.120	0.150	0.180
D	0.550	0.600	0.650
e	0.355 BSC		
E	0.250	0.300	0.350
L	0.160	0.190	0.220
h	0.079 BSC		