DWPMB0515D2 ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 80Watts peak pulse power (tp = 8/20μs)
- Working voltage: 5V
- Junction Capacitance: 0.3pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 ±15kV contact ±20kV air
- IEC 61000-4-5 (Lightning) 4A (8/20μs)

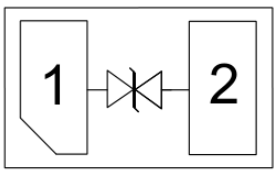
Application

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

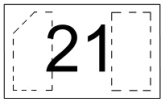
Mechanical Data

- Package: DFN1006-2L
- Molding compound flammability rating: UL 94V-0
- RoHS/WEEE Compliant

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DWPMB0515D2	DFN1006-2L		10000 Tape & Reel	7 inches

Absolute Maximum Rating (T_A = 25°C unless otherwise noted)

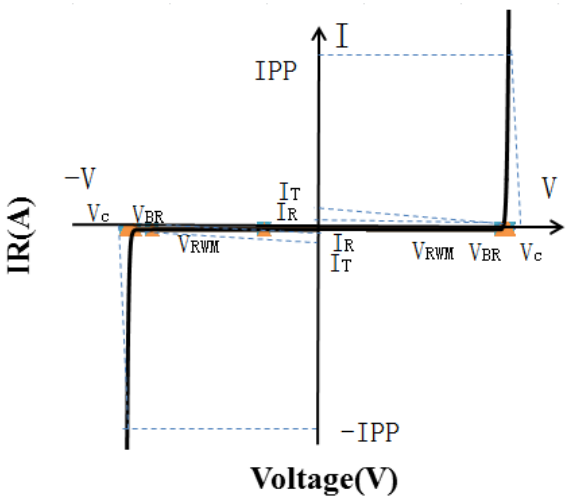
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	P_{PK}	80	W
Peak Pulse Current (8/20μs)	I_{PP}	4	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	V_{ESD}	±20 ±15	kV
Operating Temperature Range	T_J	−55 to +125	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

Electrical Characteristics (T_A = 25°C unless otherwise noted)

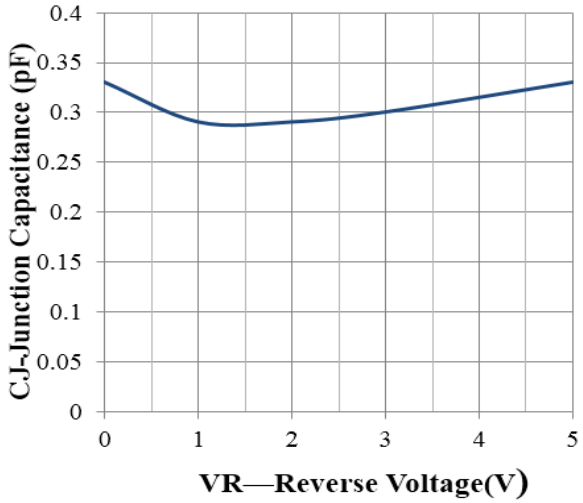
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5	V
Breakdown Voltage	V_{BR}	I_T = 1mA	6.0	7.5	8.5	V
Reverse Leakage Current	I_R	V_{RWM} =5V			0.5	μA
Clamping Voltage	V_C	I_{PP} = 1A (8 x 20μs pulse)			12	V
Clamping Voltage	V_C	I_{PP} = 4A (8 x 20μs pulse)		19	22	V
Junction Capacitance	CJ	V_R = 0V, f = 1MHz,IO-GND		0.3	0.45	pF

Electrical Parameters

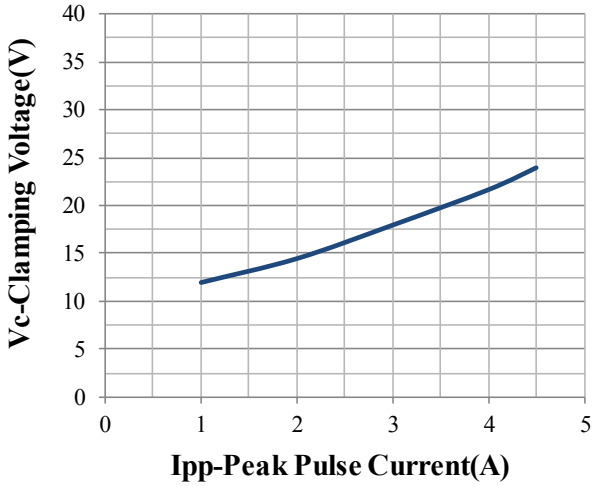
Symbol	Parameter
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @I_C



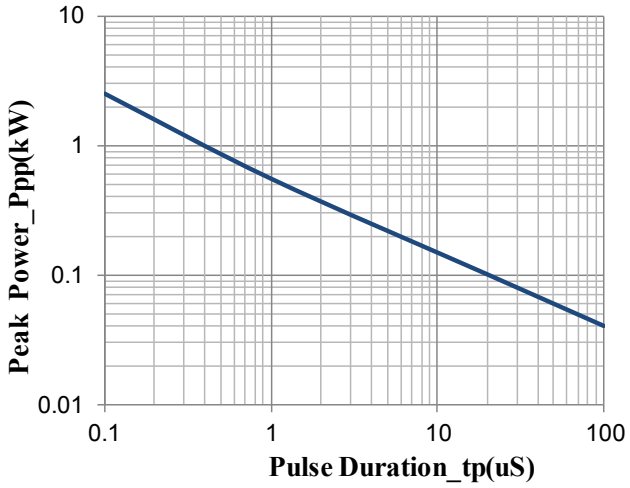
Typical Characteristic



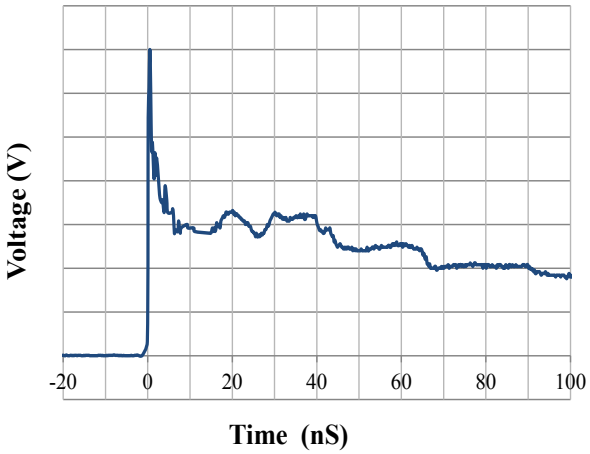
Junction Capacitance vs. Reverse Voltage



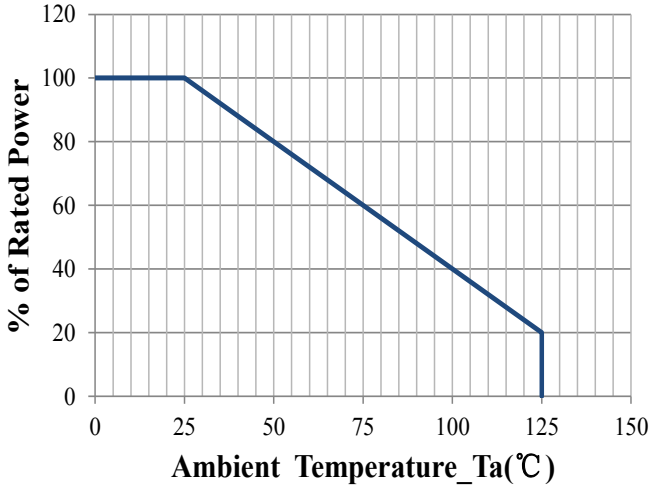
Clamping Voltage vs. Peak Pulse Current



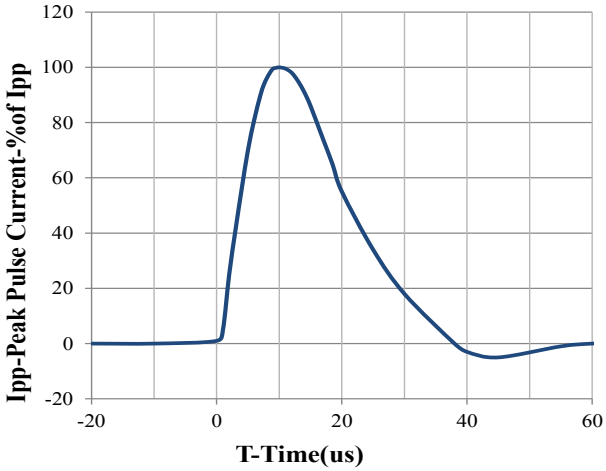
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

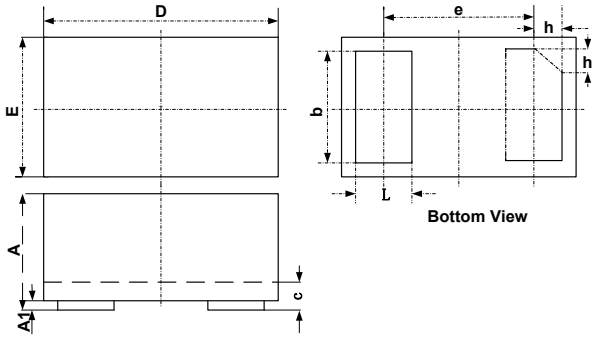


Power Derating Curve



8 X 20us Pulse Waveform

DFN1006-2L Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.40	0.42	0.45	0.016	0.018	0.020
A1	0.00	0.02	0.055	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.99	1.02	1.05	0.039	0.040	0.041
e	0.65 BSC			0.026 BSC		
E	0.59	0.62	0.65	0.023	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007