



DW05DPF-B-AT-S ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 400Watts peak pulse power ($t_p = 8/20\mu s$)
- Working voltage: 5V
- Junction Capacitance: 60pF(Typ)
- Low clamping voltage
- Low leakage current
- AEC-Q101 qualified
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-5 (Lightning) 28A (8/20 μs)

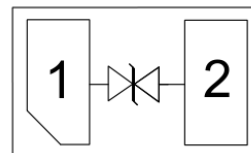
Application

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays

Mechanical Data

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

Circuit Diagram



Ordering Information

Part Number	Package	Marking	Packing	Reel Size
DW05DPF-B-AT-S	DFN1006-2L		10000 Tape & Reel	7 inches



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

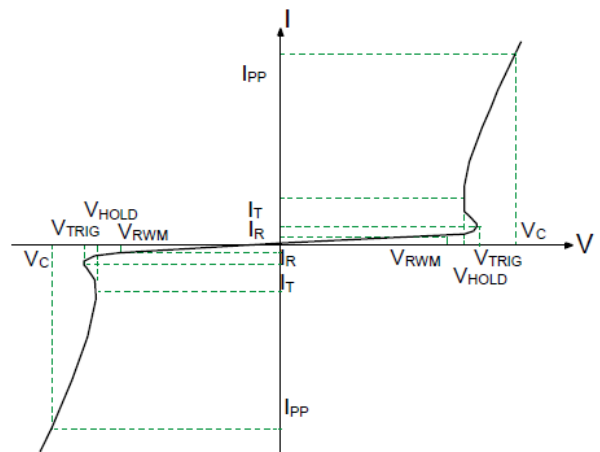
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	P_{PK}	400	W
Peak Pulse Current (8/20 μs)	I_{PP}	28	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Operating Temperature Range	T_J	-55 to $+125$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55 to $+150$	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse Working Voltage	V_{RWM}				5.0	V
Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0\text{V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 1\text{A}$ (8 x 20 μs pulse)		8.0	9.0	V
Clamping Voltage	V_C	$I_{PP} = 28\text{A}$ (8 x 20 μs pulse)		12.0	15.0	V
Junction Capacitance	C_J	$V_R = 0\text{V}$, $f = 1\text{MHz}$		60	100	pF

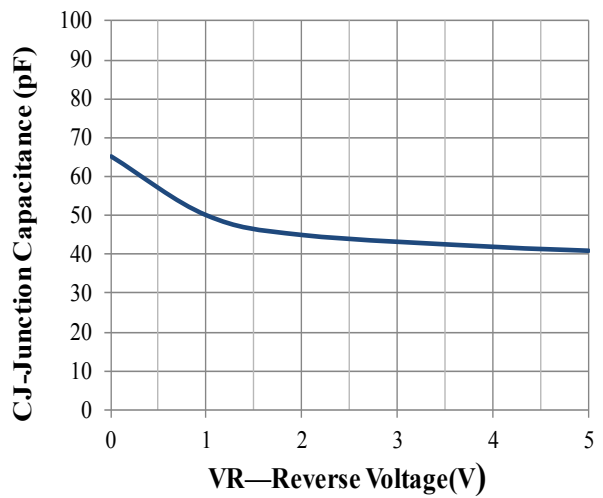
Electrical Parameters

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

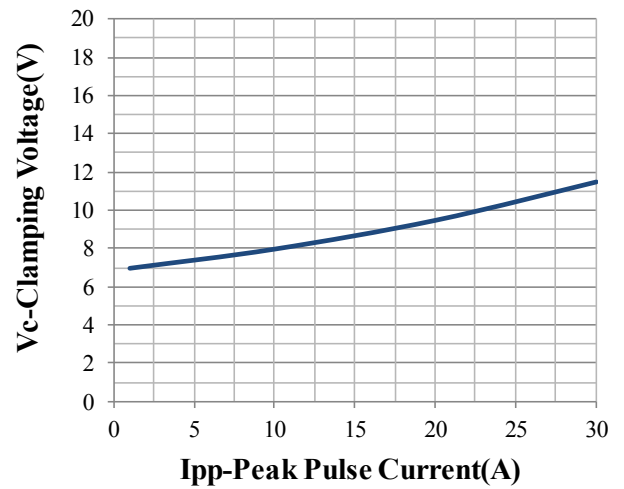




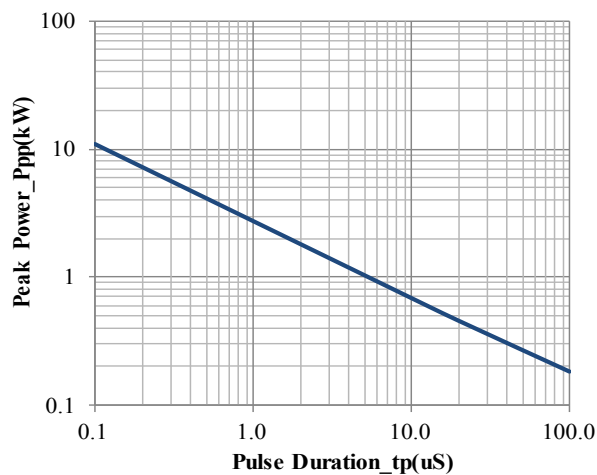
Typical Characteristics



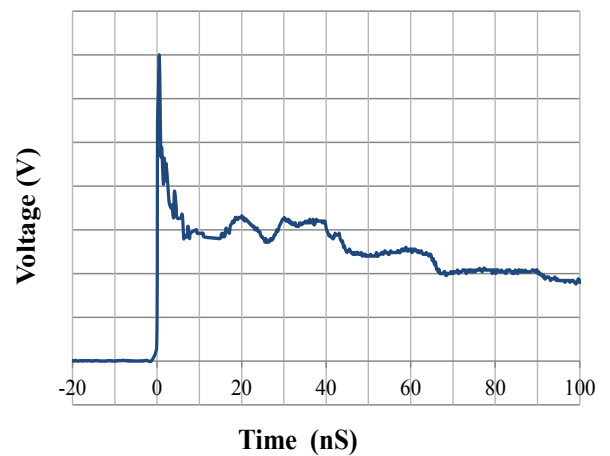
Junction Capacitance vs. Reverse Voltage



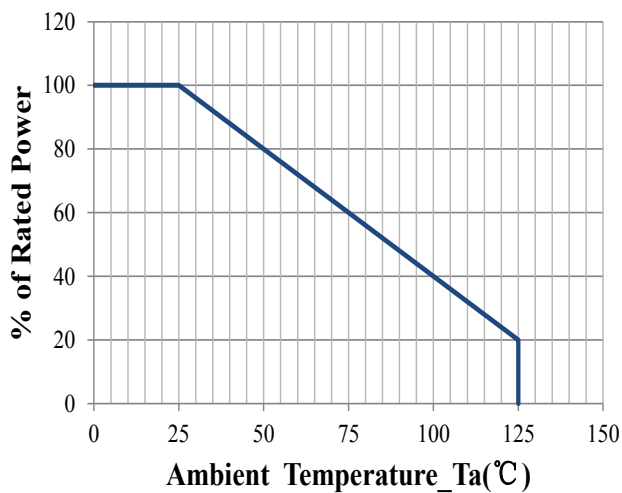
Clamping Voltage vs. Peak Pulse Current



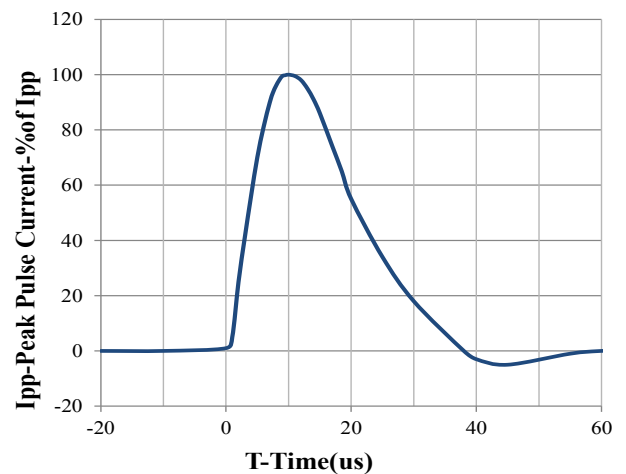
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform



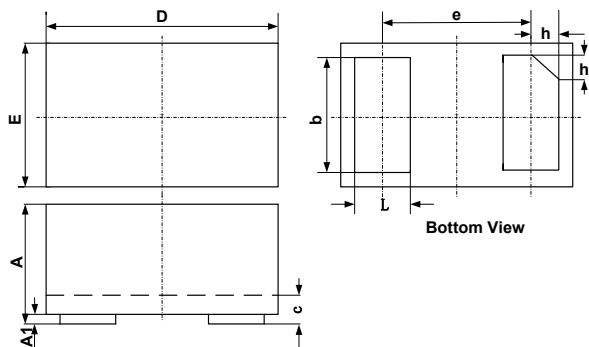
Power Derating Curve



8 X 20us Pulse Waveform



DFN1006-2L Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	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	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	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