



DW03DPF-B-S ESD Protection Diode

Feature

- Bi-directional ESD protection of one line
- 500Watts peak pulse power ($t_p=8/20\mu s$)
- Working voltage: 3.3V
- Junction Capacitance: 80pF(Typ)
- Low clamping voltage
- Low leakage current
- IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 45A (8/20 μs)

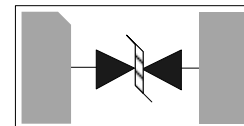
Application

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation

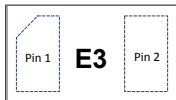
Mechanical Data

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

Schematic & PIN Configuration



Ordering Information

Part Number	Package	Marking	QTY per Reel	Reel Size
DW03DPF-B-S	DFN1006-2L		10000 pcs	7 inches



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

Parameter	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{PP}	500	Watts
Peak Pulse Current ($t_p=8/20\mu\text{s}$) (note1)	I_{pp}	45	A
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
Lead Soldering Temperature	T_L	260 (10seconds)	$^{\circ}\text{C}$
Junction Temperature	T_J	-55 to + 125	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55 to + 125	$^{\circ}\text{C}$

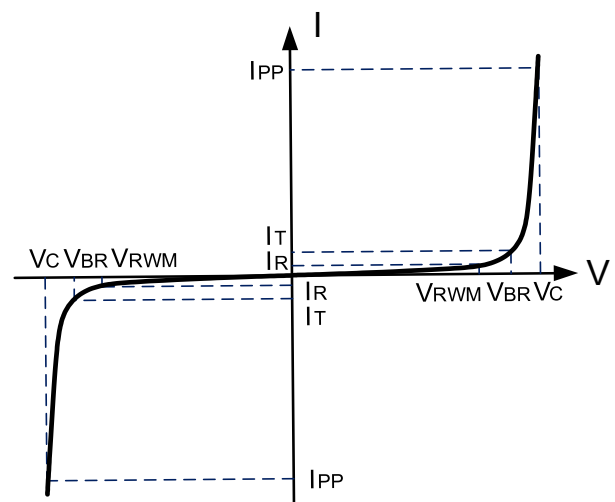
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typical	Max	Units
Reverse Stand-Off Voltage	V_{RWM}				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1\text{mA}$	4.0			V
Reverse Leakage Current	I_R	$V_{RWM}=3.3\text{V}, T=25^{\circ}\text{C}$			0.5	μA
Peak Pulse Current	I_{PP}	$t_p=8/20\mu\text{s}$			45	A
Clamping Voltage ²⁾	V_C	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			5.5	V
Clamping Voltage ²⁾		$I_{PP}=20\text{A}, t_p=8/20\mu\text{s}$			7.5	V
Clamping Voltage ²⁾		$I_{PP}=45\text{A}, t_p=8/20\mu\text{s}$			11	V
Junction Capacitance	C_j	$V_R=0\text{V}, f=1\text{MHz}$		80		pF

Electrical Parameters

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current

Note: 8/20 μs pulse waveform.





Typical Characteristic

Figure 1: Peak Pulse Power vs. Pulse Time

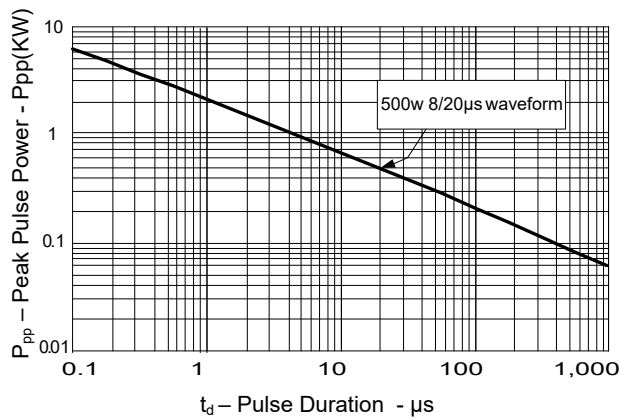


Figure 2: Power Derating Curve

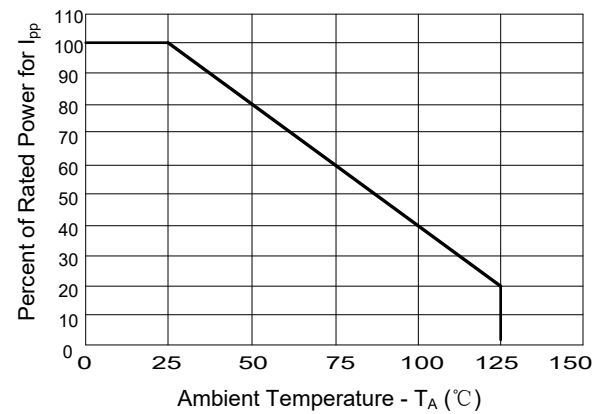


Figure3: Pulse Waveform

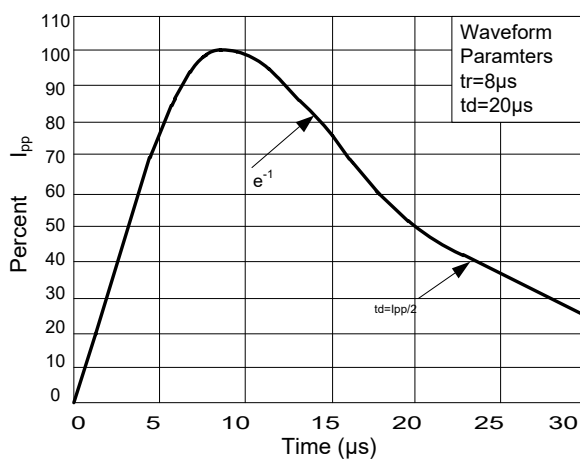
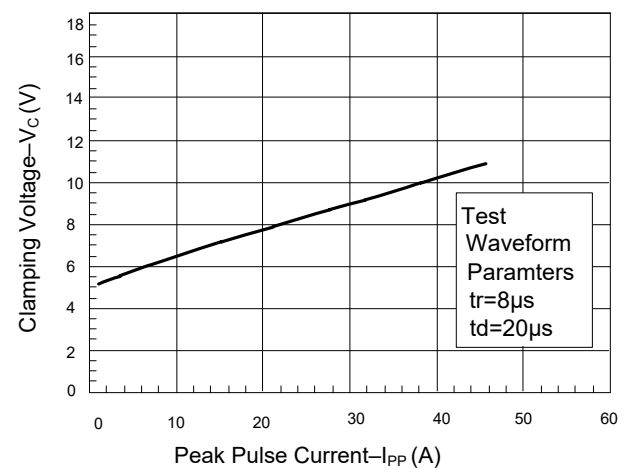
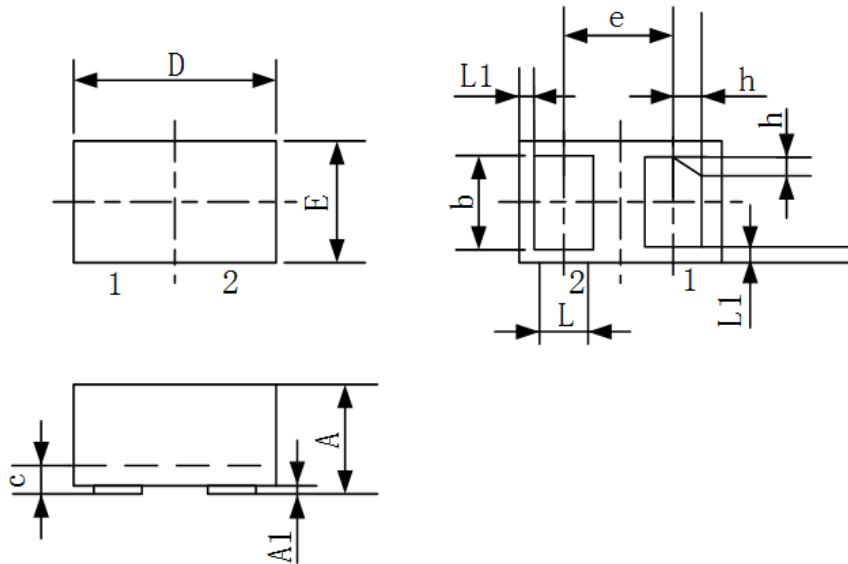


Figure 4: Clamping Voltage vs. I_{pp}





DFN1006-2L Outline Drawing



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.40	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.50	0.55
c	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05REF		
h	0.07	0.12	0.17
载体尺寸 (MIL)	20*20		