



ESD0501PB

Normal Capacitance TVS Diode

1. Features

- 90Watts peak pulse power ($t_p = 8/20\mu s$)
- Bi-directional configurations
- Solid-state silicon-avalanche technology
- Capacitance: 15pF typical
- Low clamping voltage
- Low leakage current
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 30KV$
Contact discharge: $\pm 30KV$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-4 (Lightning) 8A (8/20us)

2. Application

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals

3. Mechanical Data

- Package: DFN1006
- UL Flammability Classification Rating 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

4. Absolute Maximum Rating

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Contact)	V_{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Air)		± 30	
Peak Pulse Power(8/20 μs)	P_{PP}	90	W
Reverse Working Voltage	V_{RWM}	5	V
Reverse Working Voltage	I_{PP}	8	A
Operating Temperature	T_{OPT}	-55~+125	$^{\circ}C$
Storage Temperature	T_{stg}	-55~+150	$^{\circ}C$

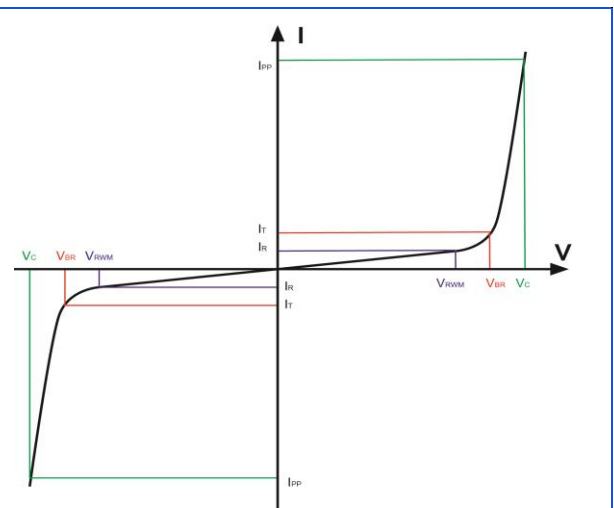
5. Pinning information

Pin	Symbol	Description	Simplified outline	Equivalent Circuit	Marking	Package
1	A	Anode			PB	DFN1006-2L
2	A	Anode				

6. Electrical Characteristics (Tamb=25°C)

Parameter	Symbols	Condition	Min	Typ	Max	Unit
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	5.6	—	8.0	V
Reverse Leakage Current	I_R	$V_{RWM}=5V$	—	—	0.2	μA
Clamping Voltage	V_C	$I_{PP}=1A, t_p=8/20\mu s$	—	—	8.5	V
		$I_{PP}=8A, t_p=8/20\mu s$	—	—	11	V
Junction Capacitance	C_J	$V_R=0V, f=1MHz$	—	15	—	pF

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



7. Typical Characteristics

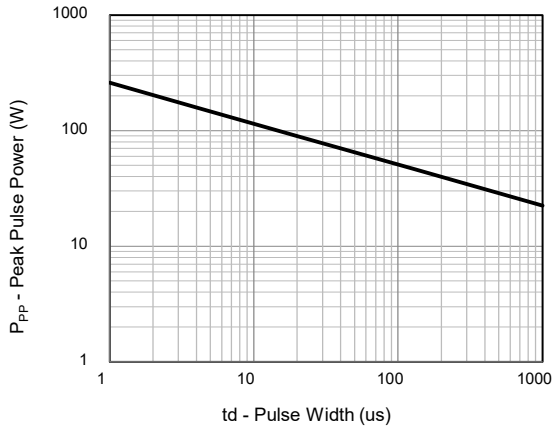


Figure 1. Peak Pulse Power Rating

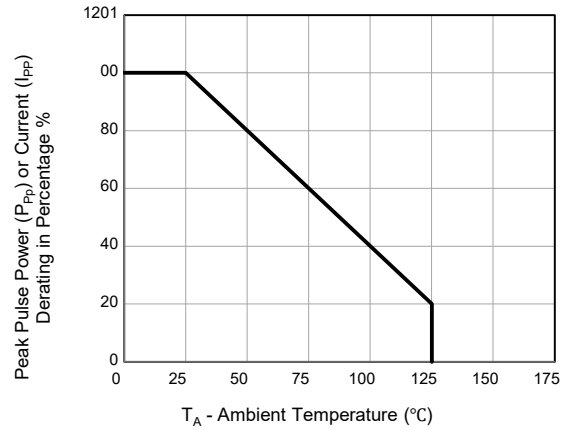


Figure 2. Pulse Derating Curve

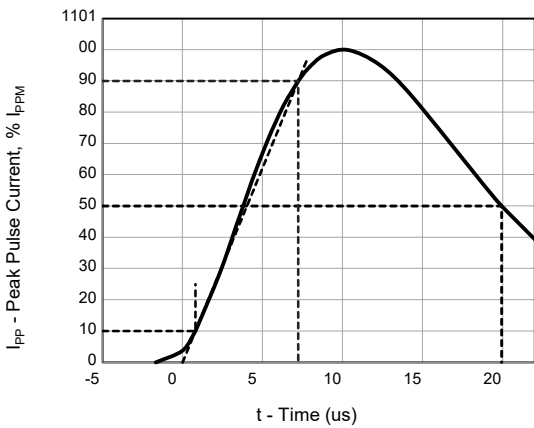


Figure 3. 8/20us Pulse Waveform

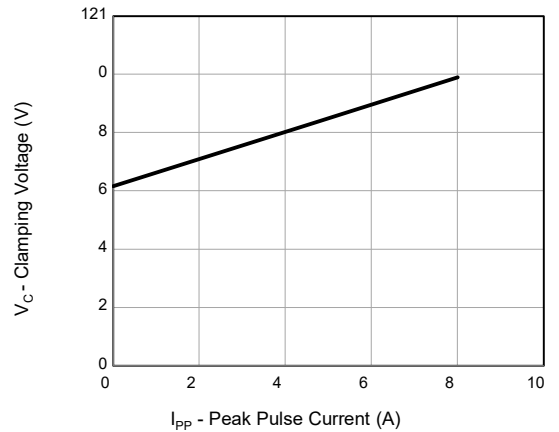


Figure 4. Typical Clamping Voltage

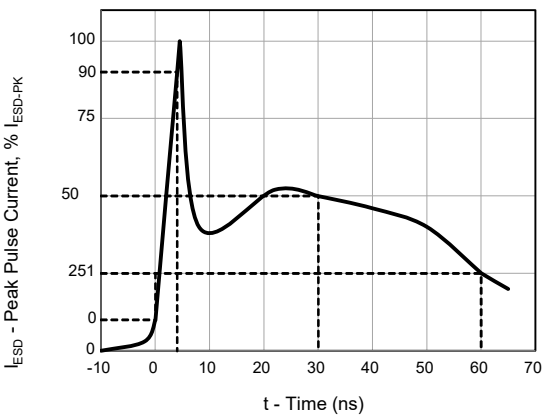


Figure 5. ESD Pulse Waveform (IEC61000-4-2)

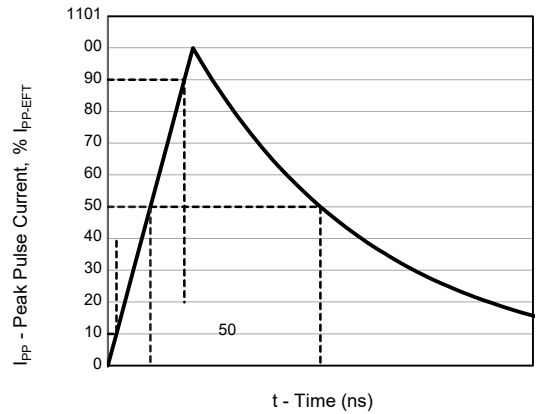
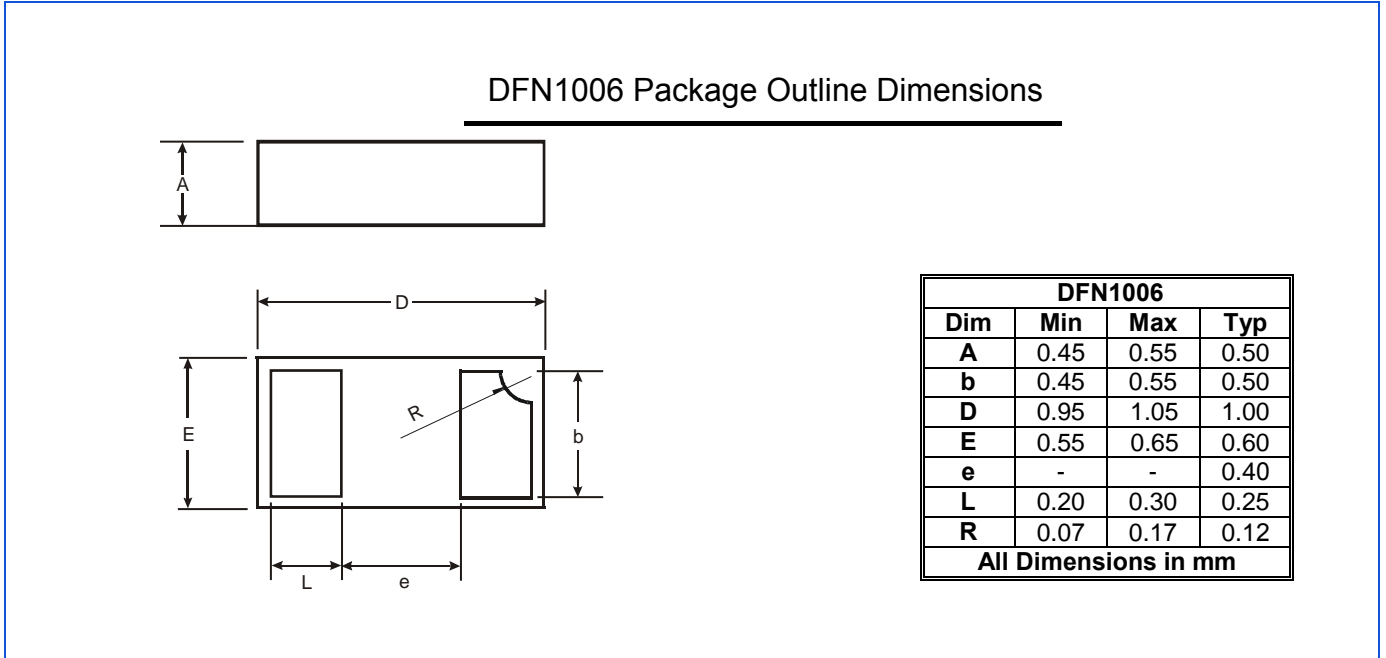


Figure 6. 5/50ns EFT Waveform (IEC61000-4-4)

8. Outline Drawing



9. Reel packing

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
DFN1006	7'	178	10,000	210×210×205	100,000	445×445×230	400,000

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