

## 1-Line Bi-directional TVS Diode

### Features

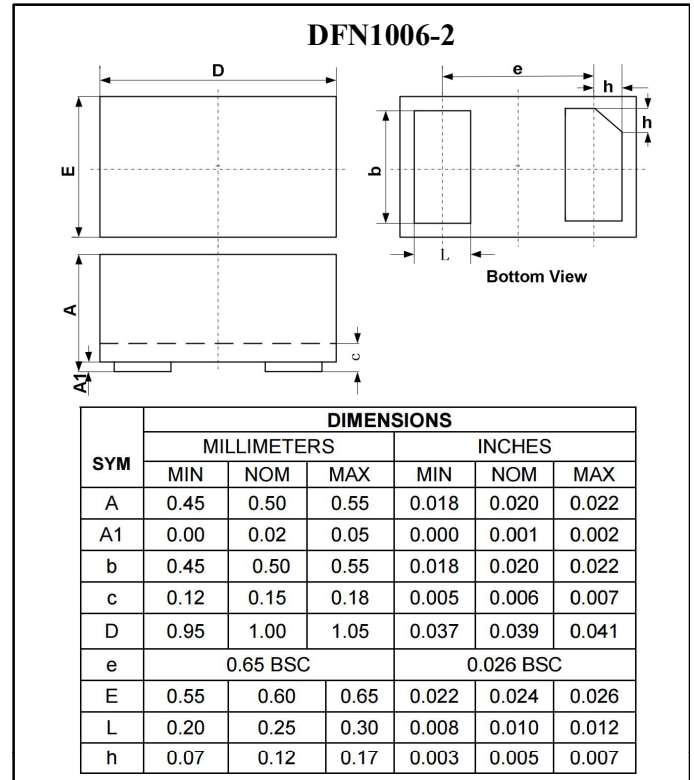
- Ultra small package : 1.0×0.6×0.5mm
- Protects one data or power line
- Ultra low leakage : nA level
- Operating voltage : 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards :
  - IEC 61000-4-2(ESD) immunity test  
Air discharge : ±30kV, Contact discharge : ±30kV
  - IEC61000-4-5 (Lightning) 15A (8/20us)
- RoHS Compliant

### Mechanical Data

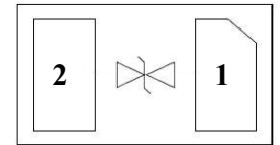
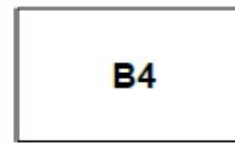
- Package : DFN1006-2 (1.0×0.6×0.5mm)
- Case Material : "Green" Molding Compound.
- Lead Finish : NiPdAu
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below

### Applications

- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports



### Marking



B4=Device Marking Code

Circuit and Pin configuration

### Absolute Maximum Ratings (Ta= 25°C unless otherwise specified)

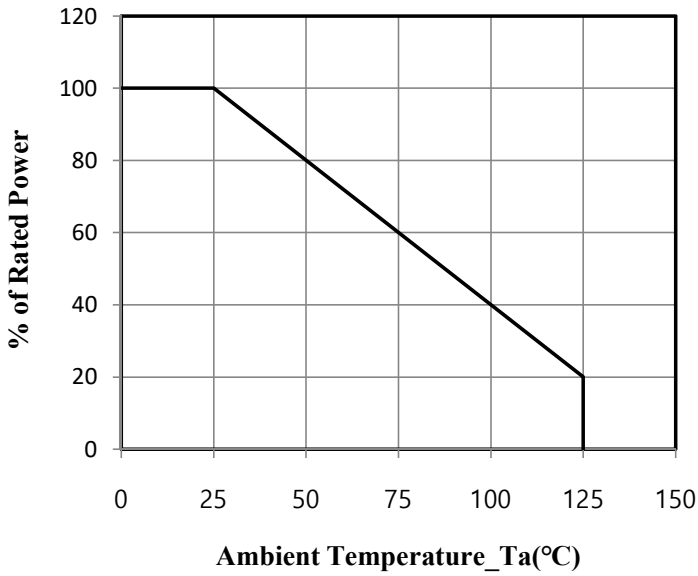
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	P <sub>pk</sub>	200	W
Peak Pulse Current (8/20us)	I <sub>pp</sub>	15	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

### Electrical Characteristics (Ta= 25°C unless otherwise specified)

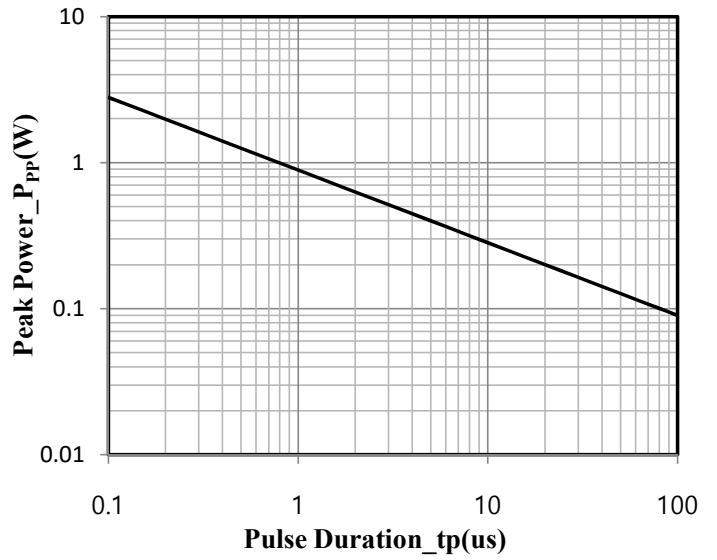
Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>	-	-	5.0	V	
Breakdown Voltage	V <sub>BR</sub>	6.5	-	-	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>	-	-	0.2	uA	V <sub>RWM</sub> = 5V
Clamping Voltage	V <sub>C</sub>	-	-	8.0	V	I <sub>pp</sub> =1A(8×20us pulse)
Clamping Voltage	V <sub>C</sub>	-	-	14	V	I <sub>pp</sub> =15A(8×20us pulse)
Junction Capacitance	C <sub>J</sub>	-	30	50	pF	f=1MHz, V <sub>R</sub> =0V

**Ratings and Characteristics Curves (Ta=25°C unless otherwise noted)**

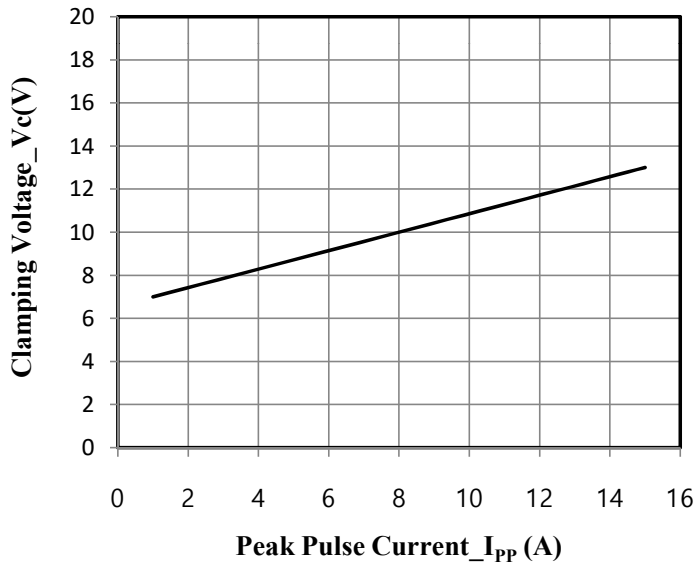
**Fig.1 Power Derating Curve**



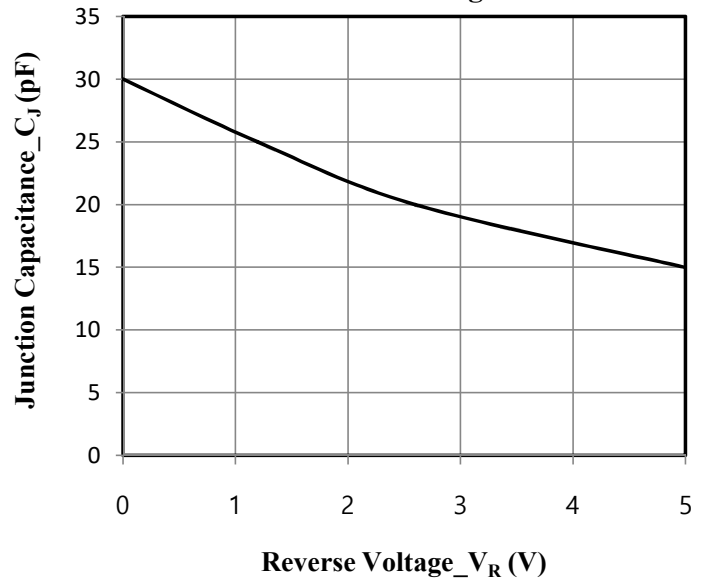
**Fig.2 Peak Pulse Power vs. Pulse Time**



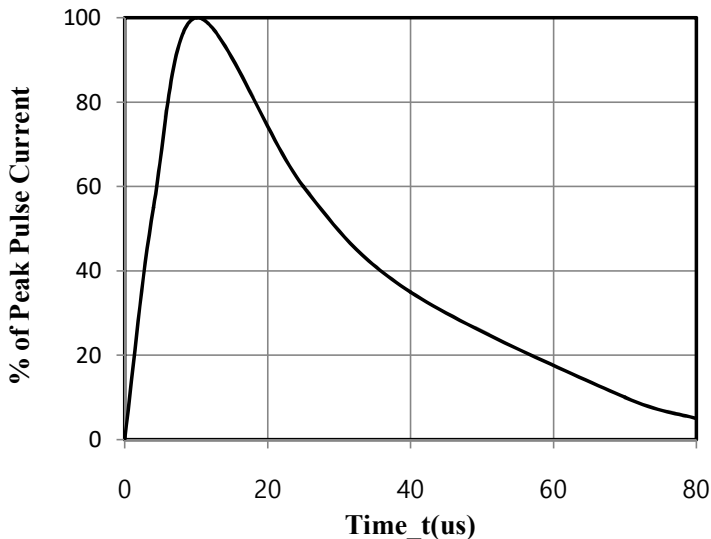
**Fig.3 Clamping Voltage vs. Peak Pulse Current (tp=8/20us)**



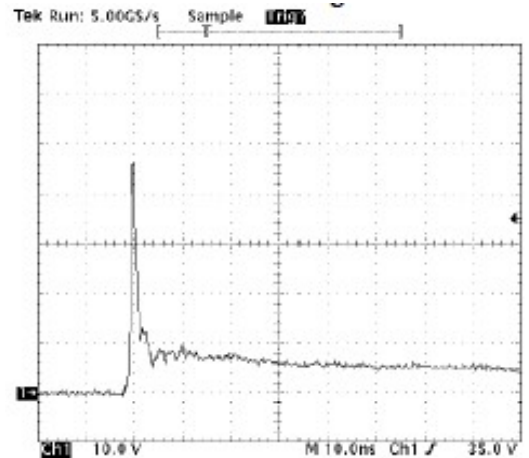
**Fig.4 Junction Capacitance vs. Reverse Voltage**



**Fig.5 8 × 20us Pulse Waveform**



**Fig. 6 ESD Clamping Voltage  
8kV Contact per IEC61000-4-2**



**Note: Data is taken with a 10x attenuator**