

## 1-Line Bi-directional TVS Diode

### Features

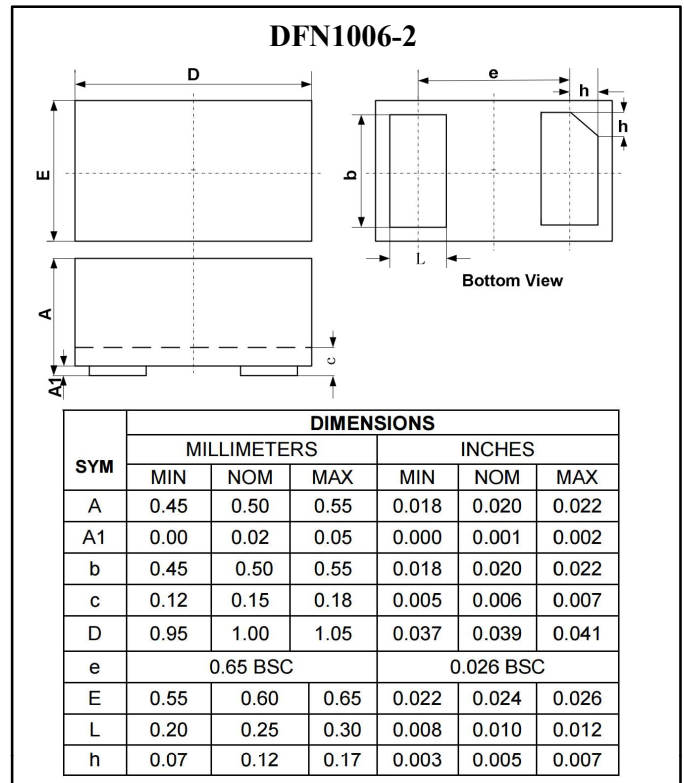
- Ultra small package : 1.0×0.6×0.5mm
- Protects one data or power line
- Ultra low leakage : nA level
- Low operating voltage : 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards :
  - IEC 61000-4-2(ESD) immunity test  
Air discharge : ±15kV, Contact discharge : ±8kV
  - IEC61000-4-4 (EFT) 40A (5/50ns)
  - IEC61000-4-5 (Lightning) 2A (8/20us)
- RoHS Compliant

### Mechanical Data

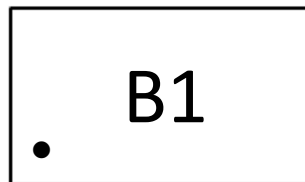
- Package : DFN1006-2 (1.0×0.6×0.5mm)
- Case Material : "Green" Molding Compound.
- Lead Finish : NiPdAu
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below

### Applications

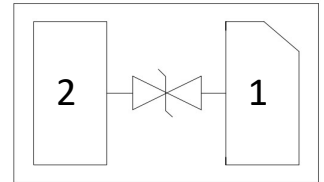
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays



### Marking



B1=Device Marking Code  
Dot denotes Pin1



Circuit and Pin Schematic

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	Ppk	25	W
Peak Pulse Current (8/20us)	I <sub>PP</sub>	2	A
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	±15	kV
ESD per IEC 61000-4-2 (Contact)		±8	
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C

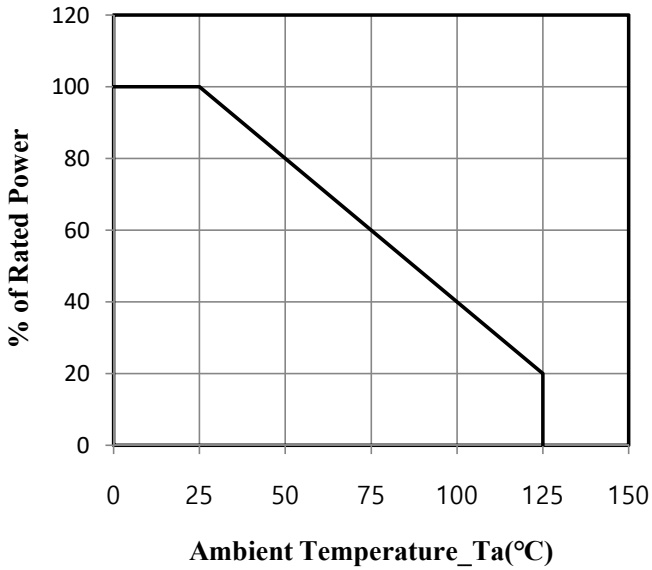
### Electrical Characteristics (Ta= 25°C unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>	-	-	5.0	V	
Breakdown Voltage	V <sub>BR</sub>	6.0	8.0	9.0	V	I <sub>T</sub> = 1mA
Reverse Leakage Current	I <sub>R</sub>	-	-	50	nA	V <sub>RWM</sub> = 5V
Clamping Voltage	V <sub>C</sub>	-	-	12.5	V	I <sub>PP</sub> =2A
Junction Capacitance	C <sub>J</sub>	-	-	5.0	pF	f=1MHz, V <sub>R</sub> =0V

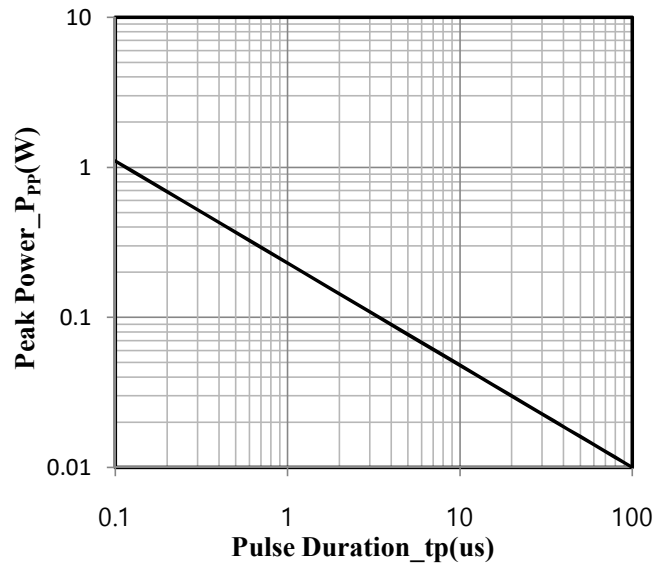
\* Pin 1 to Pin 2 or Pin 2 to Pin 1

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

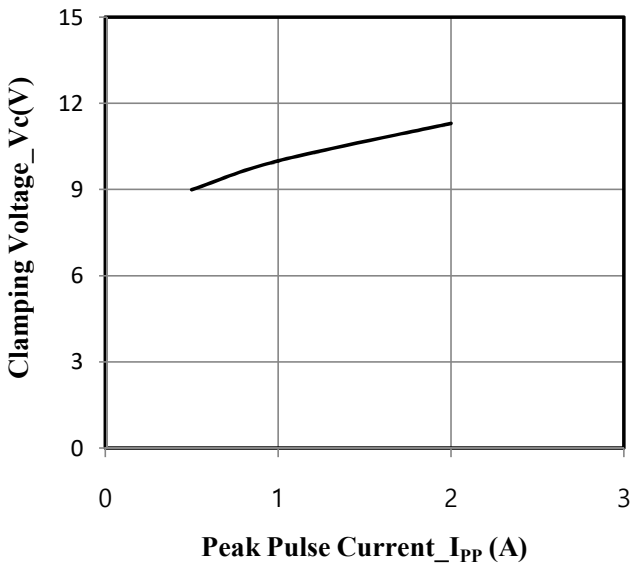
**Fig.1 Power Derating Curve**



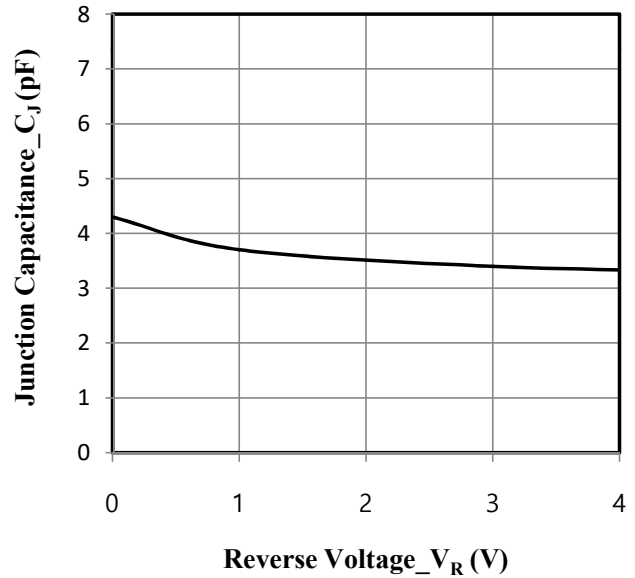
**Fig.2 Peak Pulse Power vs. Pulse Time**



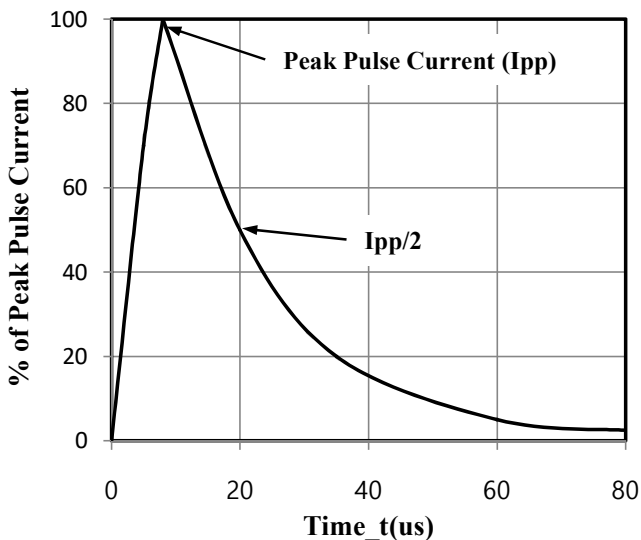
**Fig.3 Clamping Voltage vs. Peak Pulse Current (tp=8/20us)**



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



**Fig.5 8 × 20us Pulse Waveform**



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

