

## 2-Line Uni-directional TVS Diode

### Features

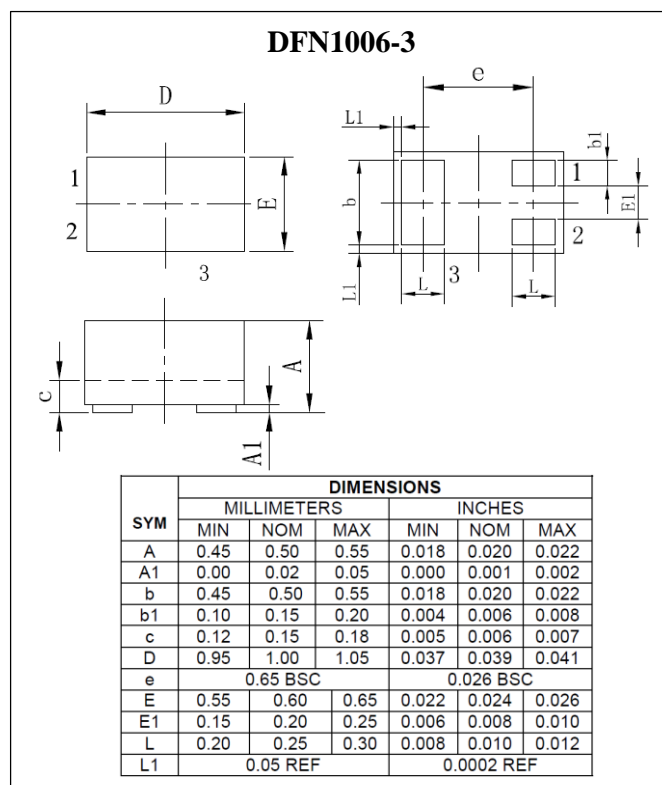
- Ultra small package : 1.0×0.6×0.5mm
- Ultra low leakage : nA level
- Operating voltage : 5V
- 3-pin leadless package
- Up to 2-line protects
- Complies with following standards :
  - IEC 61000-4-2(ESD) immunity test  
Air discharge : ±30kV, Contact discharge : ±30kV
  - IEC61000-4-4 (EFT) 8A (5/50ns)
- RoHS Compliant

### Mechanical Data

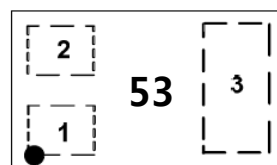
- Package : DFN1006-3 (1.0×0.6×0.5mm)
- Case Material : "Green" Molding Compound.
- Lead Finish : NiPdAu
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below
- Marking Information: See Below

### Applications

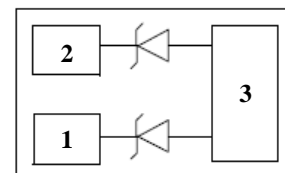
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players, Keypads, Side Keys, LCD Displays



### Marking



53=Device Marking Code  
Dot denotes Pin1



Circuit and Pin Schematic

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20us)	Ppk	100	W
Peak Pulse Current (8/20us)	I <sub>PP</sub>	8.0	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	℃
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	℃

### Electrical Characteristics (Ta= 25℃ unless otherwise specified)

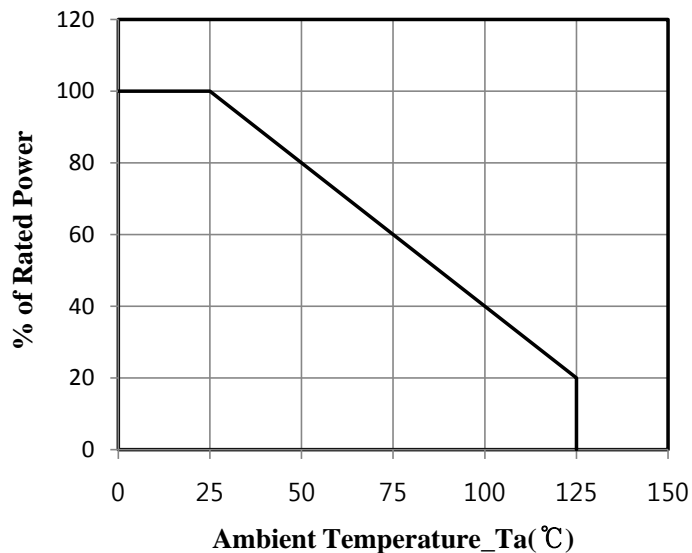
Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Working Voltage	V <sub>RWM</sub>	-	-	5.0	V	(Note 1.)
Breakdown Voltage	V <sub>BR</sub>	6.0	-	-	V	I <sub>T</sub> = 1mA, (Note 1.)
Reverse Leakage Current	I <sub>R</sub>	-	-	0.2	uA	V <sub>RWM</sub> = 5V, (Note 1.)
Clamping Voltage (8/20us pulse)	V <sub>C</sub>	-	-	8.0	V	I <sub>PP</sub> =1A, (Note 2.)
Clamping Voltage (8/20us pulse)	V <sub>C</sub>	-	-	12	V	I <sub>PP</sub> =8A, (Note 2.)
Junction Capacitance	C <sub>J</sub>	-	55	-	pF	f=1MHz, V <sub>R</sub> =0V, (Note 2.)

Note 1. Pin 1 or pin 2 to pin 3 and between pin 1 and pin 2

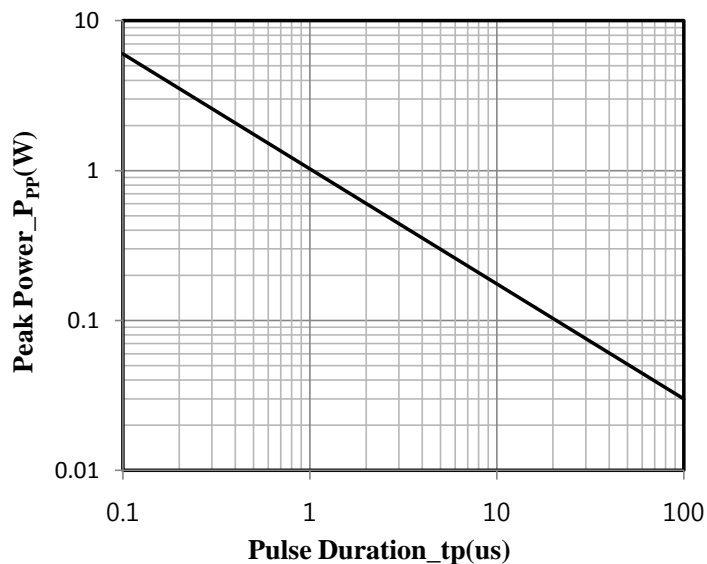
Note 2. Pin 1 or pin 2 to pin 3

**Ratings and Characteristics Curves** ( $T_a=25^\circ\text{C}$  unless otherwise noted)

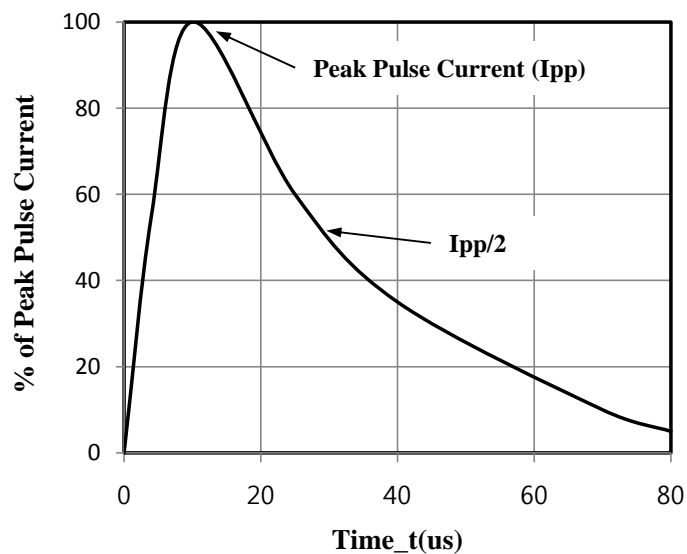
**Fig.1 Power Derating Curve**



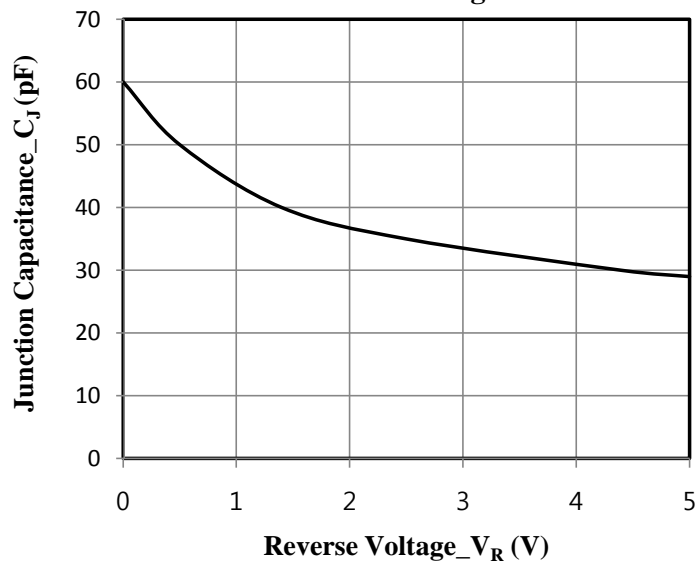
**Fig.2 Peak Pulse Power vs. Pulse Time**



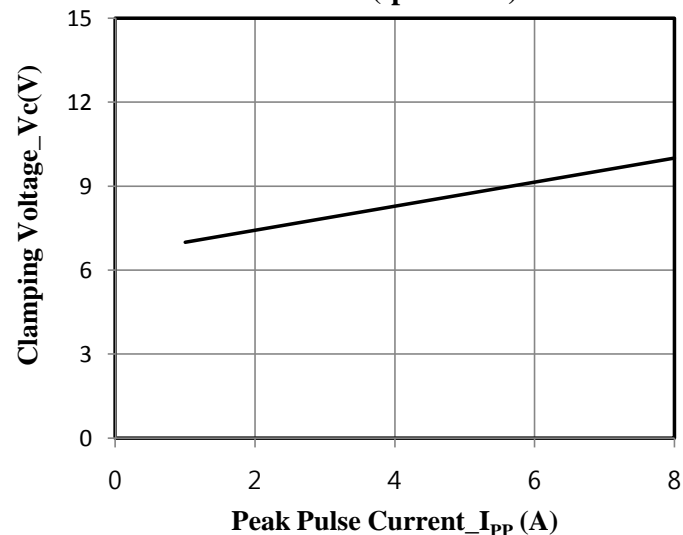
**Fig.3 8 × 20us Pulse Waveform**



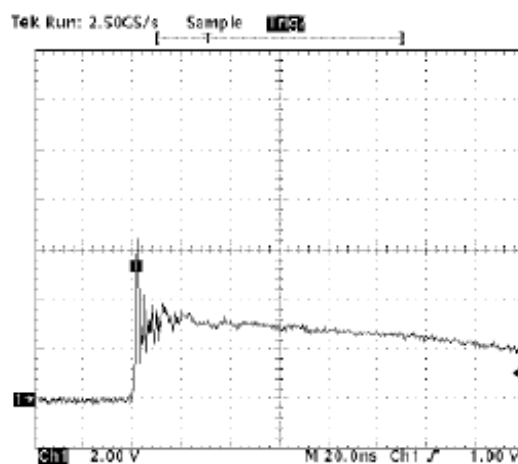
**Fig.4 Junction Capacitance vs. Reverse Voltage**



**Fig.5 Clamping Voltage vs. Peak Pulse Current ( $t_p=8/20\mu\text{s}$ )**



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



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