

2-Line Bi-directional Low Capacitance TVS Diode

Features

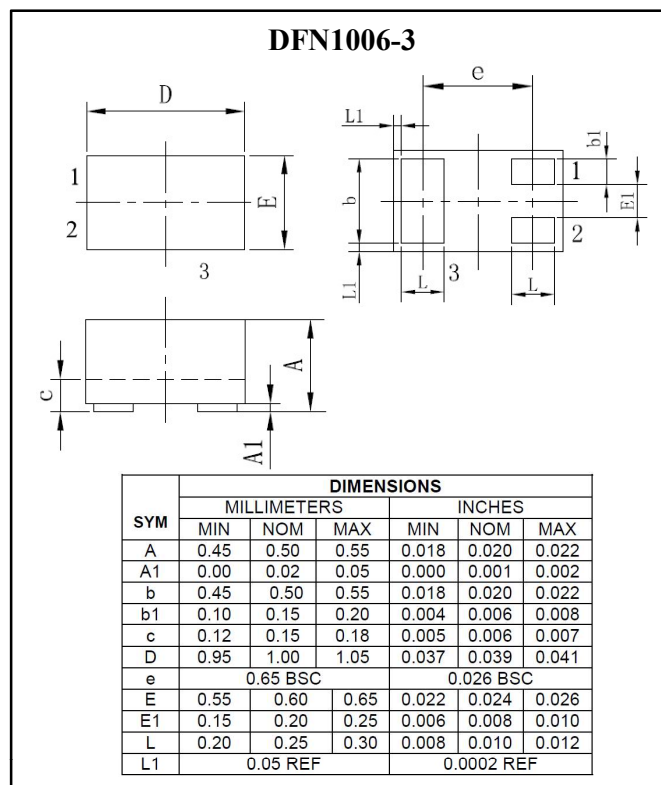
- Ultra small package : 1.0×0.6×0.5mm
- Very low capacitance : 3.5pF typical
- Ultra low leakage : nA level
- Low operating voltage : 5V
- Low clamping voltage
- 3-pin leadless package
- Up to 2-line protects
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : ±15kV, Contact discharge : ±12kV
 - IEC61000-4-4 (EFT) 40A (5/50ns)
- RoHS Compliant

Mechanical Data

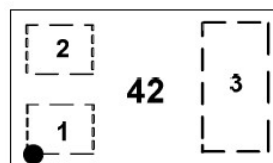
- Package : DFN1006-3 (1.0×0.6×0.5mm)
- Case Material : "Green" Molding Compound.
- Lead Finish : NiPdAu
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below

Applications

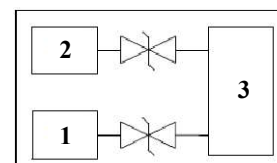
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays
- USB 2.0



Marking



42=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 _{PP}	1	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±15	kV
ESD per IEC 61000-4-2 (Contact)		±12	
Operating Junction Temperature Range	T _J	-55 to +125	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

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

Characteristic	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Reverse Working Voltage	V _{RWM}	-	-	5.0	V	
Breakdown Voltage	V _{BR}	6.0	-	-	V	I _T = 1mA
Reverse Leakage Current	I _R	-	-	50	nA	V _{RWM} = 5V
Clamping Voltage	V _C	-	-	18	V	I _{PP} = 1A
Junction Capacitance	C _J	-	3.5	4.0	pF	f = 1MHz, V _R = 0V

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

Fig.1 Power Derating Curve

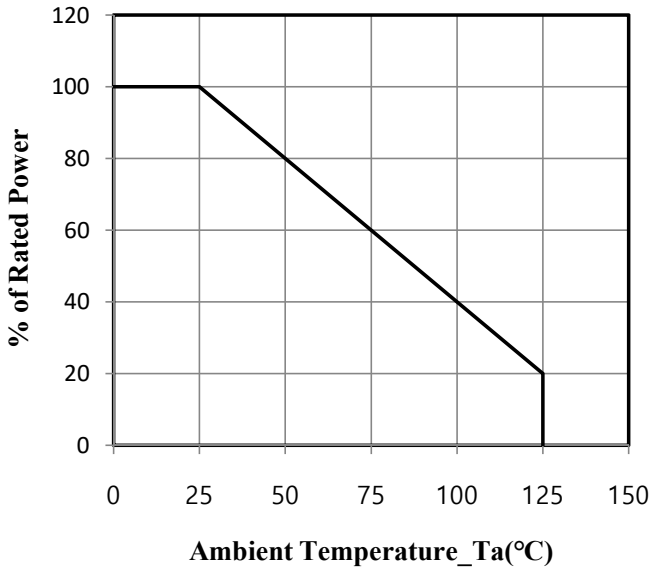


Fig.2 Peak Pulse Power vs. Pulse Time

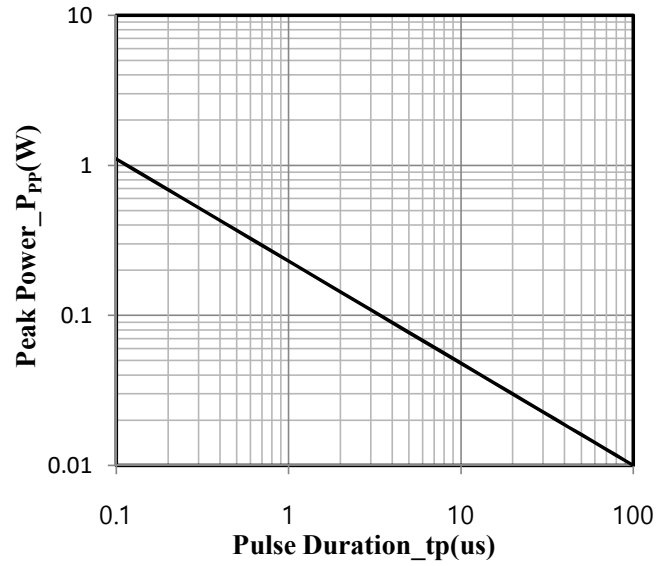


Fig.3 8 × 20us Pulse Waveform

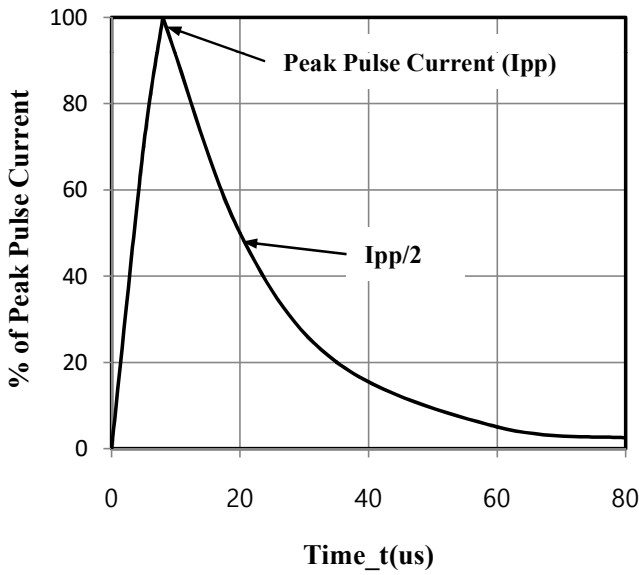
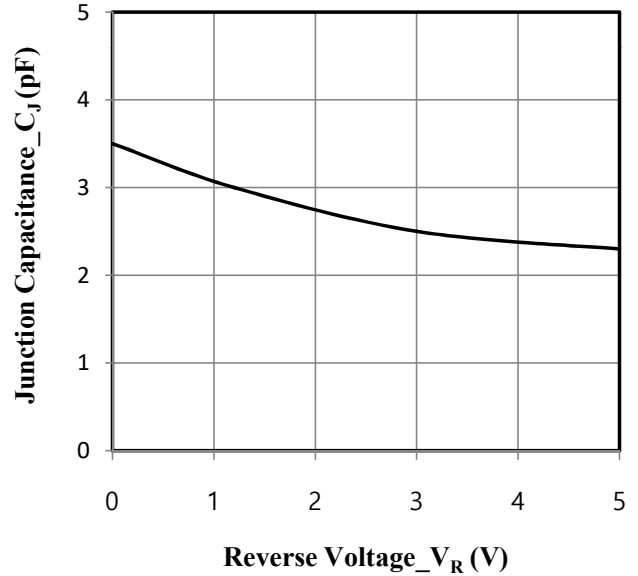


Fig.4 Junction Capacitance vs. Reverse Voltage



**Fig. 5 ESD Clamping Voltage
8kV Contact per IEC61000-4-2**

