



1-Line Ultra Low Capacitance Uni-directional TVS Diode

Features

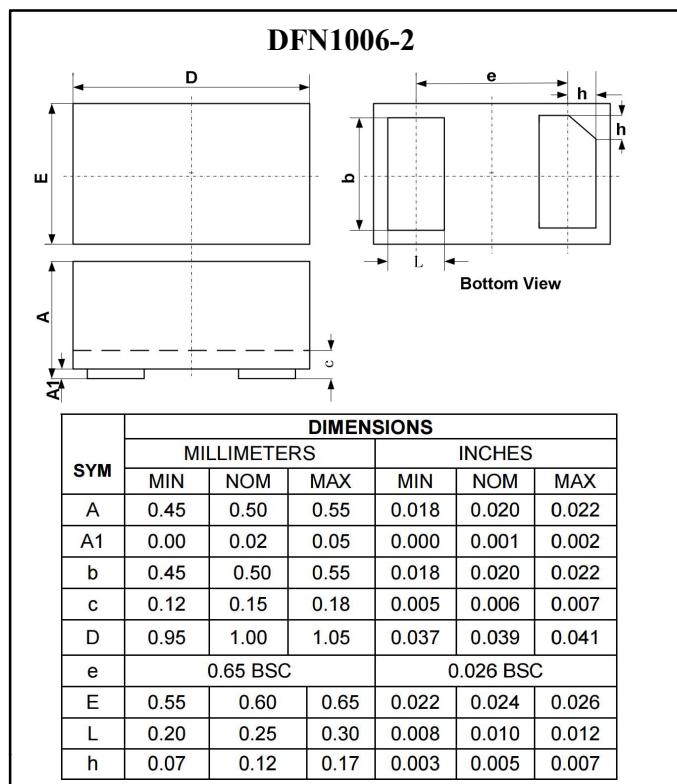
- Ultra small package : $1.0 \times 0.6 \times 0.5\text{mm}$
- Ultra low capacitance : 0.4pF typical
- Ultra low leakage : nA level
- Low operating voltage : 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : $\pm 25\text{kV}$, Contact discharge : $\pm 20\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 5A (8/20us)
- RoHS Compliant

Mechanical Data

- Package : DFN1006-2 ($1.0 \times 0.6 \times 0.5\text{mm}$)
- 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

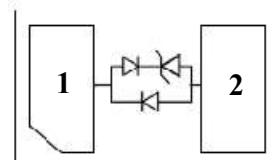
- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Peripherals
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports



Marking



5U=Device Marking Code
Bar denotes cathode



Circuit and Pin configuration

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

Parameter	Symbol	Value		Unit
Peak Pulse Power (8/20us)	Ppk	80		W
Peak Pulse Current (8/20us)	I _{PP}	5		A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25		kV
ESD per IEC 61000-4-2 (Contact)		± 20		
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	-	2	100	nA	V _{RWM} = 5V
Clamping Voltage	V _C	-	-	9	V	I _{PP} =1A
Clamping Voltage	V _C	-	-	16	V	I _{PP} =5A
Junction Capacitance	C _J	-	0.4	0.6	pF	f=1MHZ, V _R =0V



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

Fig.1 Power Derating Curve

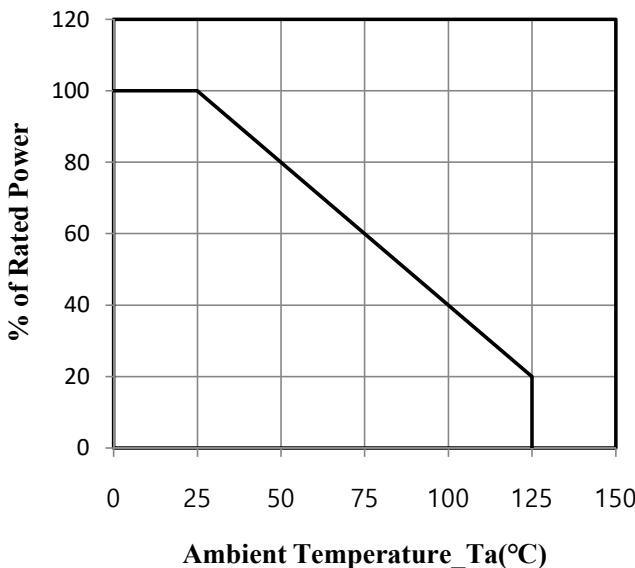


Fig.2 Peak Pulse Power vs. Pulse Time

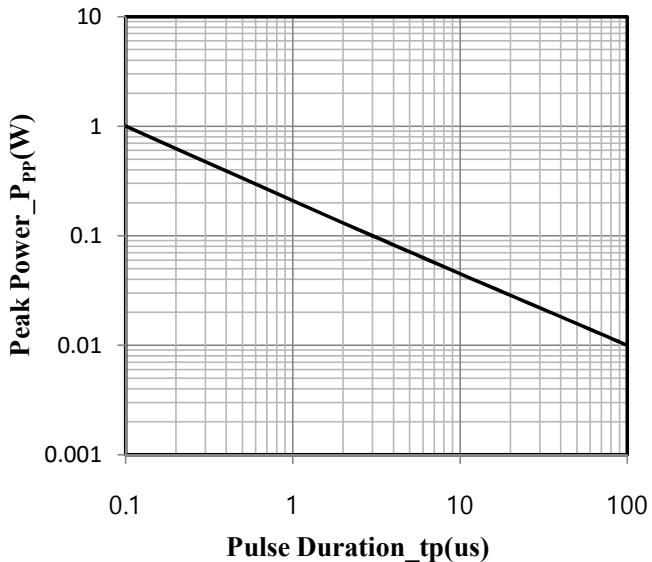


Fig.3 Clamping Voltage vs. Peak Pulse Current ($t_p=8/20\mu s$)

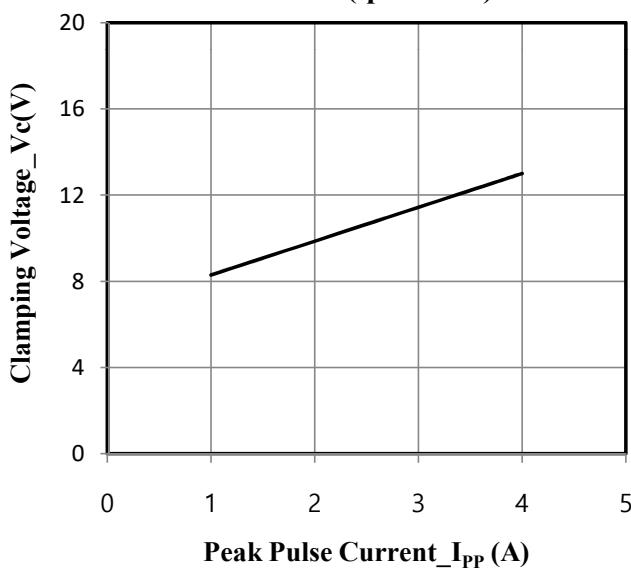


Fig.5 8 × 20μs Pulse Waveform

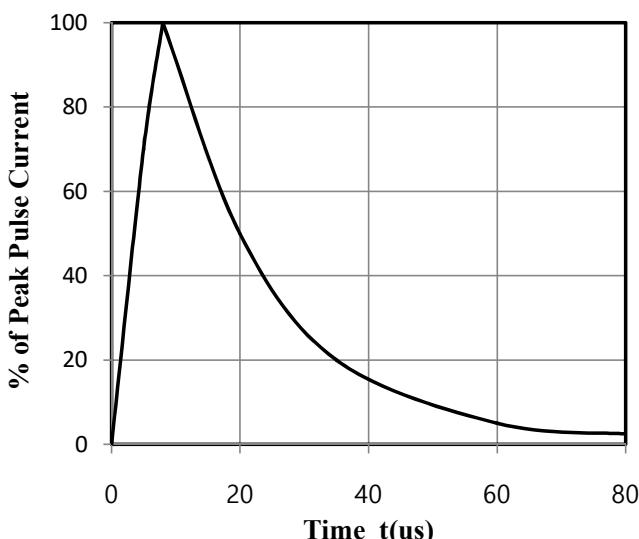


Fig.4 Junction Capacitance vs. Reverse Voltage

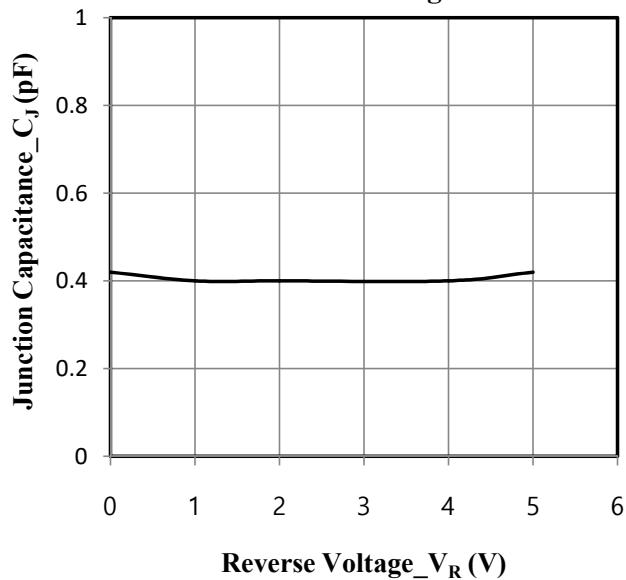


Fig. 6 ESD Clamping Voltage
8kV Contact per IEC61000-4-2

