



1-Line Ultra Low Capacitance Bi-directional TVS Diode

Features

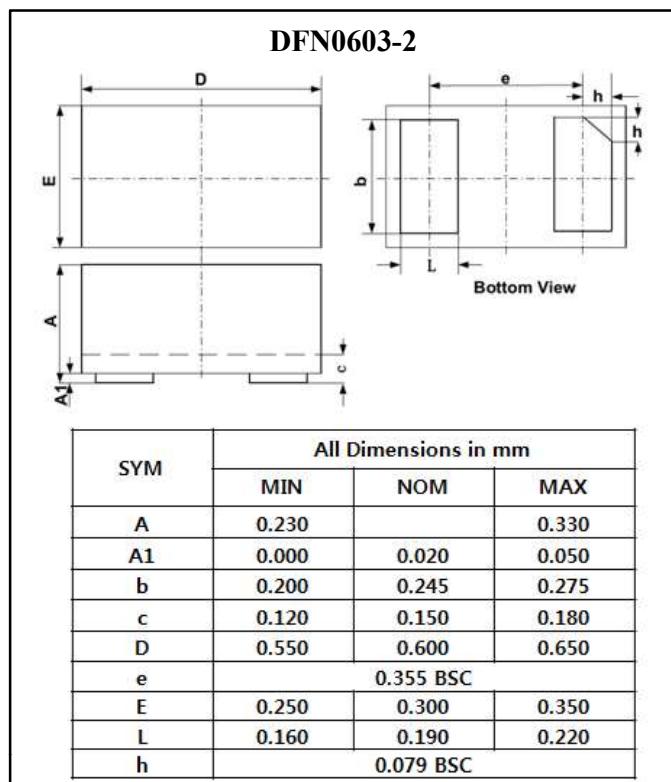
- Ultra small package : $0.6 \times 0.3 \times 0.3\text{mm}$
- Ultra low capacitance : 0.3pF typical
- Ultra low leakage : nA level
- Low operating voltage : 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : $\pm 25\text{kV}$, Contact discharge : $\pm 22\text{kV}$
 - IEC61000-4-5 (Lightning) 4A (8/20us)
- RoHS Compliant

Mechanical Data

- Package : DFN0603-2 ($0.6 \times 0.3 \times 0.3\text{mm}$)
- 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

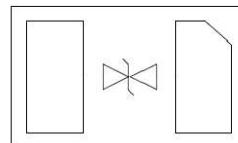
- Cellular Handsets and Accessories
- Display Ports
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI)
- PCI Express and Serial SATA Ports



Marking



ZZ=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)	Ppk	100	W
Peak Pulse Current (8/20us)	I _{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 22	
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}	6.5	-	9.5	V	I _T = 1mA
Reverse Leakage Current	I _R	-	0.02	0.2	uA	V _{RWM} = 5V
Clamping Voltage	V _C	-	-	12	V	I _{PP} =1A(8×20us pulse)
Clamping Voltage	V _C	-	-	25	V	I _{PP} =4A(8×20us pulse)
Junction Capacitance	C _J	-	0.30	0.50	pF	f=1MHz, V _R =0V



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

Fig.1 Power Derating Curve

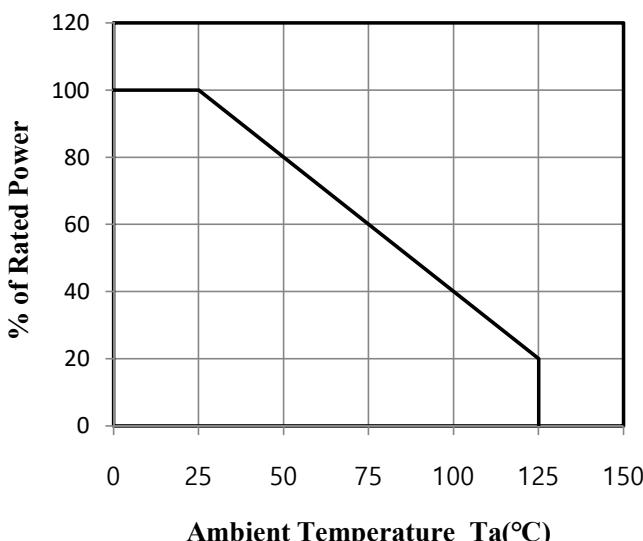


Fig.2 Peak Pulse Power vs. Pulse Time

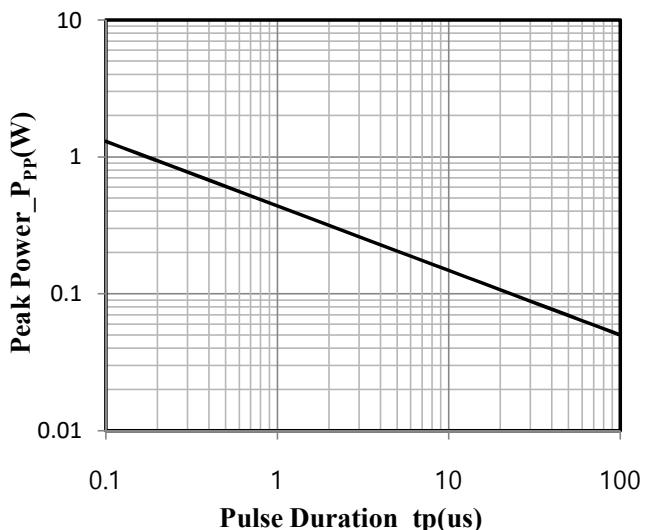


Fig.3 Clamping Voltage vs. Peak Pulse Current ($t_p=8/20\mu s$)

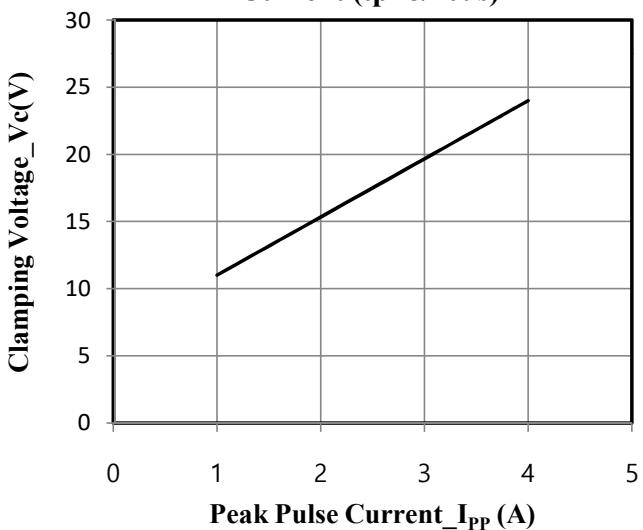


Fig.5 8 × 20μs Pulse Waveform

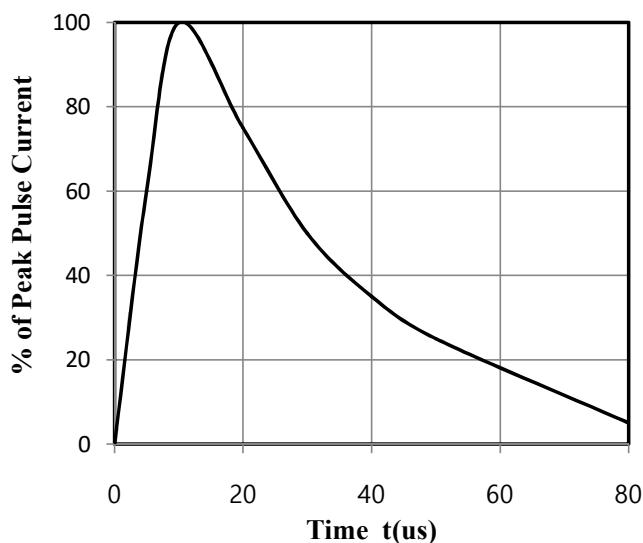


Fig.4 Junction Capacitance vs. Reverse Voltage

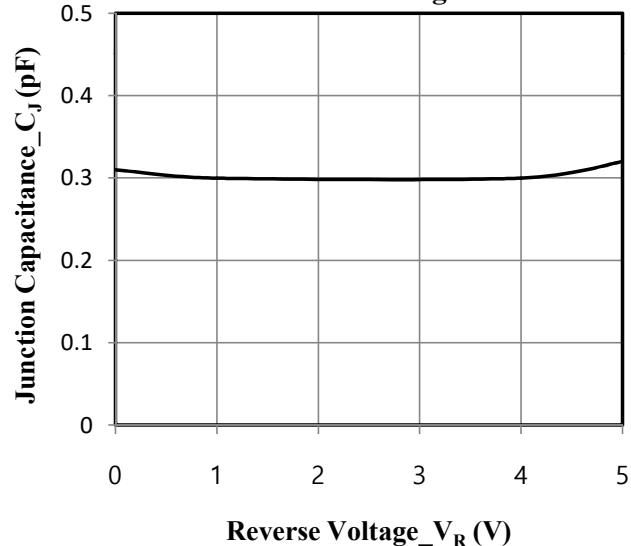


Fig. 6 ESD Clamping Voltage 8kV Contact per IEC61000-4-2

