

1-Line Bi-directional 3.3V ESD Protection Diode

Features

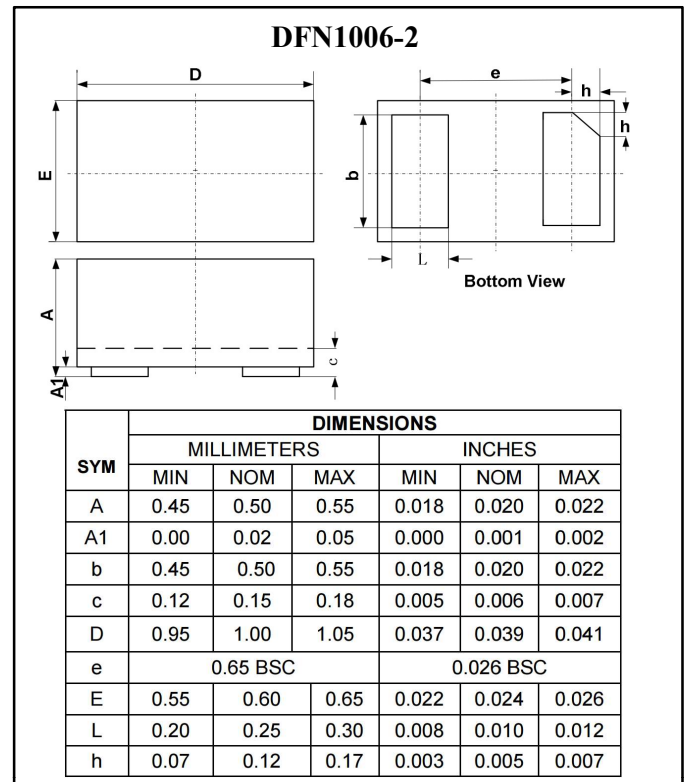
- Ultra small package : 1.0×0.6×0.5mm
- Low capacitance
- Protects one data line
- Ultra low leakage : nA level
- Operating voltage : 3.3V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards :
 - IEC 61000-4-2(ESD) immunity test
Air discharge : ±30kV, Contact discharge : ±30kV
 - IEC61000-4-5 (Lightning) 8A (8/20us)
- RoHS Compliant

Mechanical Data

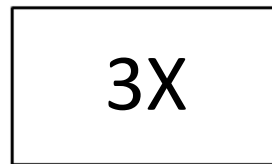
- Package : DFN1006-2 (1.0×0.6×0.5mm)
- Case Material : "Green" Molding Compound.
- Moisture Sensitivity : Level 3 per J-STD-020
- Terminal Connections : See Diagram Below
- Marking Information : See Below

Applications

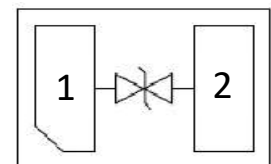
- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation
- Digital Cameras
- Peripherals
- Audio Players
- Keypads, Side Keys, LCD Displays



Marking



3X=Device Marking Code



Circuit and Pin Schematic

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}	8.0	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
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}	-	-	3.3	V	
Punch-Through Voltage	V _{PT}	3.8	-	-	V	I _T = 2uA
Snap-Back Voltage	V _{SB}	3.5	-	-	V	I _T = 50mA
Reverse Leakage Current	I _R	-	-	0.2	uA	V _{RWM} = 3.3V
Clamping Voltage	V _C	-	-	6.0	V	I _{PP} =1A(8/20us pulse)
		-	-	8.0	V	I _{PP} =5A(8/20us pulse)
		-	-	10	V	I _{PP} =8A(8/20us pulse)
Junction Capacitance	C _J	-	12.5	25	pF	f=1MHz, V _R =0V

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

Fig.1 Power Derating Curve

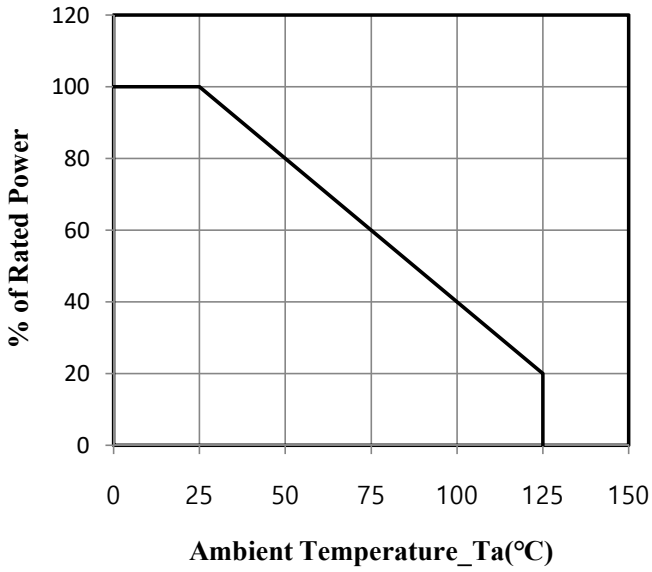


Fig.2 Peak Pulse Power vs. Pulse Time

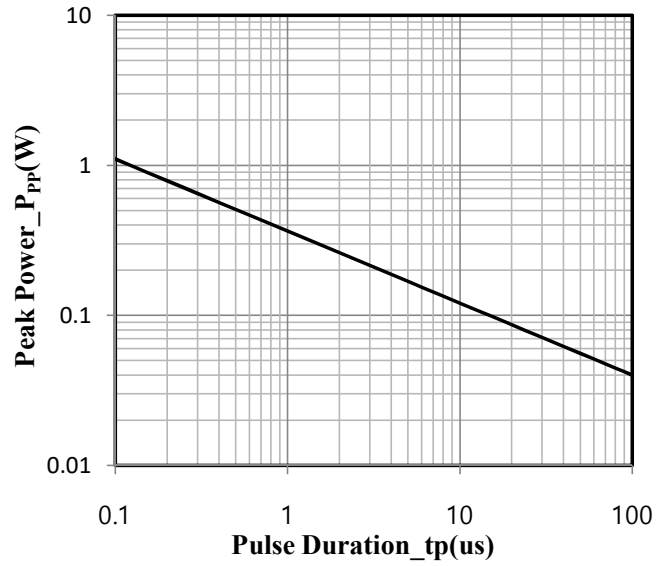


Fig.3 Clamping Voltage vs. Peak Pulse Current (tp=8/20us)

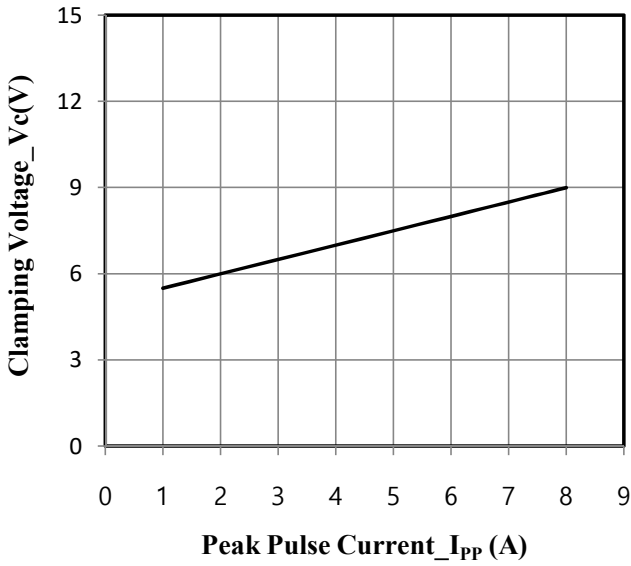


Fig.4 Junction Capacitance vs. Reverse Voltage

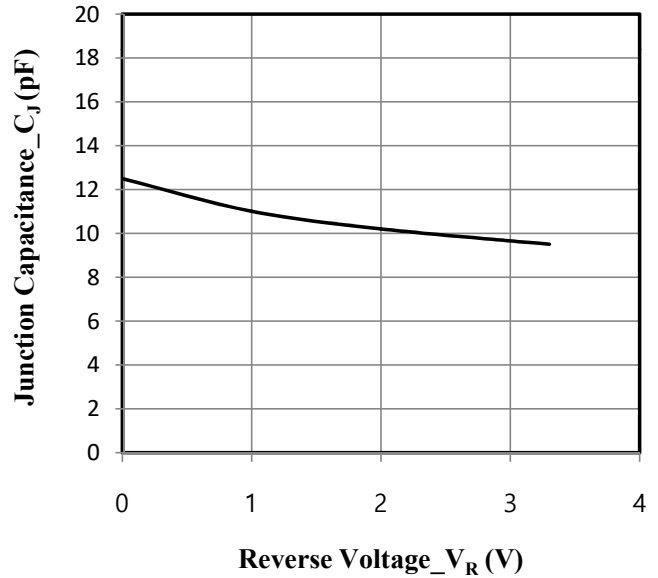
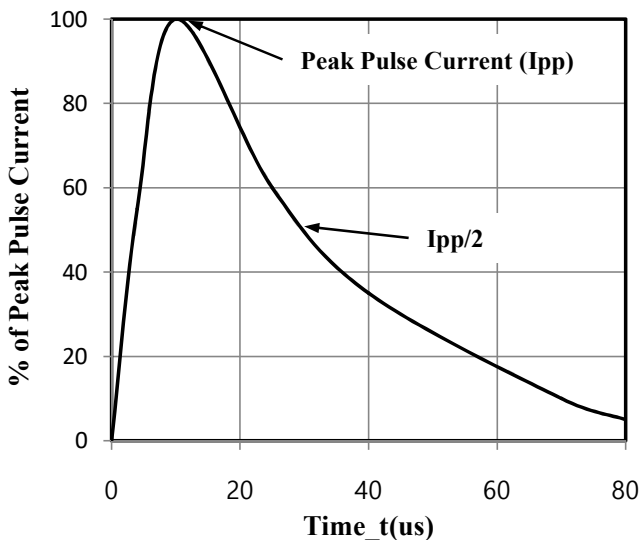
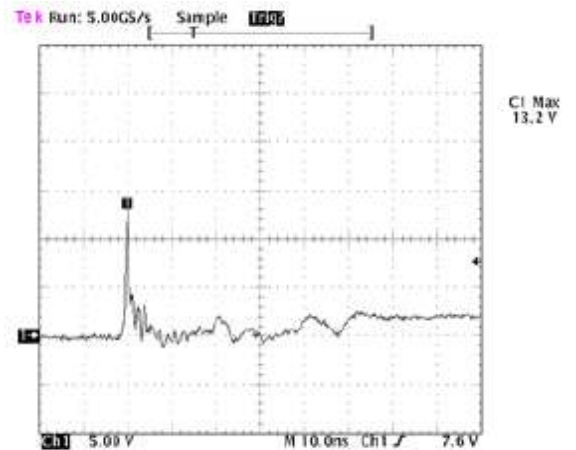


Fig.5 8 × 20us Pulse Waveform



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



Note: Data is taken with a 10x attenuator