

Features

- Low operating voltage: 5V
- Low clamping voltage
- Ultra low capacitance: 0.3 pF typical (I/O to I/O)
- Ultra low leakage: nA level
- Complies with following standards:
- - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 20\text{kV}$
Contact discharge: $\pm 20\text{kV}$
– IEC61000-4-5 (Lightning) 2A (8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

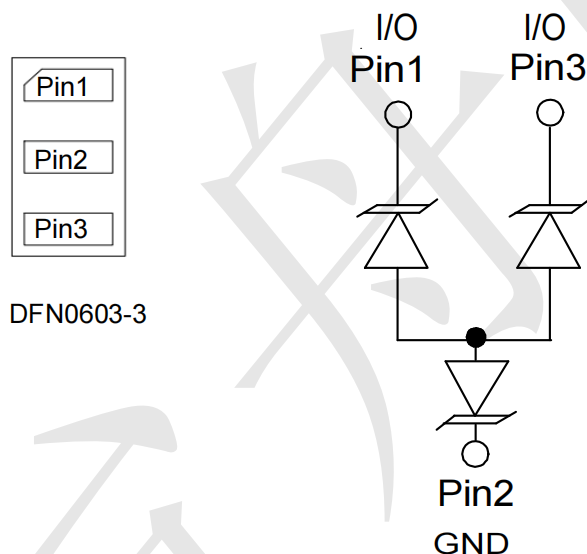
Mechanical Characteristics

- Package: DFN0603-3
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- Moisture Sensitivity: Level 3 per J-STD-020
- Terminal Connections: See Diagram Below
- Shipping Qty :15000pcs /7Inch Tape & Reel

Applications

- High Speed Data Line Protection
- USB 2.0, USB 3.0, USB 3.1

Dimensions and Pin Configuration



Marking: 7F

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	40	W
Peak Pulse Current (8/20μs)	Ipp	2	A
ESD per IEC 61000-4-2 (Air)	VESD	±20	kV
ESD per IEC 61000-4-2 (Contact)		±20	
Operating Temperature Range	TJ	-55 to +125	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	VRWM			5	V	
Breakdown Voltage	VBR	6	7.4	9.0	V	IT = 1mA
Reverse Leakage Current	IR			0.05	uA	VRWM = 5V
Clamping Voltage	VC		10	12	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC		12	18	V	Ipp=2A(8x 20us pulse)
Junction Capacitance	CJ		0.3		pF	VR = 0V, f = 1MHz Between I/O pins

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

Fig1. 8/20 μs Pulse Waveform

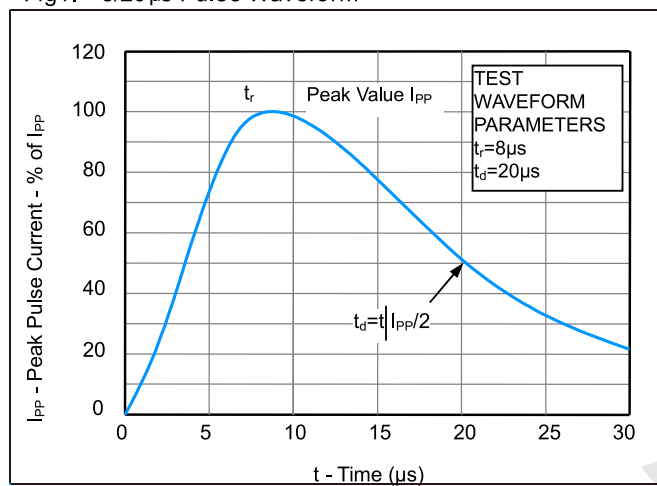


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

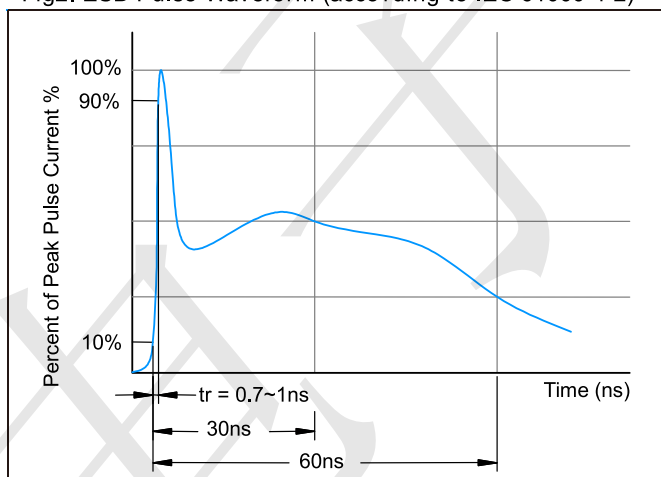
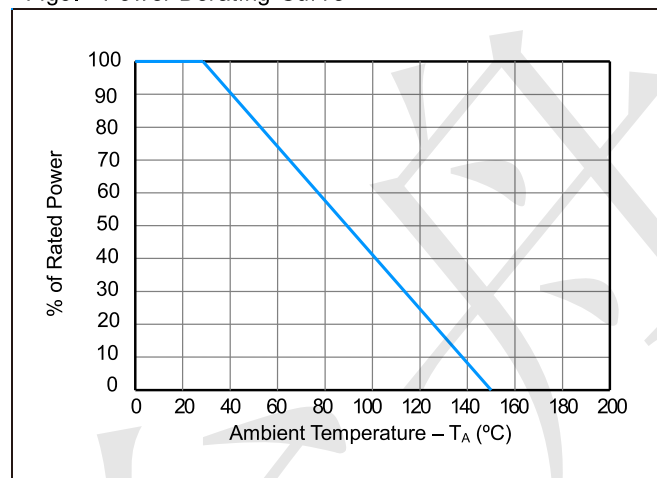
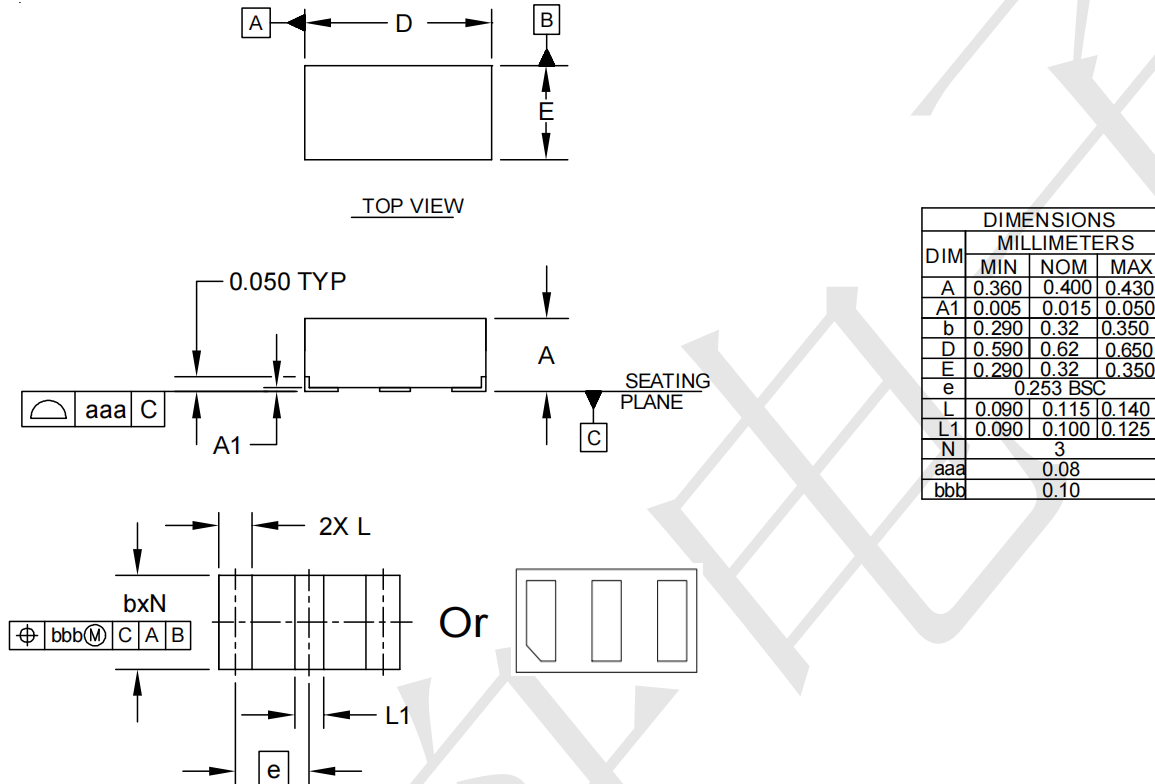


Fig3. Power Derating Curve



DFN0603-3 Package Outline Drawing



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