

Features

- Low operating voltage: 5V
- Low clamping voltage
- Ultra low capacitance: 0.2 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: $\pm 30\text{kV}$
Contact discharge: $\pm 30\text{kV}$
– IEC61000-4-5 (Lightning) 4.5A (8/20 μs)
- These are Pb-Free Devices
- Response Time is Typically < 1 ns

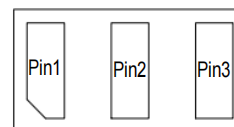
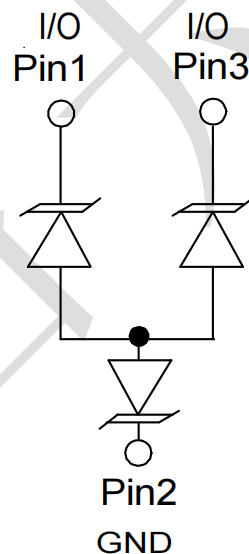
Mechanical Characteristics

- 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



DFN0603-3

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	50	W
Peak Pulse Current (8/20μs)	Ipp	6	A
ESD per IEC 61000-4-2 (Air)	VESD	±30	kV
ESD per IEC 61000-4-2 (Contact)		±30	
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			0.2	uA	VRWM = 5V
Clamping Voltage	VC		6	7.5	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC		8	10	V	Ipp=4.5A(8x 20us pulse)
Junction Capacitance	CJ		0.2		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

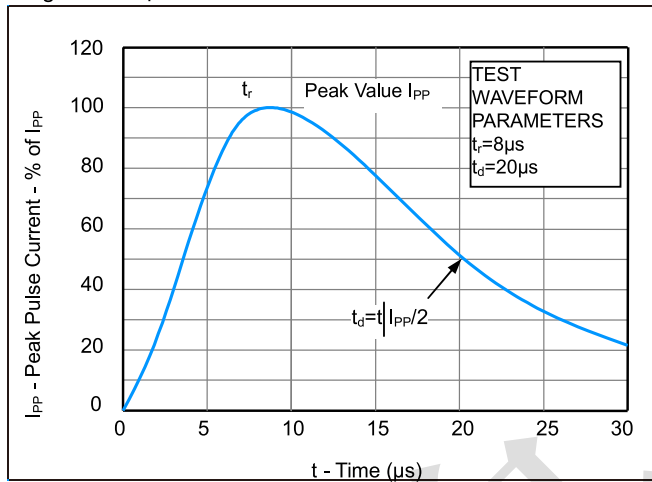


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

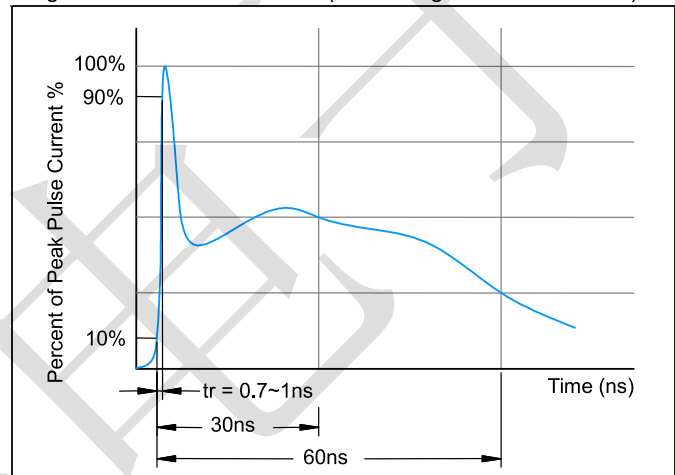
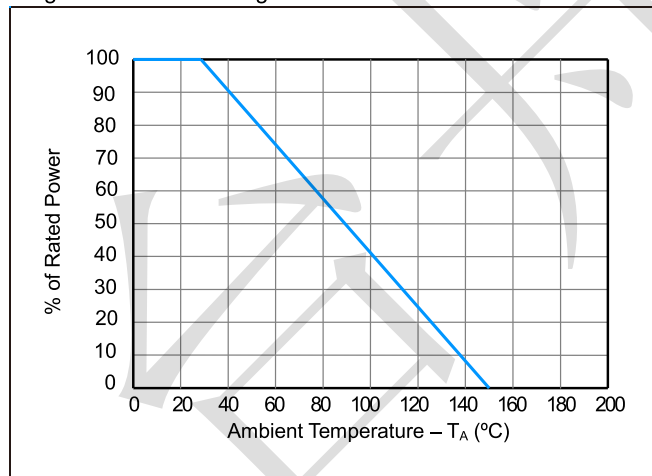
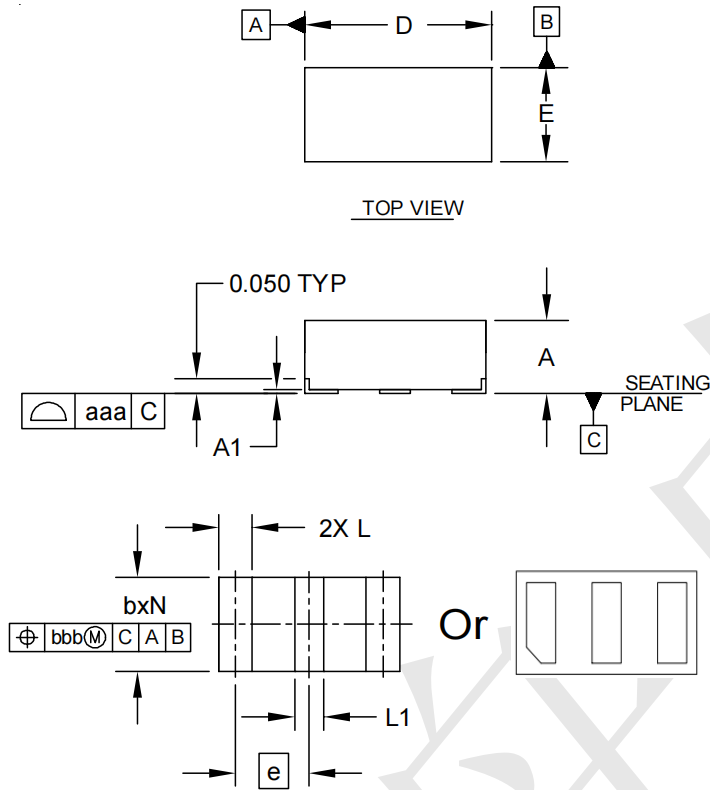


Fig3. Power Derating Curve

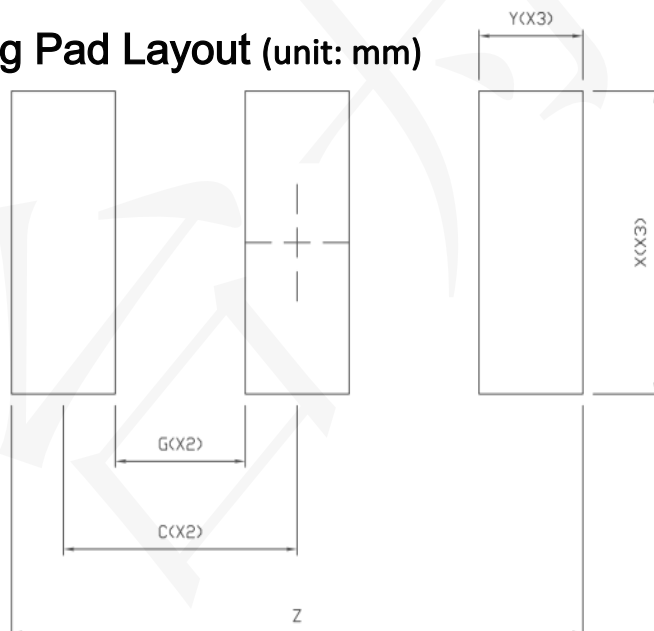


DFN0603-3 Package Outline Drawing



DIM	DIMENSIONS MILLIMETERS		
	MIN	NOM	MAX
A	0.360	0.400	0.430
A1	0.005	0.015	0.050
b	0.290	0.32	0.350
D	0.590	0.62	0.650
E	0.290	0.32	0.350
e	0.253 BSC		
L	0.090	0.115	0.140
L1	0.090	0.100	0.125
N	3		
aaa	0.08		
bbb	0.10		

Mounting Pad Layout (unit: mm)



DIMENSIONS	
DIM	MILLIMETERS
C	0.2250
G	0.1250
X	0.2600
Y	0.1000
Z	0.5500