

Features

- Line Capacitance: 0.3pF (IO to IO)
- Ultra low leakage: nA level
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 20\text{kV}$
Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- RoHS Compliant

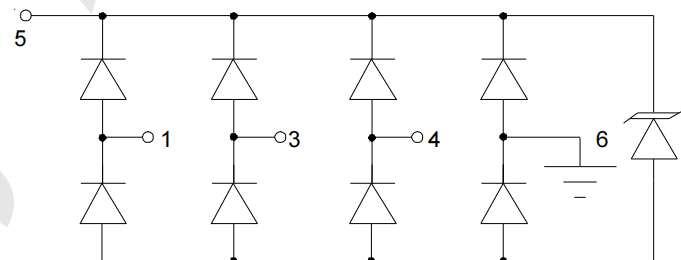
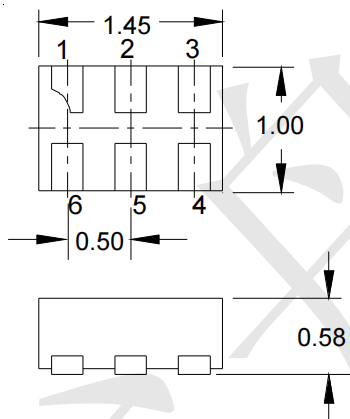
Mechanical Characteristics

- Package: DFN1510-6
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 3 per J-STD-020
- Shipping Qty :3000pcs/7Inch Tape & Reel

Applications

- USB OTG
- MMC Port
- Serial ATA
- Video Port
- SIM Port

Dimensions and Pin Configuration



Marking: 0503N

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

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppk	100	W
Peak Pulse Current (8/20μs)	I _{PP}	4	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 25	kV
ESD per IEC 61000-4-2 (Contact)		± 20	
Operating 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)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			5	V	Any I/O pin to ground
Breakdown Voltage	V _{BR}	7	8	9.5	V	I _T = 1mA, any I/O pin to ground
Reverse Leakage Current	I _R			0.1	μA	V _{RWM} = 5V, any I/O pin to ground
Clamping Voltage	V _C			9	V	I _{PP} = 1A (8 x 20μs pulse), any I/O pin to ground
Clamping Voltage	V _C			16	V	I _{PP} = 4A (8 x 20μs pulse), any I/O pin to ground
Junction Capacitance	C _J		0.3	0.4	pF	V _R = 0V, f = 1MHz, between I/O pins
Junction Capacitance	C _J			0.8	pF	V _R = 0V, f = 1MHz, any I/O pin to ground

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

Fig1. 8/20 μs Pulse Waveform

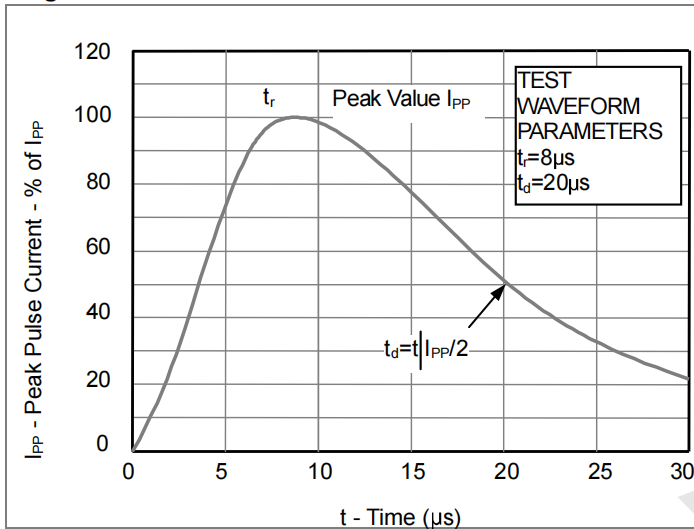


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

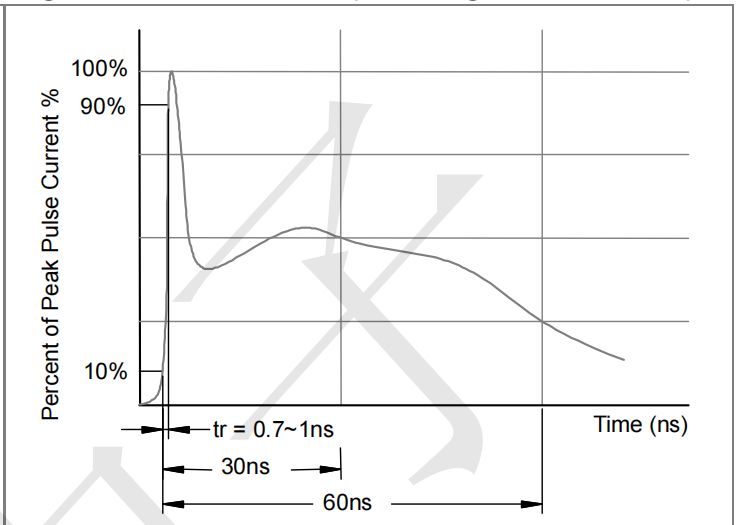
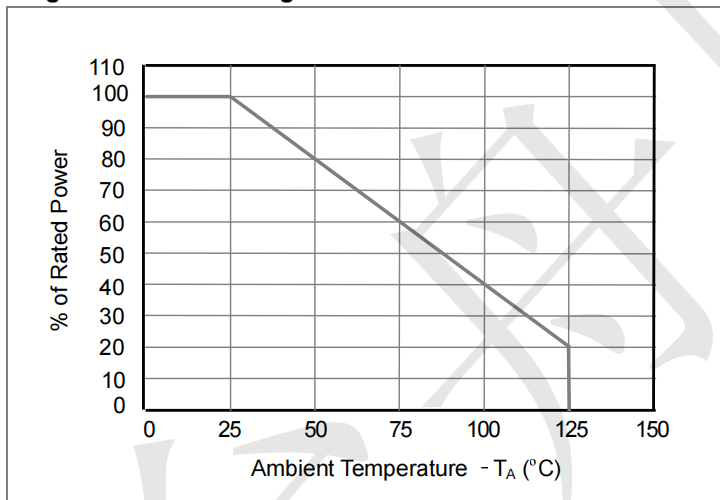


Fig3. Power Derating Curve





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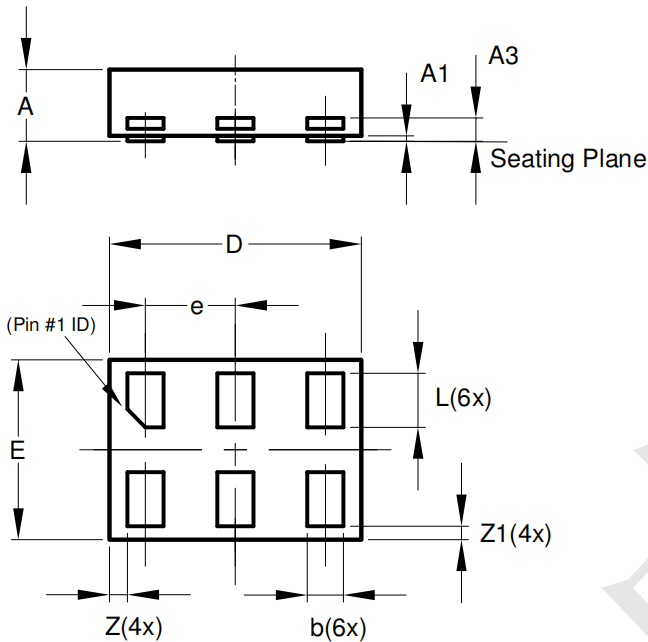
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TPRCLAMP0503N

Low Capacitance TVS Diode

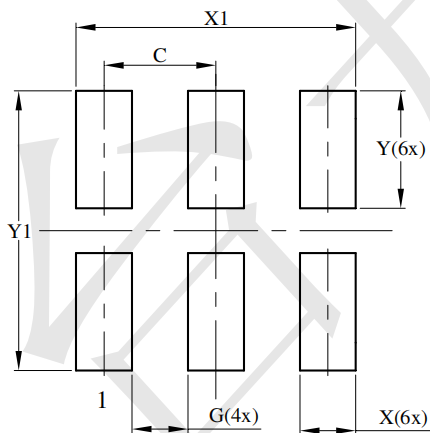
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DFN1510-6(1.45x1) Package Outline Drawing



X2-DFN1410-6			
Dim	Min	Max	Typ
A	—	0.40	0.39
A1	0.00	0.05	0.02
A3	—	—	0.13
b	0.15	0.25	0.20
D	1.35	1.45	1.40
E	0.95	1.05	1.00
e	—	—	0.50
L	0.25	0.35	0.30
Z	—	—	0.10
Z1	0.045	0.105	0.075
All Dimensions in mm			

Suggested Land Pattern



Dimensions	Value (in mm)
C	0.500
G	0.250
X	0.250
X1	1.250
Y	0.525
Y1	1.250

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