

Features

- Line Capacitance: 0.7pF(Max)
- Ultra low leakage: nA level
- Supports Data Rates in Excess of 480 Mbps
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
Air discharge: $\pm 15\text{kV}$
Contact discharge: $\pm 15\text{kV}$
 - IEC61000-4-4 (EFT) 40A (5/50ns)
 - IEC61000-4-5 (Lightning) 4A (8/20 μs)
- RoHS Compliant

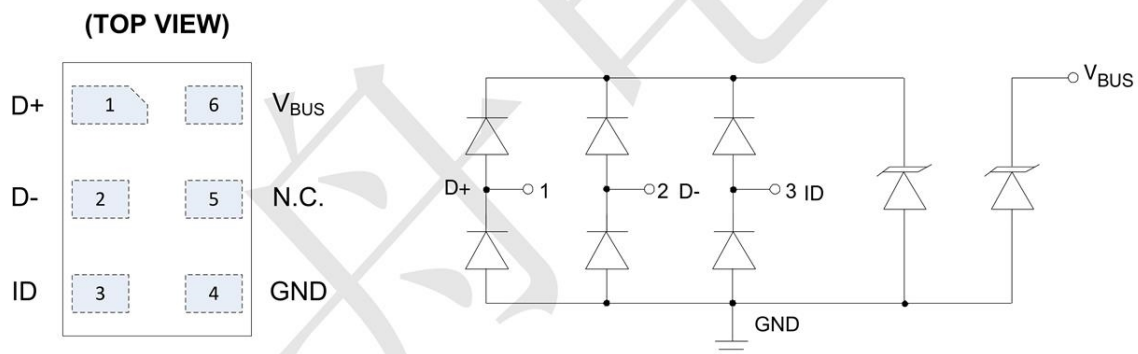
Mechanical Characteristics

- 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 :5000pcs/7Inch Tape & Reel

Applications

- Cellular Phones
- Digital Cameras
- Global Positioning Systems (GPS)
- Portable Digital Assistants (PDA)
- Portable Computers

Dimensions and Pin Configuration



Marking: 3B

NAME	TYPE	DESCRIPTION
D+	ESD clamp	Provides ESD protection to the high-speed differential data lines
D-	ESD clamp	Provides ESD protection to the high-speed differential data lines
ID	ESD clamp	Provides ESD protection to the high-speed differential data lines
GND	PWR	Ground
N.C.	-	Not internally connected
VBUS	ESD clamp	ESD clamp for high-voltage tolerant VBUS line(s)

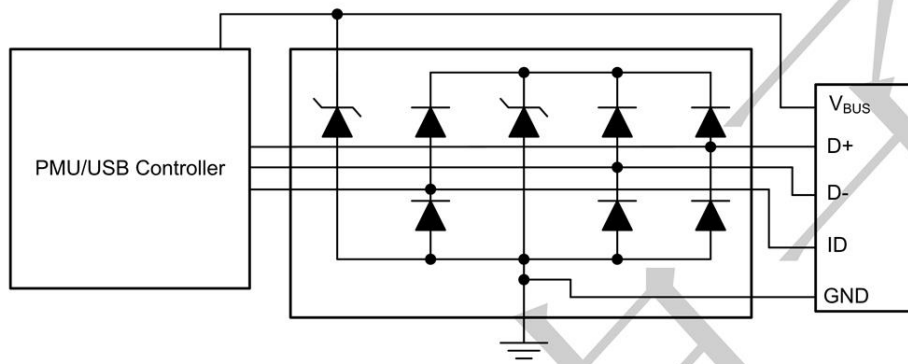
Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise specified)

All Pins			
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20Us) All Pins	Ppk	80	W
Peak Pulse Current (8/20 μ s) All Pins	I _{PP}	3	A
ESD per IEC 61000-4-2 (Air)	VESD	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 15	
Operating Temperature Range	T _J	-55 to +125	$^\circ\text{C}$
Storage Temperature Range	T _{stg}	-55 to +150	$^\circ\text{C}$

Electrical Characteristics ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Working Voltage	V _{RWM}			15	V	Any VBUS pin(s)
Breakdown Voltage	V _{BR}	20	24		V	I _T = 1mA, any I/O pin to ground
Reverse Working Voltage	V _{RWM}			5.5	V	Any D+,D-,ID (Pins)
Breakdown Voltage	V _{BR}	6	9		V	I _T = 1mA, any I/O pin to ground
Reverse Leakage Current	I _R			0.1	μA	D+,D-,ID (Pins)V _{RWM} =5.5V and VBUS pin(s)=19V
Clamping Voltage	V _C			10	V	I _{PP} = 1A (8 x 20 μ s pulse), any I/O pin to ground
Forward voltage	V _F			1.2	V	I _T =10mA
Junction Capacitance	C _J		11	15	pF	V _R = 0V, f = 1MHz, VBUS pin(s)
Junction Capacitance	C _J		0.35		pF	V _R = 0V, f = 1MHz, D+,D-,ID (Pins)

Typical Application Schematic



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

Fig1. 8/20 μs Pulse Waveform

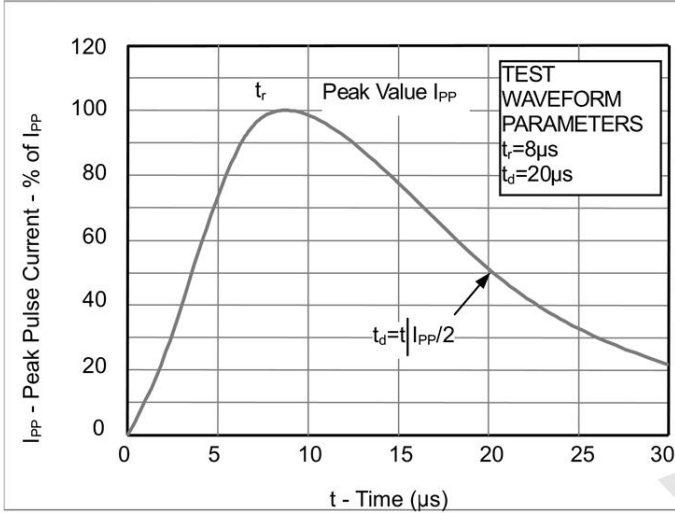


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

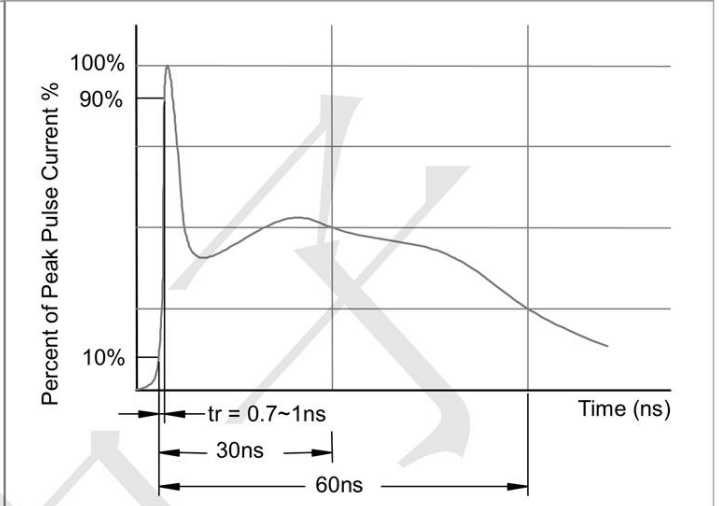
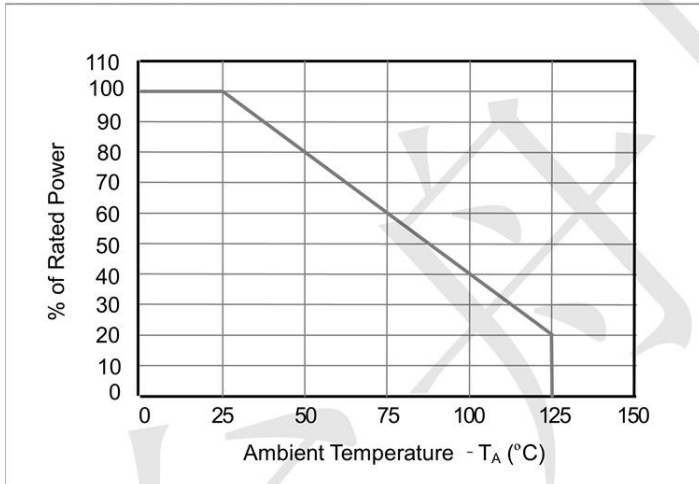
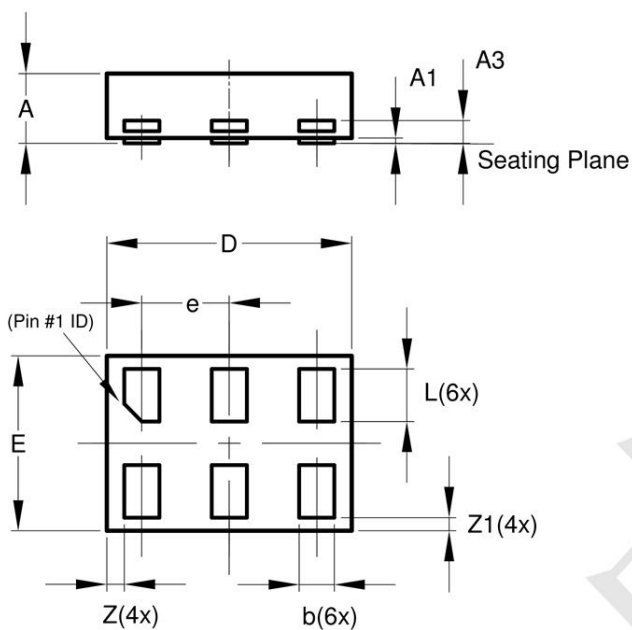


Fig3. Power Derating Curve

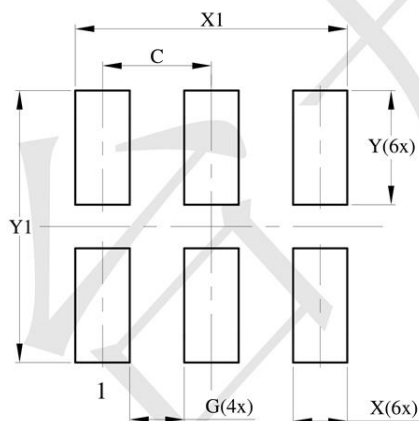


SON-6(1.45x1) Package Outline Drawing



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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