TPESD4USB3U-TBSX

4-Lines Uni-directional Channels ESD protection

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Features

- 4 Uni-directional Channels ESD protection
- Typically Used at High Speed Ports
- Low operating voltage: 3.3V
- Low Channel Input Capacitance of 0.4pF Typical for I/Os (Typ)
- –IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±30kV
  Contact discharge: ±30kV

–IEC61000-4-4 (EFT) 40A (5/50ns)

- Totally Lead-Free & Fully RoHS Compliant
- Halogen and Antimony Free. “Green” Device

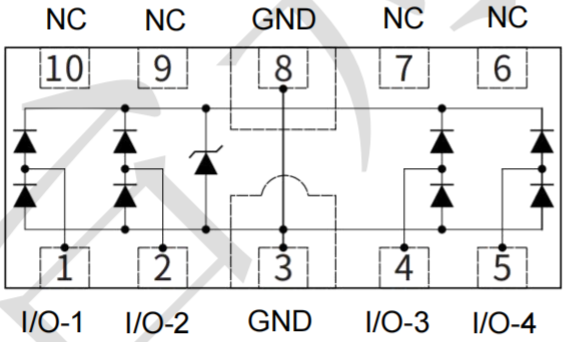
Mechanical Characteristics

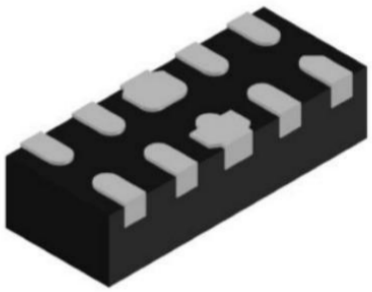
- Package: DFN2510-10
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- USB 3.1 & 3.2 and MDDI ports
- PCI express and Serial SATA
- Ports Notebook Computers
- Tablets

Dimensions and Pin Configuration





DFN2510-10

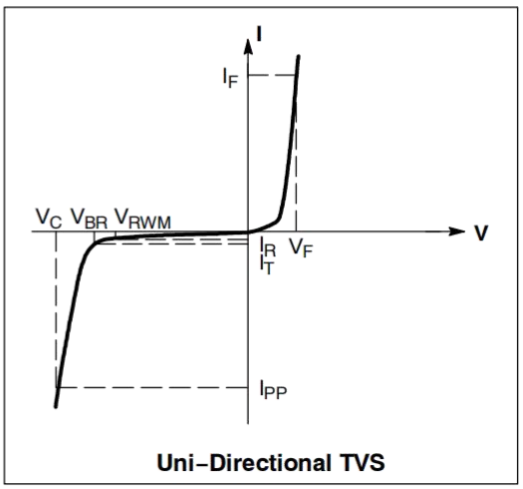
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	80	W
IEC 61000−4−2 Spec Current at 60 ns (A)	Ipp	8	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±30 ±30	KV
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	--	--	3.3	V	
Breakdown Voltage	VBR	6	--	9.5	V	IT= 1mA
Reverse Leakage Current	IR	--	--	1	uA	VRWM=3.3V
Clamping Voltage	VC	--	5.5	7	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC	--	8.5	10.5	V	Ipp=8A(8x 20us pulse)
Junction Capacitance	CJ	--	0.4	0.65	pF	VR = 0V, f = 1MHz, Any I/O pin to GND
Junction Capacitance	CJ	--	0.2	--	pF	VR = 0V, f = 1MHz, Between any I/O pin

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_F	Forward Current
V_F	Forward Voltage @ I_F
P_{pk}	Peak Power Dissipation
C	Capacitance @ V_R = 0 and f = 1.0 MHz



Uni−Directional TVS

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

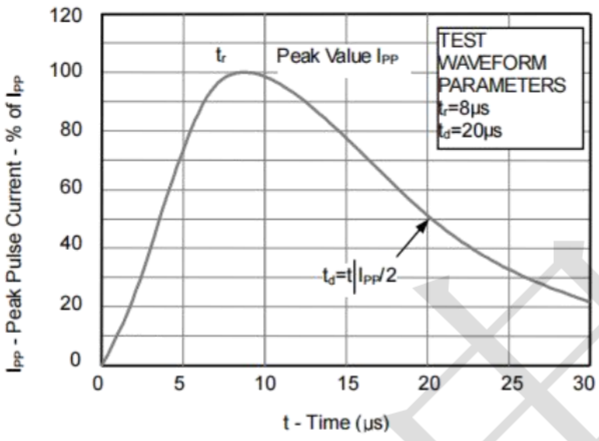


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

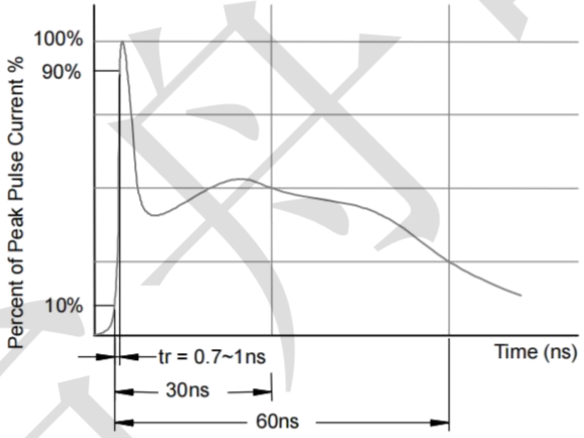
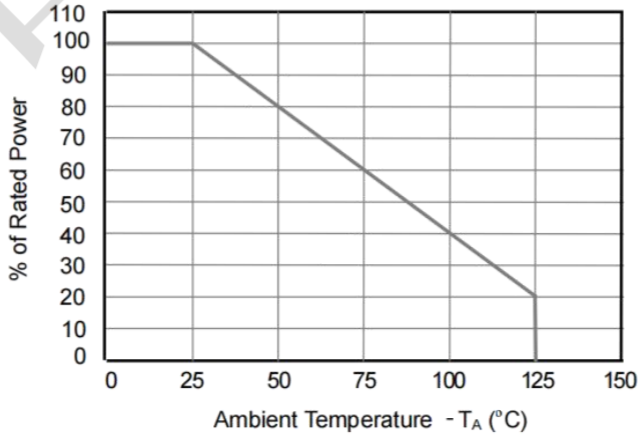
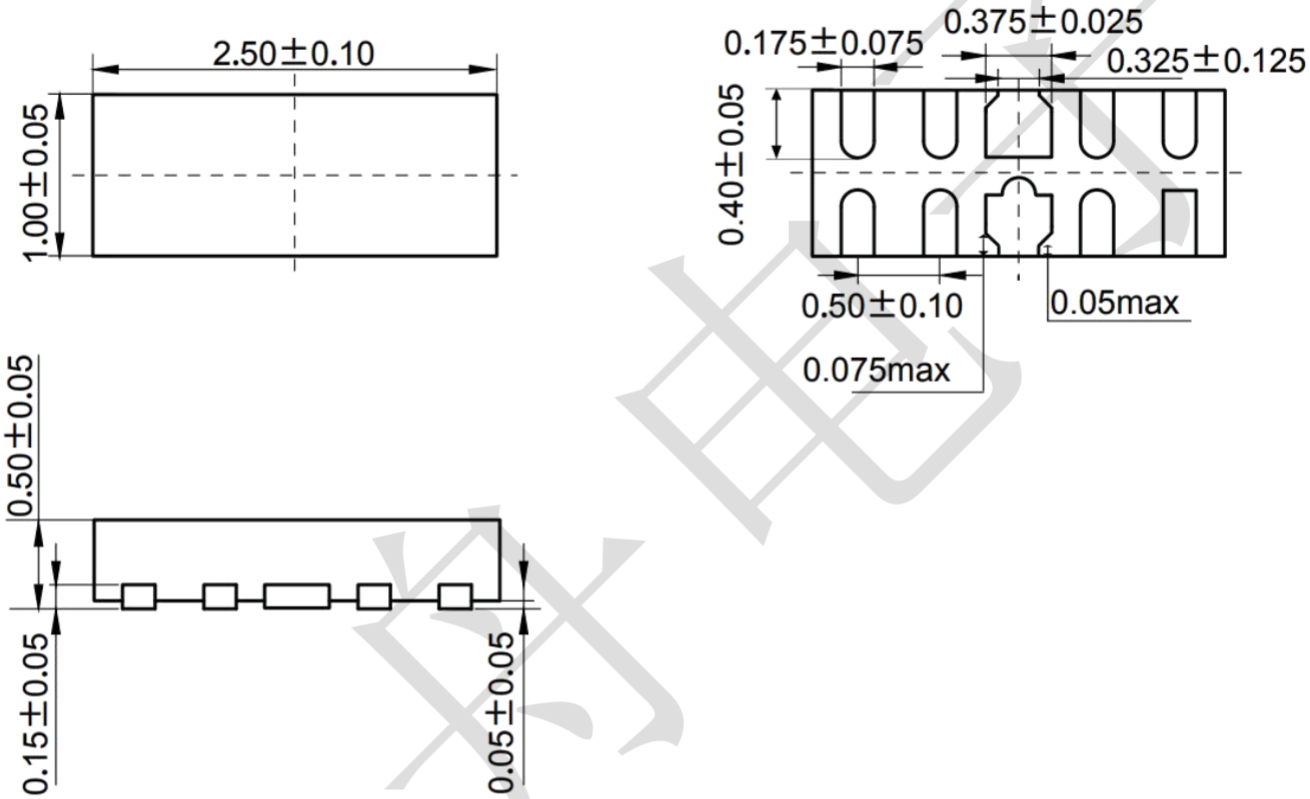


Fig3. Power Derating Curve

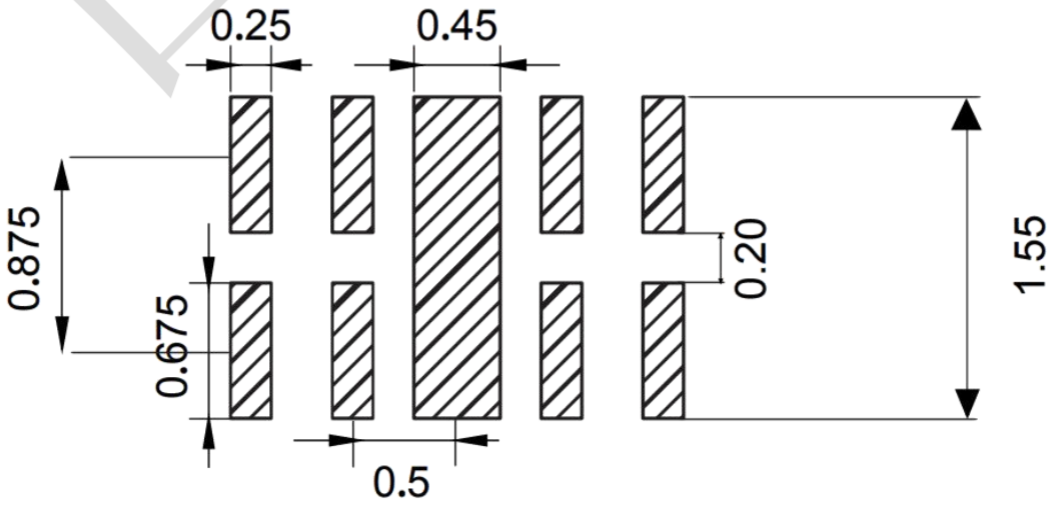


Package Outline Dimensions (unit: mm)

DFN2510-10



Mounting Pad Layout (unit: mm)



Unikeyic Electronics

Global Electronic Components Distributor

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TECH PUBLIC:

BSN20W DMP6350S IRFR2405TRPBF-TP QM3003J-TP TPGC12C-1 TPADM809SAKSZ TPDMG6602SVT TPESD5311N TPSPX3819M5-L-3-3 TPWSB5557Z BV15C ESD5B5.0ST1G-P TPADM809LAKSZ TPAPX809S-31SA TPB05A40-323 FDC6301N-TP TPS3809L30DBVR-TP LTH7 SI3932DV SN7002W TPZVN3320FTA DDTA143ZCA TPD1213A-02SM TPESD0402G08V TPESD0504S6-A TPS7B6950DBVR-TP TPZXMP3A13FTA FDMS7670AS-TP TPB1A30-123 TPFMMT493