TPSP1064-04UTG

4-Lines Bi-directional Channels ESD protection

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Features

- 4 Bi-directional Channels ESD protection
- Typically Used at High Speed Ports
- Low operating voltage: 60V
- Low Channel Input Capacitance of 15pF Typical for I/Os (Typ)
- –IEC 61000-4-2 (ESD) immunity test
  Air discharge: ±8kV
  Contact discharge: ±8kV

–IEC61000-4-4 (EFT) 40A (5/50ns)

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

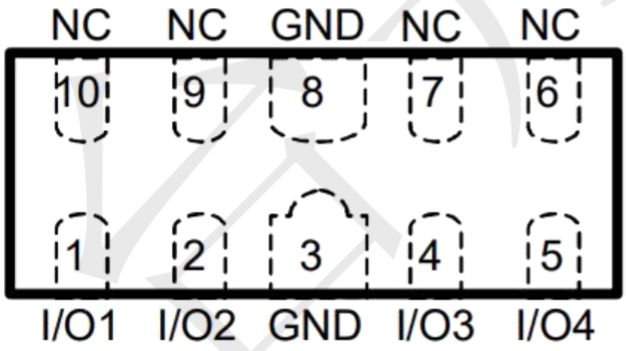
Mechanical Characteristics

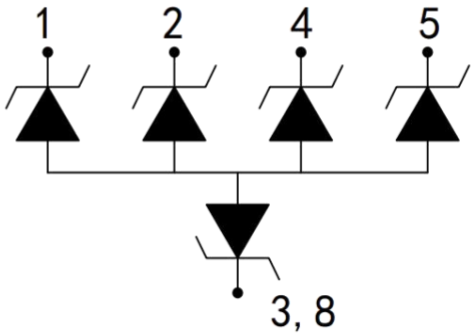
- Package: DFN2510-10L
- Lead Finish: Matte Tin
- Case Material: “Green” Molding Compound
- Terminal Connections: See Diagram Below
- -IEC 61000-4-2 (ESD) immunity test

Applications

- Set-top boxes
- LCD televisions
- VBus protections
- Typically used at chip-on-glass (COG) panels

Dimensions and Pin Configuration





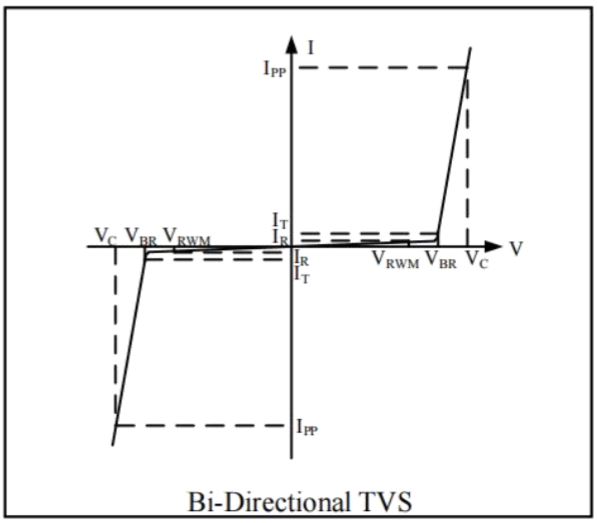
Absolute Maximum Ratings(Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20μs)	Ppp	200	W
IEC 61000−4−2 Spec Current at 60 ns (A)	Ipp	2	A
ESD per IEC 61000−4−2 (Air) ESD per IEC 61000−4−2 (Contact)	VESD	±8 ±8	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	--	--	60	V	
Breakdown Voltage	VBR	65	--	85	V	IT= 1mA
Reverse Leakage Current	IR	--	--	100	nA	VRWM=60V
Clamping Voltage	VC	--	90	--	V	Ipp=1A(8x 20us pulse)
Clamping Voltage	VC	--	--	100	V	Ipp=2A(8x 20us pulse)
Junction Capacitance	CJ	--	--	15	pF	VR = 0V, f = 1MHz, Any I/O pin to GND
Junction Capacitance	CJ	--	8	--	pF	VR = 0V, f = 1MHz, Between any I/O pin

Symbol	Parameter
V_{RWM}	Nominal Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Reverse Breakdown Voltage @ I_T
I_T	Test Current for Reverse Breakdown
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Maximum Peak Pulse Current
C_{ESD}	Parasitic Capacitance
V_R	Reverse Voltage
f	Small Signal Frequency



Bi-Directional TVS

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

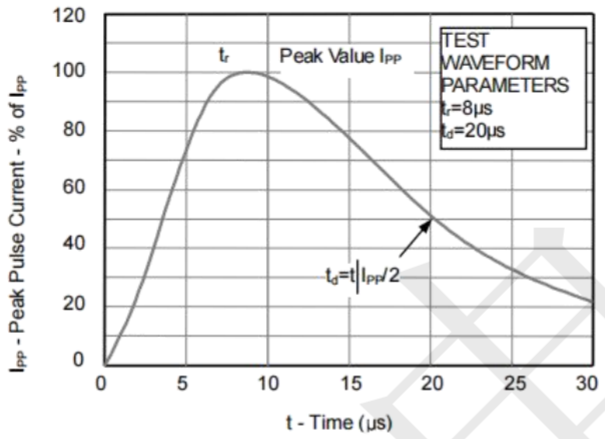


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

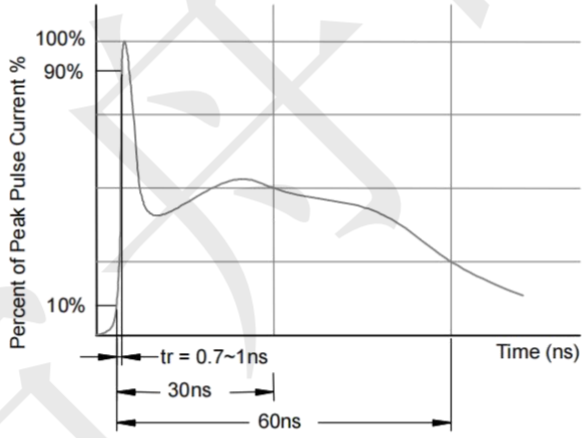
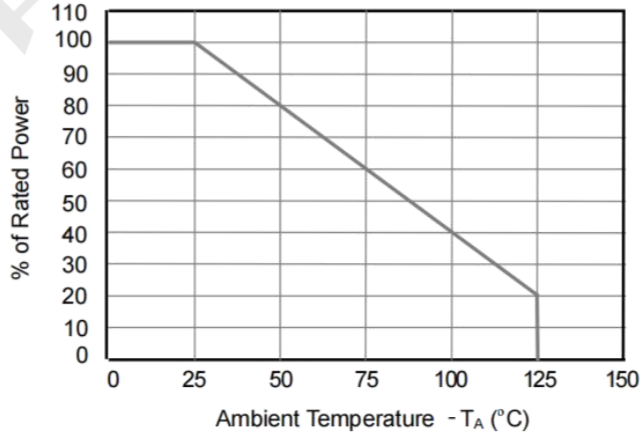
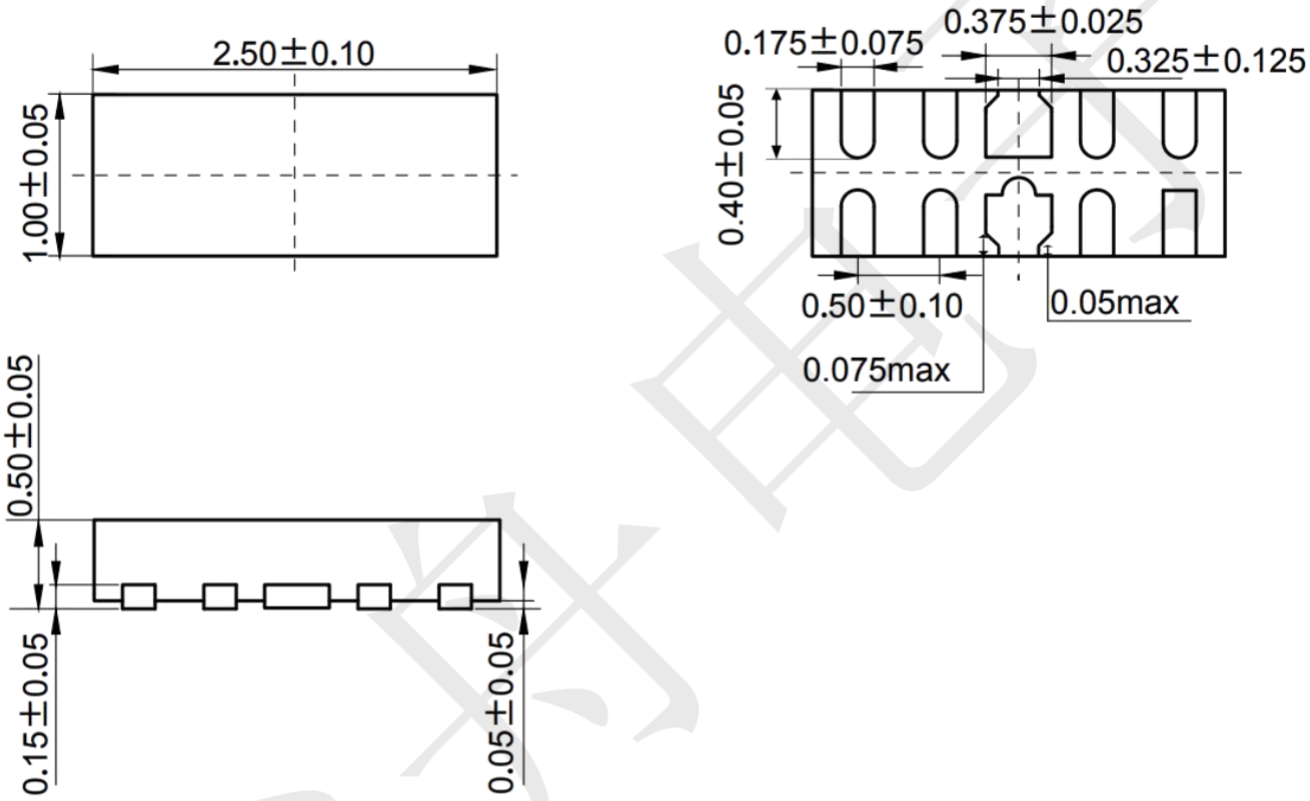
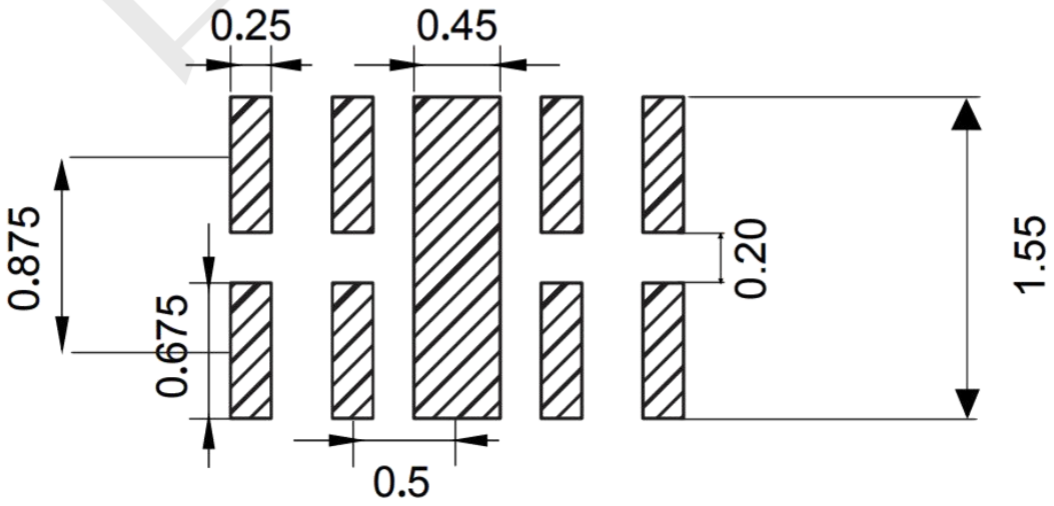


Fig3. Power Derating Curve



Package Outline Dimensions (unit: mm)

DFN2510-10L



Mounting Pad Layout (unit: mm)