



# PJE5V0U8TB

## Ultra Low Capacitance ESD Protection

**V<sub>RWM</sub>**

**5 V**

### Features

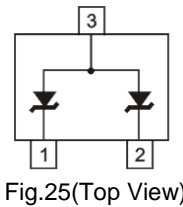
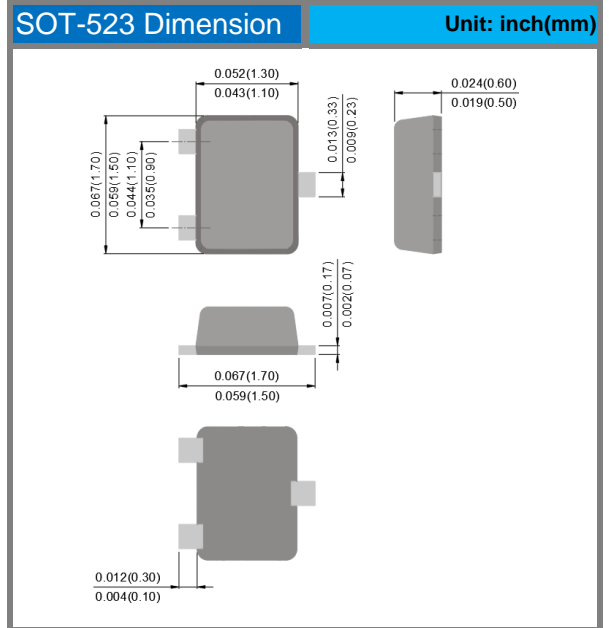
- IEC61000-4-2(ESD): ±18kV Air, ±12kV Contact Compliance
- IEC61000-4-4(EFT): 40A(5/50nS)
- IEC61000-4-5(Lightning): 4A(8/20μS)
- Low leakage current, maximum 1μA at rated voltage
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 Standard

### Mechanical Data

- Case : SOT-523, Plastic
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.002 grams

### Applications

- USB3.0 Data Line Protection
- High Definition Multi-Media Interface Protection
- Monitors and Flat Panel Displays Notebook computers
- Video Line Protection & Base Stations
- 10/100/1000 Ethernet
- HDSL, IDSL Secondary IC Side Protection
- Control Signal Lines Protection



### Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
ESD IEC61000-4-2(Air)	V <sub>ESD</sub>	±18	kV
ESD IEC61000-4-2(Contact)		±12	
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C



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## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Reverse Stand-Off Voltage	V <sub>RWM</sub>	-	-	-	5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>BR</sub> =1mA, Between any I/O pins to GND	5.8	-	10.2	V
Reverse leakage current	I <sub>R</sub>	V <sub>R</sub> =5V, any I/O pin to GND	-	-	1	μA
Clamping Voltage	V <sub>CL</sub>	I <sub>PP</sub> =1A, t <sub>P</sub> =8/20μs, any I/O pin to GND	-	9	12	V
		I <sub>PP</sub> =4A, t <sub>P</sub> =8/20μs, any I/O pin to GND	-	-	15	
Clamping Voltage TLP <sup>(Note 1)</sup>	V <sub>CL</sub>	I <sub>PP</sub> =4A, t <sub>P</sub> =100ns, any I/O pin to GND	-	9.6	-	V
		I <sub>PP</sub> =8A, t <sub>P</sub> =100ns, any I/O pin to GND	-	10.6	-	
Dynamic Resistance <sup>(Note 1)</sup>	R <sub>DYN</sub>	t <sub>P</sub> =100ns	-	0.25	-	Ω
Off State Junction Capacitance	C <sub>J</sub>	0Vdc Bias f=1MHz, Between any I/O pins to GND	-	0.6	0.8	pF

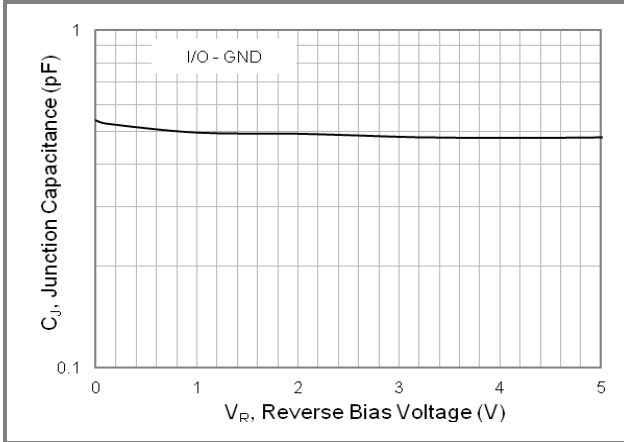
**NOTES :**

1. Testing using Transmission Line Pulse (TLP) conditions: Z<sub>0</sub> = 50Ω, t<sub>P</sub> = 100 ns.

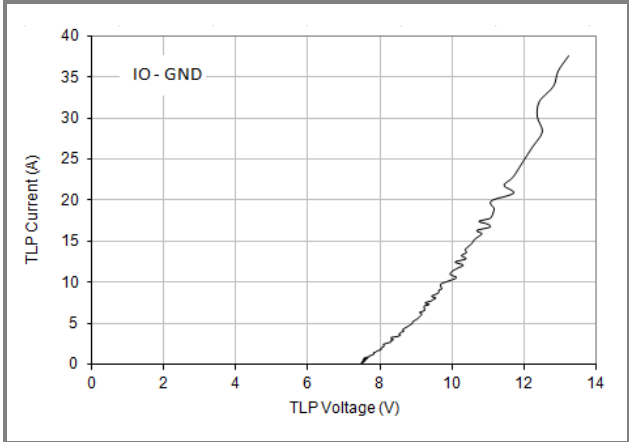


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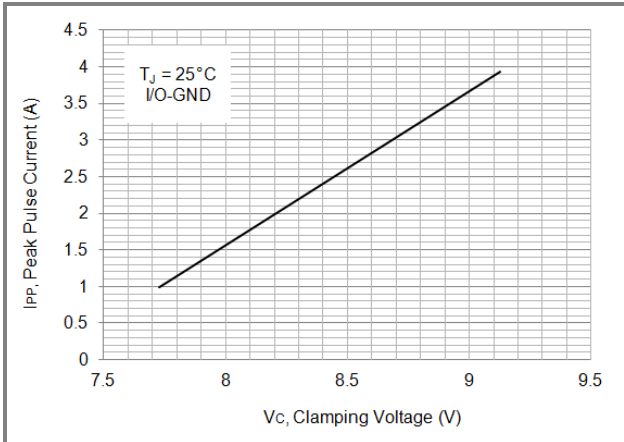
## TYPICAL CHARACTERISTIC CURVES



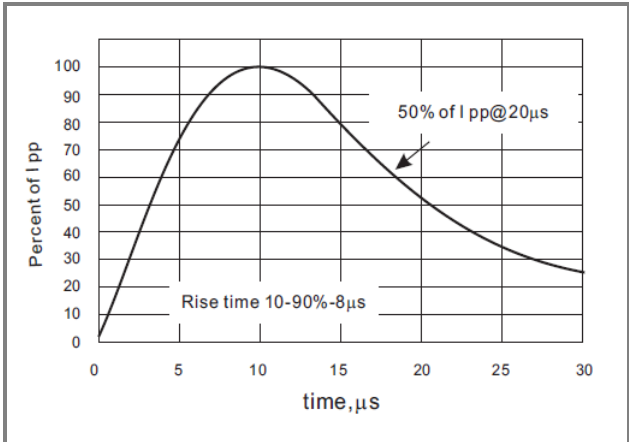
**Fig.1 Typical Junction Capacitance**



**Fig.2 Transmission Line Pulsing (TLP) Measurement**



**Fig.3 Typical Peak Clamping Voltage(8/20µs)**



**Fig.4 8/20µs Pulse Waveform**



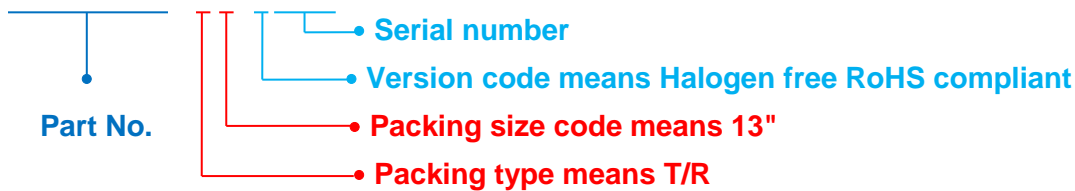
# PJE5V0U8TB

## Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
PJE5V0U8TB_R1_00001	SOT-523	4K pcs / 7" reel	8T	Halogen free RoHS compliant

For example :

RB500V-40\_R2\_00001



Packing Code <b>XX</b>				Version Code <b>X</b>		Serial number <b>XXXX</b>
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HSF Level	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	Halogen free RoHS compliant	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	RoHS compliant	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			

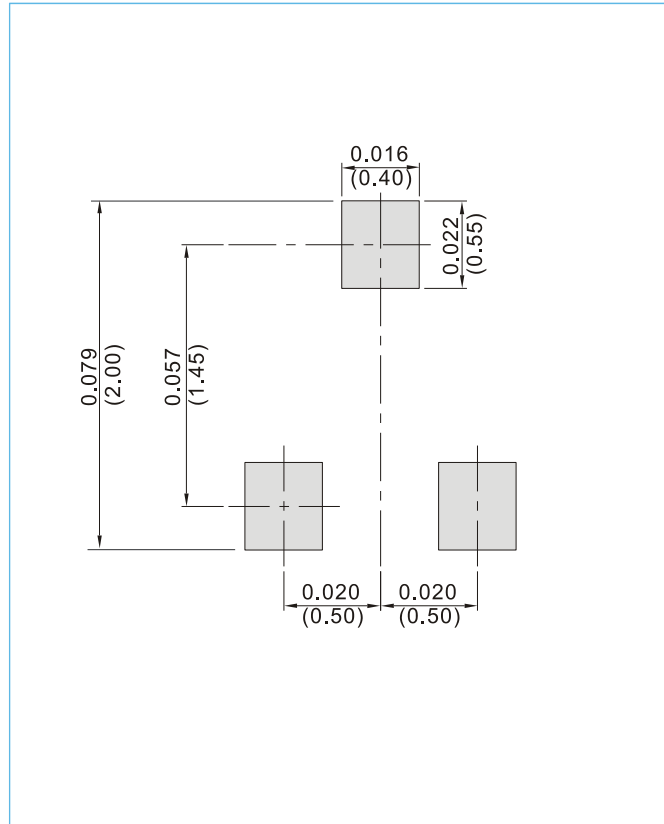


# PJE5V0U8TB

## MOUNTING PAD LAYOUT

SOT-523

Unit : inch(mm)





## **PJE5V0U8TB**

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