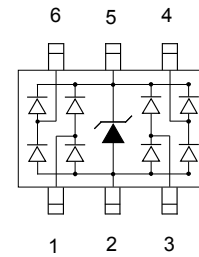


Description

The PESDAUC563T5VU is low capacitance transient voltage suppressor array for high speed data interface that designed to protect sensitive electronics from damage or latch-up due to ESD lightning, and other voltage induced transient events. All pins are rated to withstand 15kv ESD pulses using the IEC 61000-4-2 contact discharge method, which can meet the requirement of level 4.



Feature

- 150W peak pulse power ($t_P = 8/20\mu s$)
- SOT-563 package
- Working voltage: 5.0V
- Low clamping voltage
- Low capacitance
- RoHS Compliant Transient Protection for High Speed Data Lines to IEC61000-4-2(ESD) $\pm 15kV$ (air), $\pm 8kV$ (Contact)

Applications

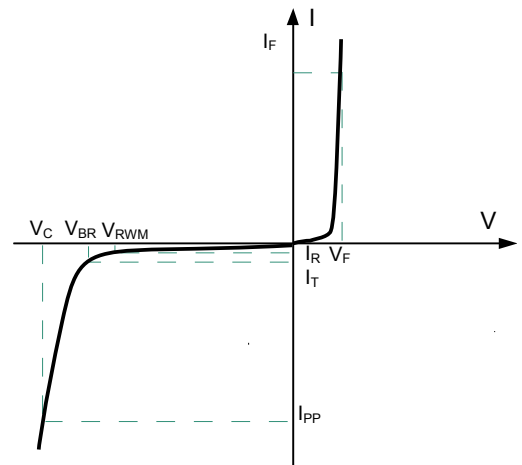
- USB 2.0 Power & data line protection
- DVI & HDMI port protection
- Serial ATA port protection
- Mobile handsets
- Digital cameras and camcorders
- PDA & MP3 players
- Digital TV and set-top boxes
- Other portable electronic components

Mechanical Characteristics

- Lead finish:100% matte Sn(Tin)
- Mounting position: Any
- Qualified max reflow temperature:260°C
- Device meets MSL 1 requirements
- Pure tin plating: 7 ~ 17 um
- Pin flatness : $\leq 3mil$

Electronics Parameter

Symbol	Parameter
V_{RWM}	Peak Reverse Working Voltage
I_R	Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
P_{PP}	Peak Pulse Power
C_J	Junction Capacitance
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical characteristics per line@(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6		8	V
Reverse Leakage Current	I_R	$V_{RWM} = 5.0V, T = 25^{\circ}C$			1	μA
Clamping Voltage	V_C	$I_{PP} = 1A, t_p = 8/20\mu s$			12.5	V
Clamping Voltage	V_C	$I_{PP} = 5A, t_p = 8/20\mu s$			20.0	V
Capacitance Between IO and GND	C_J	$V_R = 0V, f = 1MHz$		1.5		pF
Capacitance Between IO and I/O	C_J	$V_R = 0V, f = 1MHz$		0.7		pF

Absolute maximum rating @25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p = 8/20\mu s$)	P_{PP}	150	W
Operating Temperature	T_J	-55 to +150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Typical Characteristics

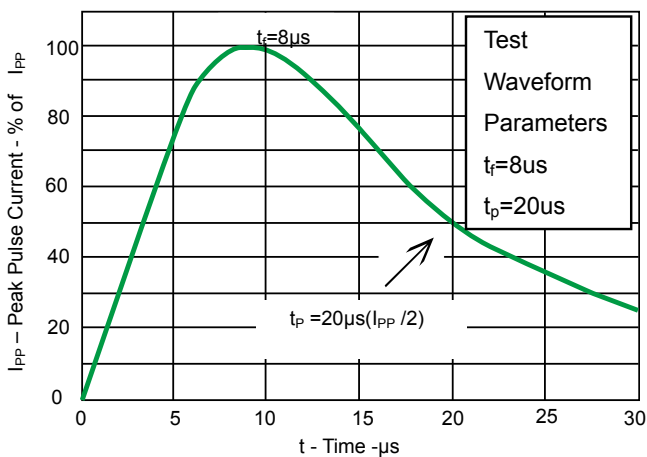


Fig 1.Pulse Waveform

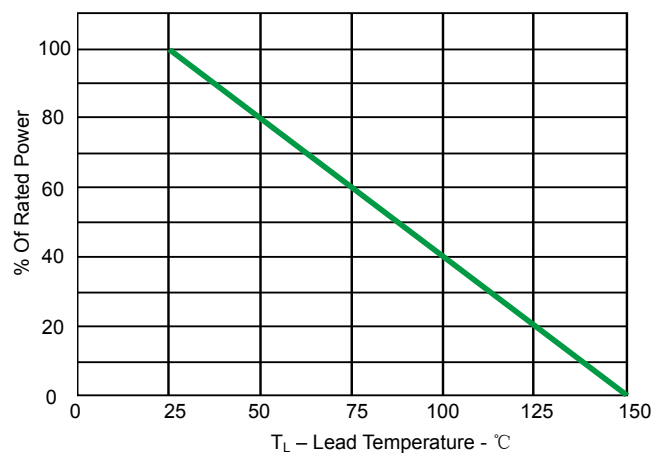


Fig 2.Power Derating Curve

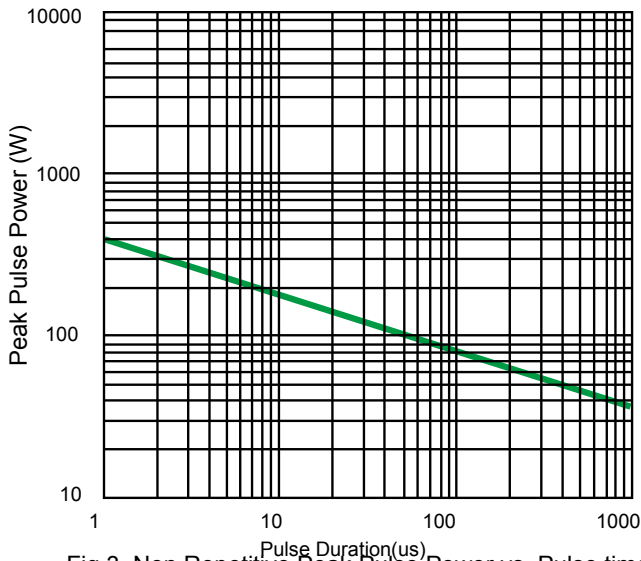
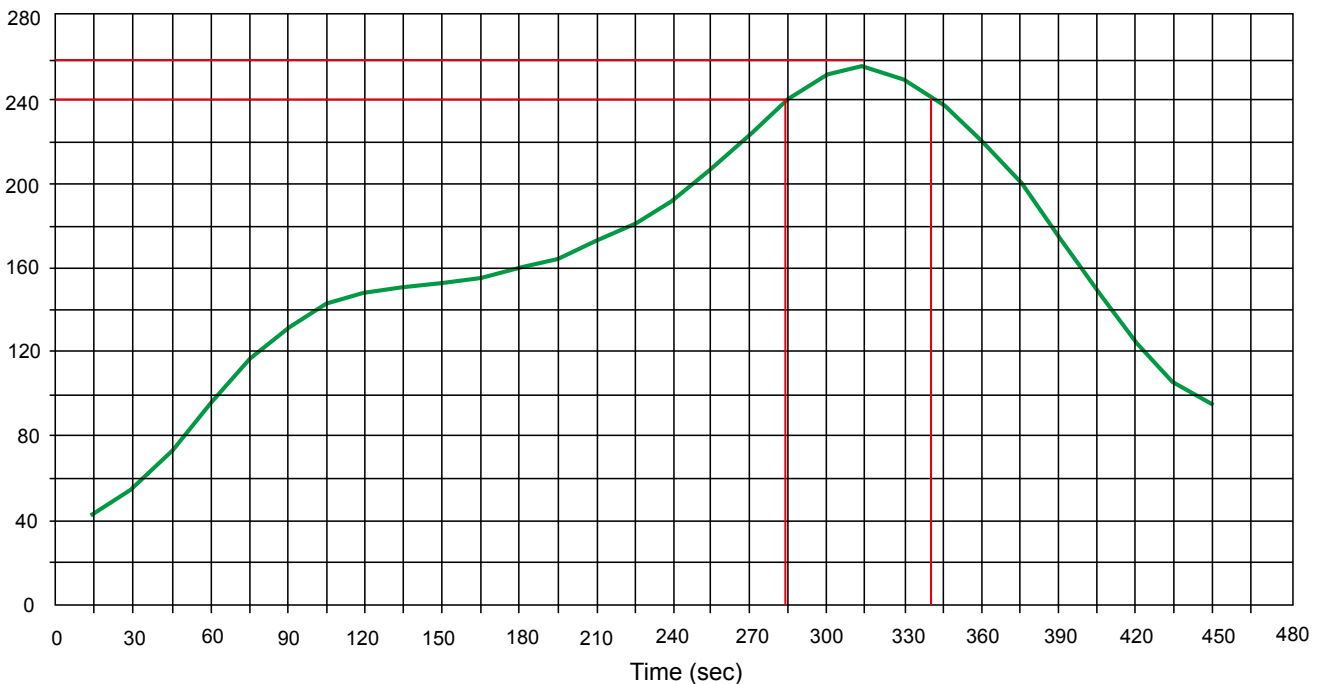


Fig 3. Non Repetitive Peak Pulse Power vs. Pulse time

Solder Reflow Recommendation

Peak Temp=257°C, Ramp Rate=0.802deg. °C/sec

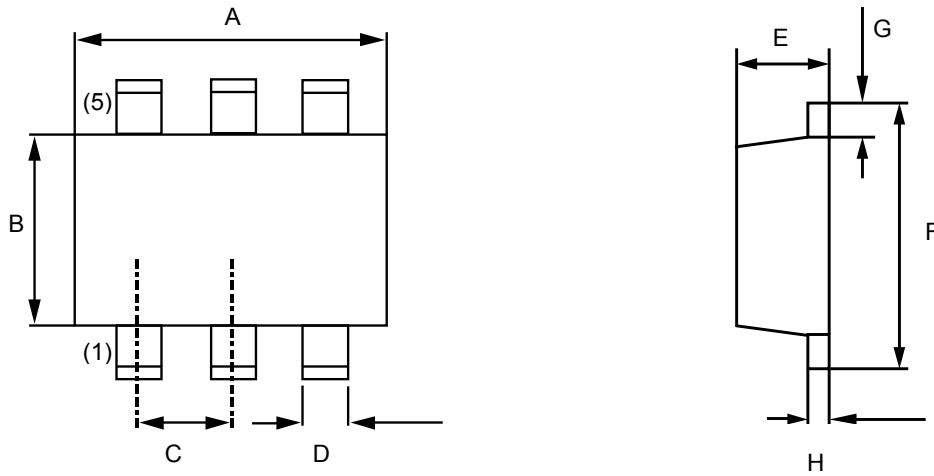


PCB Design

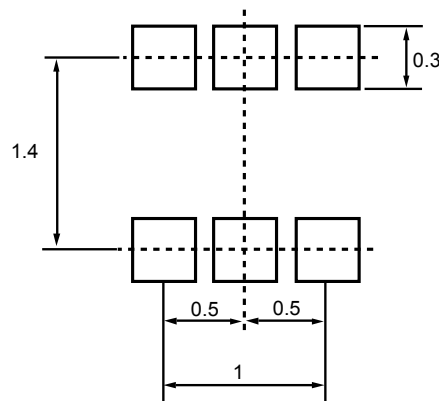
For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.

Product dimension (SOT-563)




Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	1.50	1.70	0.059	0.067
B	1.10	1.30	0.043	0.051
C	0.50BSC		0.020BSC	
D	0.17	0.27	0.007	0.011
E	0.50	0.60	0.020	0.024
F	1.50	1.70	0.059	0.067
G	0.10	0.30	0.004	0.012
H	0.08	0.16	0.003	0.006



Ordering information

Device	Package	Shipping
PESDAUC563T5VU	SOT-563 (Pb-Free)	3000 / Tape & Reel


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