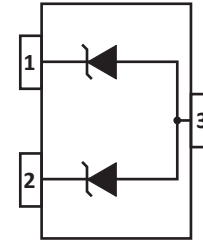


DESCRIPTION

The PDT5301 is a transient voltage suppressor (TVS) array, designed for power or data line applications that provide protection against ESD, tertiary lightning and switching transients. The device offers low clamping voltage for the protection of sensitive interfaces.

The PDT5301 has a peak pulse power of 300 Watts for an 8/20 μ s waveshape and is available in a bidirectional configuration.



FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air ± 15 kV, Contact ± 8 kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20 μ s - Level 2 (Line-Ground) & Level 3 (Line-Line)
- 300 Watts Peak Pulse Power per Line ($t_p = 8/20\mu$ s)
- Low Clamping Voltage
- Bidirectional Configuration

APPLICATIONS

- RS-232, RS-422 & RS-423
- Cellular Phones
- Controlling & Monitoring Systems
- Handheld Devices
- Wireless Bus Protection

MECHANICAL CHARACTERISTICS

- Molded JEDEC SOT-23 Package
- Approximate Weight: 8 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
- Pure-Tin - Sn, 100: 260-270°C

TYPICAL DEVICE CHARACTERISTICS

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P _{PP}	300	Watts
Operating Temperature	T _L	-55 to 150	°C
Storage Temperature	T _{STG}	-55 to 150	°C

PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V _{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA V _(BR) VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I _p = 1A V _c VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 8/20 µs V _c @ I _{PP}	MAXIMUM LEAKAGE CURRENT @V _{WM} I _D µA	TYPICAL CAPACITANCE @0V, 1MH z C pF
PDT5301	2C3	12.0	13.3	19.0	28.0V @ 11.0A	1	90

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

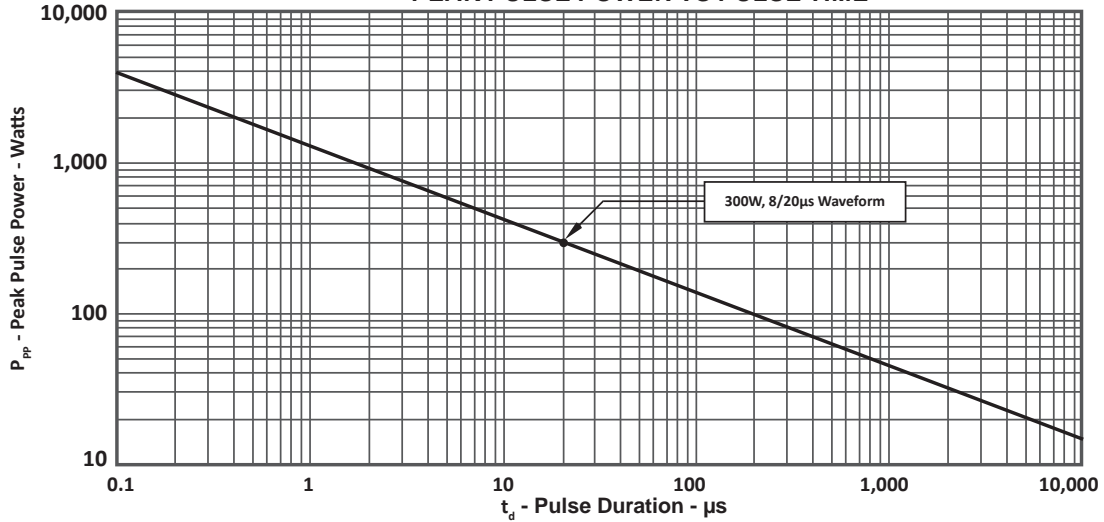


FIGURE 2
PULSE WAVE FORM

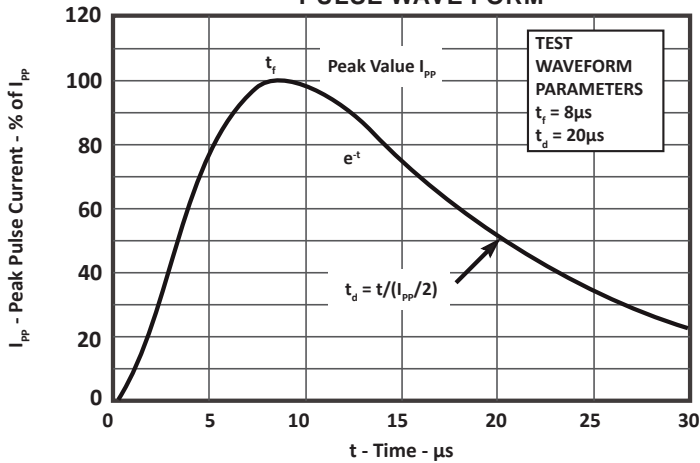
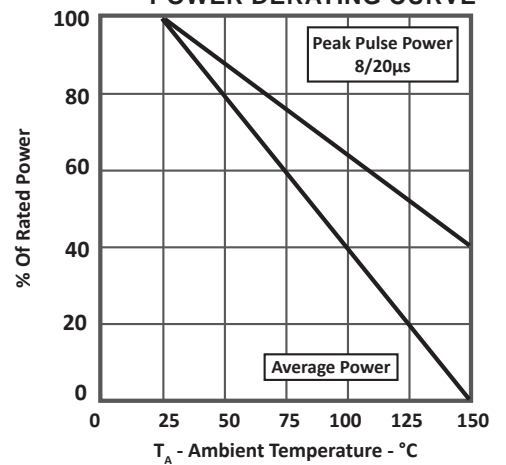
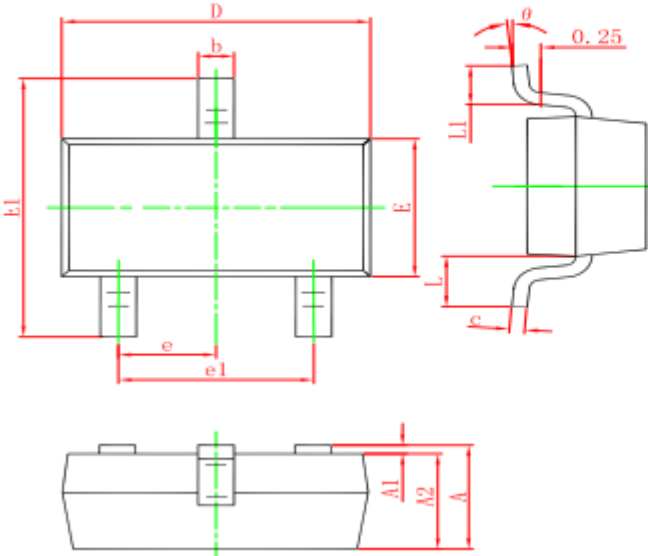


FIGURE 3
POWER DERATING CURVE

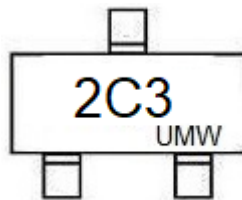


SOT-23 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP.		0.037 TYP.	
e1	1.800	2.000	0.071	0.079
L	0.550 REF.		0.022 REF.	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

Marking



Ordering information

Order code	Package	Baseqty	Deliverymode
UMW PDT5301-T73	SOT-23	3000	Tape and reel