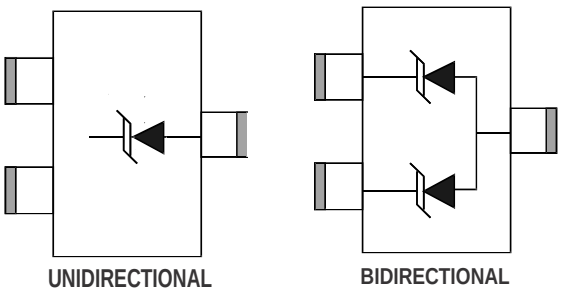
DESCRIPTION

The PSOT series are transient voltage suppressor (TVS) arrays, designed for power or data line applications that pro vide protection against ESD, tertiary lightning and switching transients. This series offers low clamping voltage for the protection of sensitive interfaces.

The PSOT series has a peak pulse power of 500 W for an 8/20µs waveshape and is available in either a bidirection al or unidirectional configuration. This series meets the IEC 61000-4-2, 61000-4-4 and IEC 61000-4-5 requirements.



FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air 15kV, Contact 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Ground) & Level 3 (Line-Line)
- 500W Peak Pulse Power per Line(tp = 8/20µs)
- Low Clamping Voltage
- Bidirectional and Unidirectional Configurations
- Available in Multiple Voltages Ranging from 3V to 36V
- RoHS Compliant
- REACh Compliant

APPLICATIONS

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

Mechanical Data

- 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
- Flammability Rating UL 94V-0
- 8mm Tape and Reel per EIA Standard 481

TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	500	W
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Forward Voltage @ 100mA, 300µs, Square Wave - See Note 1	V_F	1.5	V

1. Applies to unidirectional pins only.

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (Note1)	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) @ 8/20μs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D μA	TYPICAL CAPACITANCE @0V, 1MHz C pF
PSOT03	3.3	4.0	6.5	10.9V @ 43.0A	125	500
PSOT03C	3.3	4.0	7.0	10.9V @ 43.0A	125	300
PSOT05	5.0	6.0	9.8	13.5V @ 42.0A	20	350
PSOT05C	5.0	6.0	9.8	13.5V @ 42.0A	20	210
PSOT08	8.0	8.5	13.4	16.9V @ 34.0A	10	250
PSOT08C	8.0	8.5	13.4	16.9V @ 34.0A	10	150
PSOT12	12.0	13.3	19.0	25.9V @ 21.0A	2	150
PSOT12C	12.0	13.3	19.0	25.9V @ 21.0A	2	90
PSOT15	15.0	16.7	24.0	30.0V @ 17.0A	1	100
PSOT15C	15.0	16.7	24.0	30.0V @ 17.0A	1	60
PSOT24	24.0	26.7	43.0	49.0V @ 12.0A	1	88
PSOT24C	24.0	26.7	43.0	49.0V @ 12.0A	1	63
PSOT36	36.0	40.0	51.0	76.8V @ 9.0A	1	80
PSOT36C	36.0	40.0	51.0	76.8V @ 9.0A	1	60

1. Part Numbers with an additional “C” suffix are bidirectional devices, i.e., PSOT05C.

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

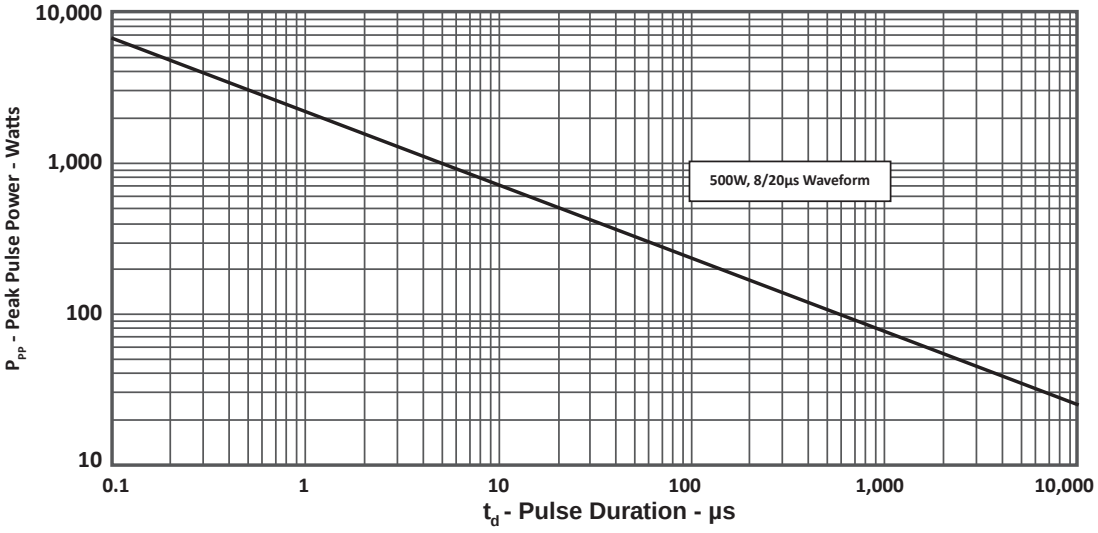


FIGURE 2
PULSE WAVE FORM

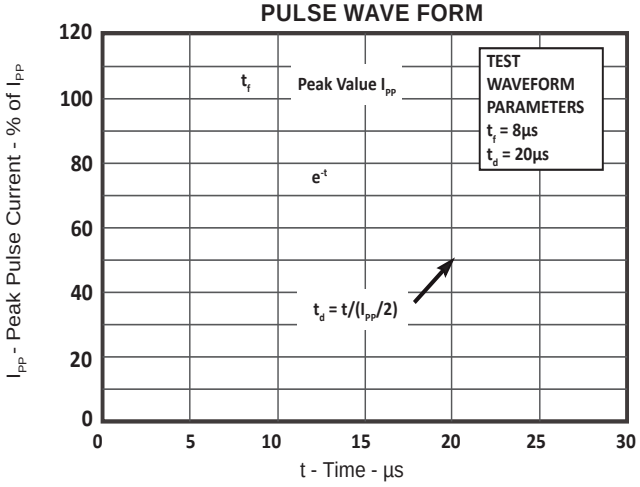


FIGURE 3
POWER DERATING CURVE

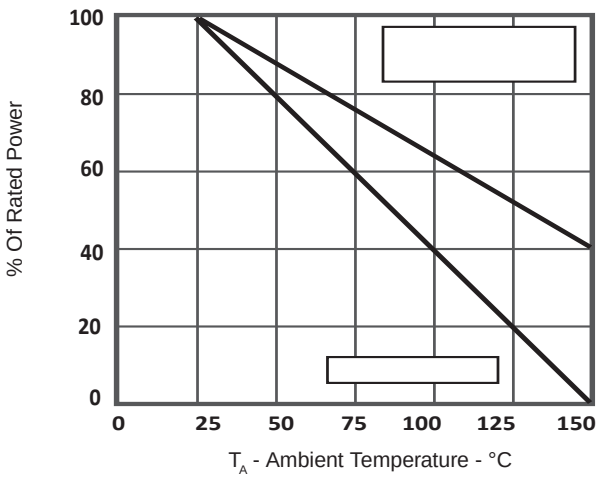
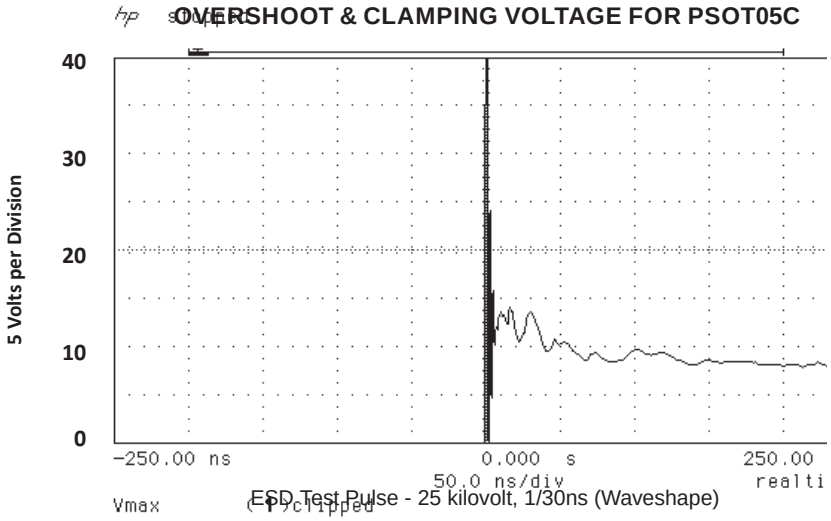


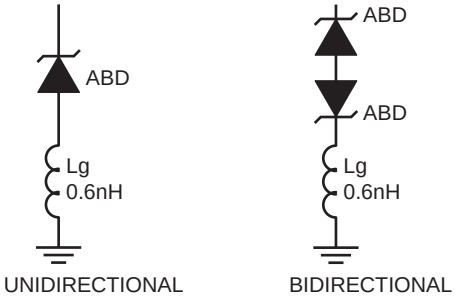
FIGURE 4
OVERSHOOT & CLAMPING VOLTAGE FOR PSOT05C



ESD Test Pulse - 25 kilovolt, 1/30ns (Waveshape)

SPICE MODEL

FIGURE 1
SPICE MODEL FOR

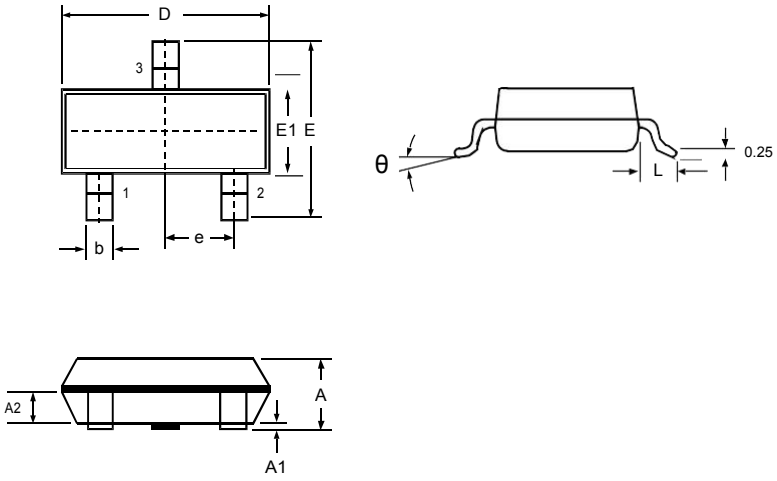


ABD - Avalanche Breakdown Diode (TVS)
Lg - Lead Inductance

TABLE 1 - SPICE PARAMETERS		
PARAMETER	UNIT	ABD(TVS)
BV	V	See Table 2
IBV	μA	1
C_{jo}	pF	See Table 2
I_S	A	See Table 2
Vj	V	0.6
M	-	0.33
N	-	1
R_S	Ohms	See Table 2
TT	s	1E-8
EG	eV	1.11

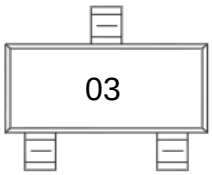
TABLE 2 - ABD SPECIFIC SPICE PARAMETERS				
PART NUMBER	B_V(VOLTS)	C_{jo}(pF)	I_S (AMPS)	Rs(OHMS)
PSOT03	4.5	438	1E-13	0.21
PSOT05	6.0	284	1E-13	0.21
PSOT08	8.5	146	1E-13	0.21
PSOT12	13.3	123	1E-13	0.21
PSOT15	16.7	102	1E-13	0.21
PSOT24	26.7	61	1E-13	0.21
PSOT36	40.0	40	1E-13	0.21
PSOT03C	4.5	219	1E-13	0.28
PSOT05C	6.0	142	1E-13	0.28
PSOT08C	8.5	73	1E-13	0.28
PSOT12C	13.3	62	1E-13	0.28
PSOT15C	16.7	51	1E-13	0.28
PSOT24C	26.7	30	1E-13	0.28
PSOT36C	40.0	20	1E-13	0.28

Outline Drawing – SOT-23



DIMENSIONS				
SYMBOL	MILLIMETER		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
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.500	0.675	0.020	0.027
θ	0	8°	0	8°

Marking



Ordering information

Order code	Marking code	Package	Baseqty	Deliverymode
UMW PSOT03-LF-T7	03	SOT-23	3000	Tape and reel
UMW PSOT03C-LF-T7	03C	SOT-23	3000	Tape and reel
UMW PSOT05-LF-T7	05	SOT-23	3000	Tape and reel
UMW PSOT05C-LF-T7	05C	SOT-23	3000	Tape and reel
UMW PSOT08-LF-T7	08	SOT-23	3000	Tape and reel
UMW PSOT08C-LF-T7	08C	SOT-23	3000	Tape and reel
UMW PSOT12-LF-T7	12	SOT-23	3000	Tape and reel
UMW PSOT12C-LF-T7	12C	SOT-23	3000	Tape and reel
UMW PSOT15-LF-T7	15	SOT-23	3000	Tape and reel
UMW PSOT15C-LF-T7	15C	SOT-23	3000	Tape and reel
UMW PSOT24-LF-T7	24	SOT-23	3000	Tape and reel
UMW PSOT24C-LF-T7	24C	SOT-23	3000	Tape and reel
UMW PSOT36-LF-T7	36	SOT-23	3000	Tape and reel
UMW PSOT36C-LF-T7	36C	SOT-23	3000	Tape and reel

单击下面可查看定价，库存，交付和生命周期等信息

>>UMW(友台半导体)