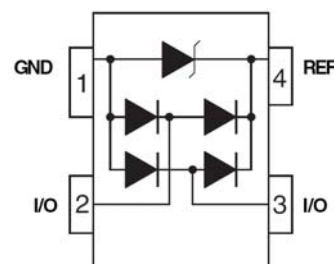


Description

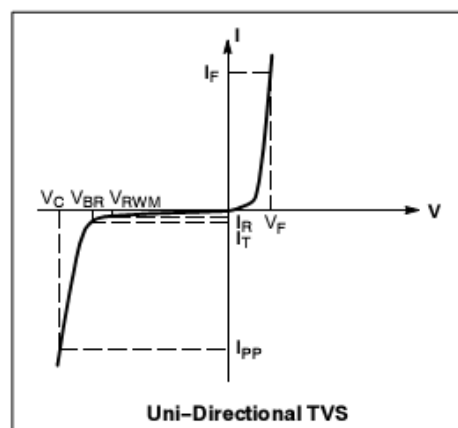
The PSR05 is low capacitance transient voltage suppressor for high speed data interface that designed to protect sensitive electronics from damage or latch-up due to ESD lightning, and other voltage induced transient events.

All pins are rated to withstand 25kv ESD pulses using the IEC61000-4-2 contact discharge method, which can meet the requirement of level 4.



Feature

- 500 Watts Peak Power per Line ($t_p = 8/20\mu s$)
- ESD Protection > 25 kilovolts
- Low Clamping Voltage
- Unidirectional Configuration
- Protects 2 I/O Ports & Power Supply
- Low Capacitance: 5 pF
- RoHS Compliant in Lead-Free Versions
- Molded JEDEC SOT-143
- Available in Lead-Free Pure-Tin Plating(Annealed)
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- 8mm Tape and Reel Per EIA Standard 481



Applications

- Ethernet - 10/100 Base T
- FireWire
- Wireless Communications
- USB Interface

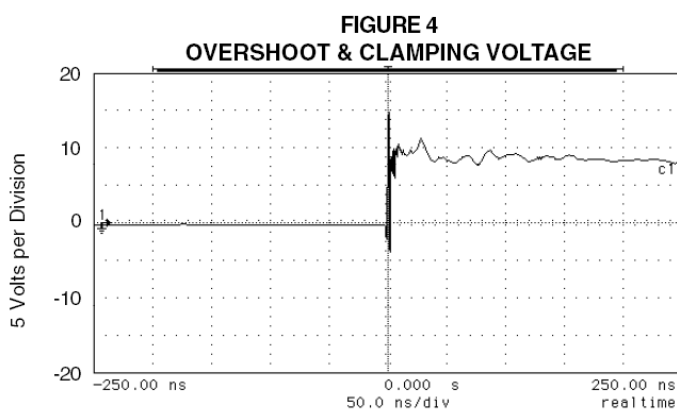
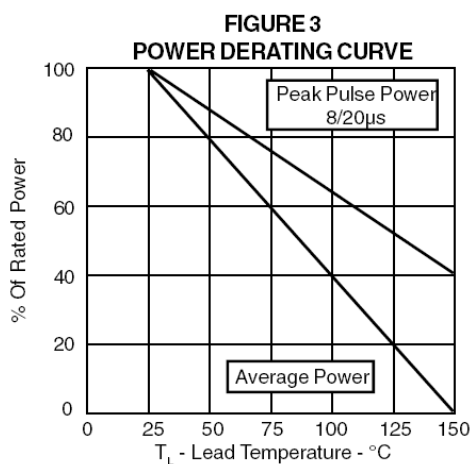
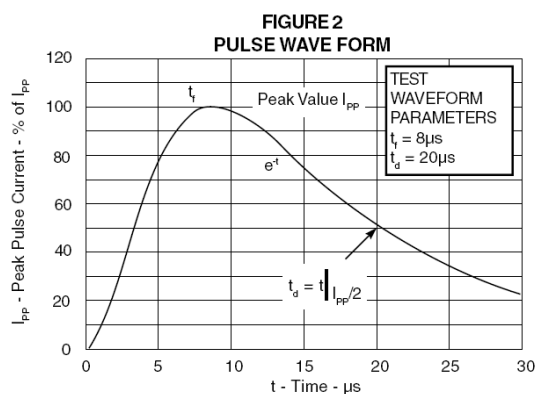
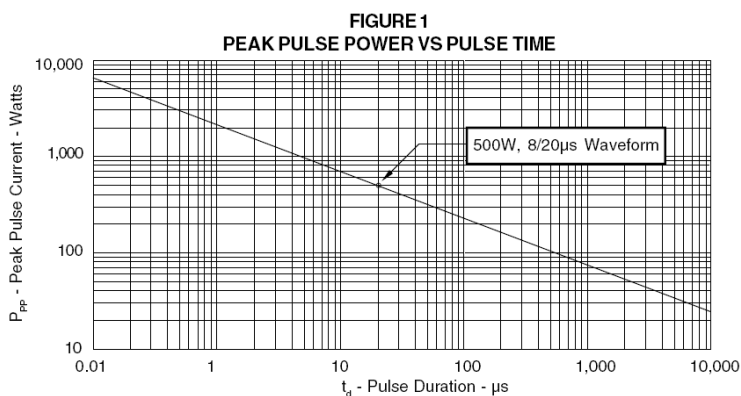
Electrical characteristics per line@25°C (unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V_{RWM}				5	V
Reverse Breakdown Voltage	V_{BR}	$I_t = 1mA$	6			V
Reverse Leakage Current	I_R	$V_{RWM} = 5V$ $T = 25^\circ C$			5	μA
Clamping Voltage	V_C	$I_{PP} = 1A$ $t_p = 8/20\mu S$			9.8	V
Clamping Voltage	V_C	$I_{PP} = 28A$ $t_p = 8/20\mu S$			20.0	V
Junction Capacitance	C_j	$V_R = 0V$ $f = 1MHz$		5		pF

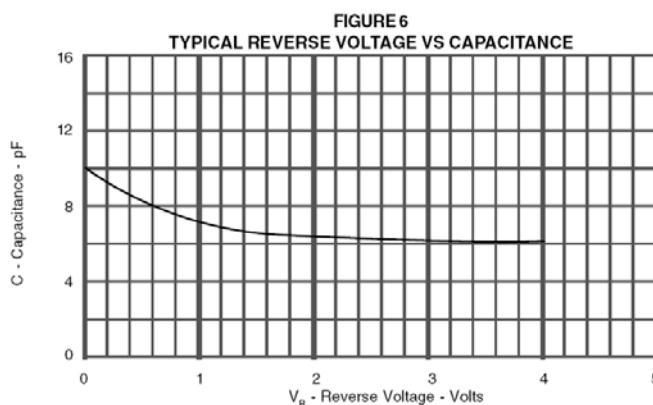
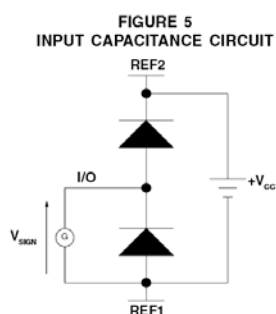
Absolute maximum rating@25°C

Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu\text{s}$)	P_{pp}	500	W
Peak Forward Voltage@1A	V_F	1.5	V
Operating Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Typical Characteristics



ESD Test Pulse: 5 kilovolt, 1/30ns (waveform)



Product dimension

PACKAGE OUTLINE

Technical drawing of the SOT-143 package outline. The top view shows dimensions A (total width), G (lead width), L (lead pitch), B (body width), F (lead width), and D (lead pitch). The side view shows dimensions S (total height), J (lead height), and K (lead thickness). The end view shows dimensions H (lead height), C (body height), and R (lead pitch).

SOT-143

3D perspective view of the SOT-143 package, showing its rectangular body and two leads.

PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.110	0.120
B	1.20	1.39	0.047	0.055
C	0.84	1.14	0.033	0.045
D	0.39	0.50	0.015	0.020
F	0.79	0.93	0.031	0.037
G	1.78	2.03	0.070	0.080
H	0.013	0.10	0.0005	0.004
J	0.08	0.15	0.003	0.006
K	0.46	0.60	0.018	0.024
L	0.445	0.60	0.0175	0.024
R	0.72	0.83	0.028	0.033
S	2.11	2.48	0.083	0.098

MOUNTING PAD

TYPICAL		
DIM	Millimeters	Inches
1	2.85	0.112
2	2.00	0.079
3	1.80	0.071
4	1.90	0.075
5	1.05	0.041
6	2.75	0.108
7	1.20	0.047
8	0.80	0.031
9	0.85	0.033
10	0.85	0.033
11	0.85	0.033

Technical drawing of the mounting pad showing dimensions 1 through 11. The drawing includes a top view with dimensions 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11, and a side view with dimensions 10 and 11.

NOTES

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Dimensions are exclusive of mold flash and metal burrs.

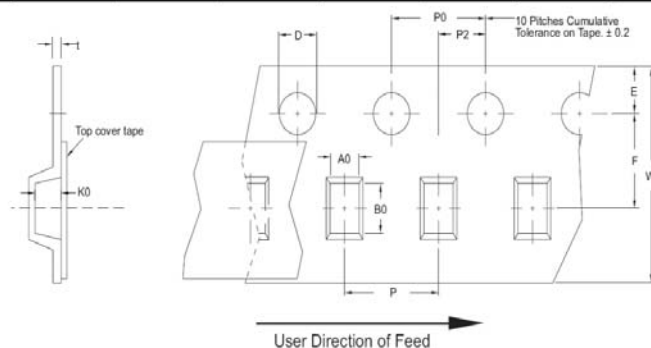
TAPE & REEL ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix-T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., *PSR05-T7*.
3. Suffix-T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., *PSR05-T13*.
4. Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., *PSR05-LF-T7*.

Outline & Dimensions: Rev 2 - 6/06, 06011

Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	3.10 ± 0.10	2.70 ± 0.10	1.35 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.25



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