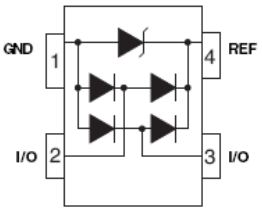
PSR05

Low Capacitance TVS Diode Array

FEATURES

- 500 Watts Peak Power per Line (tp = 8/20μs)
- ESD Protection > 25 kilovolts
- Low Clamping Voltage
- Unidirectional Configuration
- PROTECTS 2 I/O PORTS & POWER SUPPLY
- LOW CAPACITANCE: 3pF
- RoHS in Lead-Free Versions
- MARKING:SL3

APPLICATIONS



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

DEVICE CHARACTERISTICS

MAXIMUN RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (t_p = 8/20μs) - See Figure 1	P_{PP}	500	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C
Peak Forward Voltage - I_F = 1A, 8/20μs	V_F	1.5	Volts

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1A $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ I_P = 1A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) 8/20μs V_C @ I_{PP} VOLTS	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D μA	MAXIMUM CAPACITANCE (See Note 1) (See Fig. 5) (Per Data Line) @0V, 1 MHz $C_{J(SD)}$ pF
PSR05	5.0	6.0	9.8	20.0V @ 28.0A	5.0	**3.0**

Note 1: As shown in Figure 5, REF 1 is connected to ground, REF 2 is connected to +V_{CC} and input applies to V_{CC} = 5V, V_{sign} = 30mV, F = 1MHz.

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

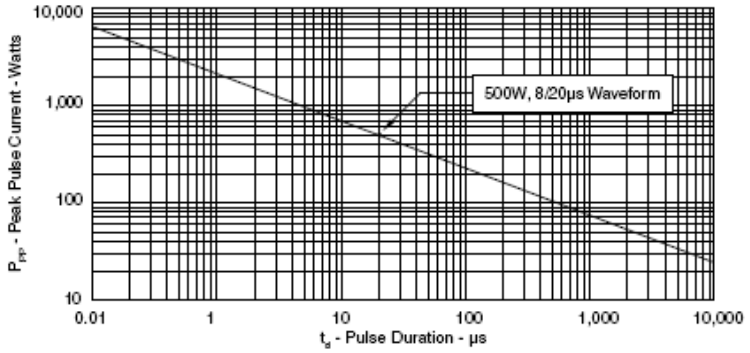


FIGURE 2
PULSE WAVE FORM

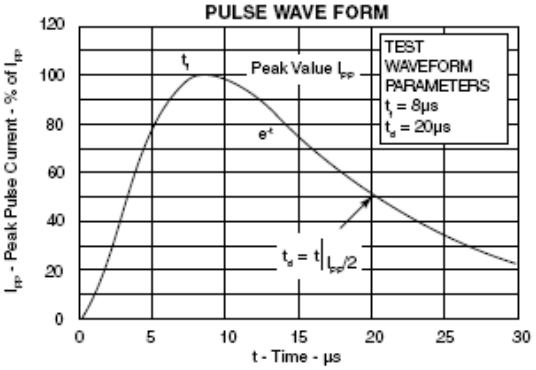


FIGURE 3
POWER DERATING CURVE

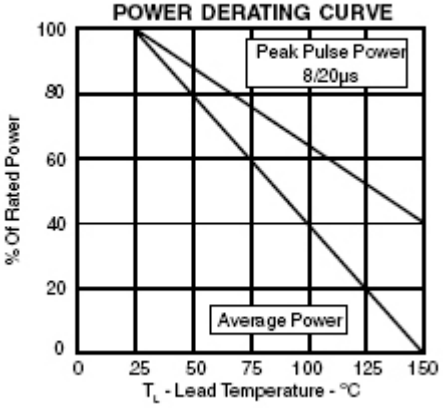


FIGURE 4
TYPICAL REVERSE VOLTAGE VS CAPACITANCE FOR PSR05

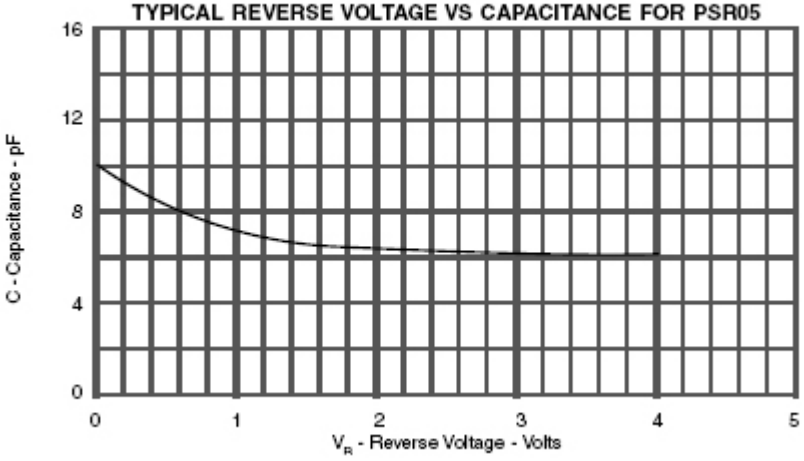
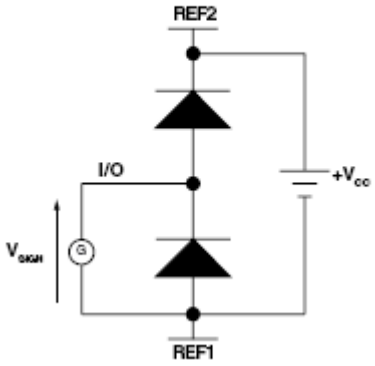
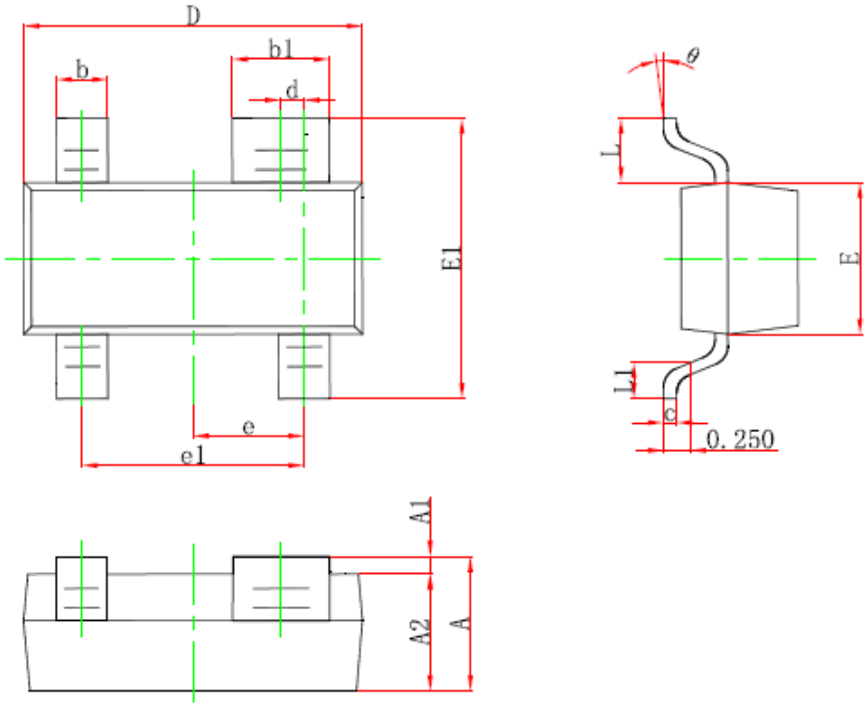


FIGURE 5
INPUT CAPACITANCE CIRCUIT



SOT-143 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
b1	0.750	0.900	0.030	0.035
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
d	0.200 TYP.		0.008 TYP.	
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°