

## LOW CAPACITANCE TVS ARRAY

## APPLICATIONS

- ✓ T1/E1 Line Cards
- ✓ ISDN U-Interfaces & ISDN S/T Interfaces
- ✓ xDSL Interfaces
- ✓ Ethernet - 10/100/1000 Base T
- ✓ Set-Top Box

## IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 8/20 $\mu$ s - 94A, L4(Line-Gnd), 48A, L1(Power) & 48A, L4(Line-Line)

## FEATURES

- ✓ 100A (2/10 $\mu$ s) per Bellcore GR1089(Intra-Building)
- ✓ ESD Protection > 40 kilovolts
- ✓ 1800 Watts Peak Pulse Power per Line (tp = 8/20 $\mu$ s)
- ✓ Low Capacitance: 8pF Typical
- ✓ Telecom/Diode Bridge
- ✓ RoHS Compliant

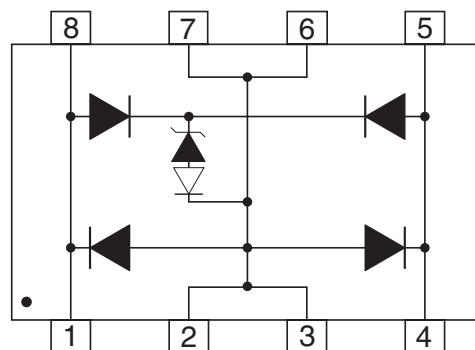
## MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-8
- ✓ Weight 70 milligrams (Approximate)
- ✓ Available in Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ 12mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Marking Code, Date Code & Pin One Defined by Dot on Top of Package



SO-8

## PIN CONFIGURATION



# PLC03-3.3

## DEVICE CHARACTERISTICS

### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	$P_{PP}$	1800	Watts
Operating Temperature	$T_L$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C

### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM SNAP-BACK VOLTAGE  @ 50mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Notes 1-2) (See Fig. 2)  8/20µs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_b$ µA	MAXIMUM CAPACITANCE (See Note 3)  @0V, 1 MHz C pF	MAXIMUM CAPACITANCE (See Note 4)  @0V, 1 MHz C pF
PLC03-3.3	PBC	3.0	2.8	18.0V @ 100.0A	2.0	25	12

MAXIMUM CLAMPING VOLTAGE Line-Ground 8/20µs @ $I_p = 50A$ $V_C$ VOLTS
11

**Note 1:** For an 8/20µs waveform, apply positive pulse to pin 1 or 8 to pin 2 or 3(ground).

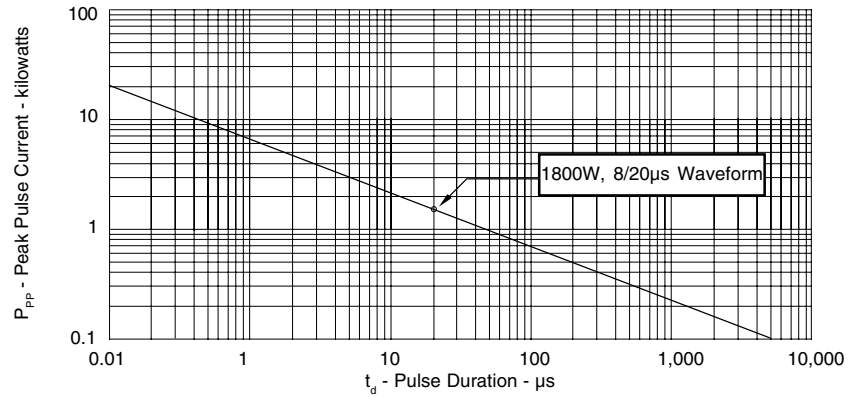
**Note 2:** Measured between pin 1 or 8 to pin 2 or 3.

**Note 3:** Measured between I/O pins and ground (pin 1 to 2).

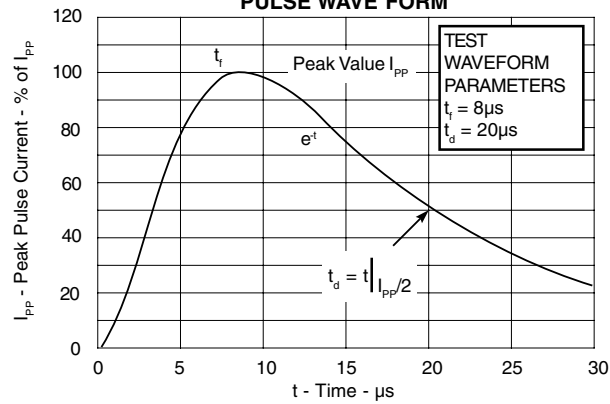
**Note 4:** Measured between I/O pins (pins 1 to 4).

## GRAPHS

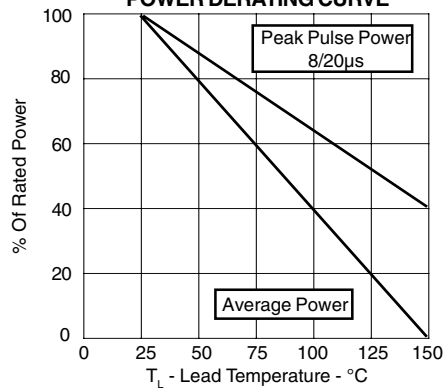
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
PULSE WAVE FORM**



**FIGURE 3  
POWER DERATING CURVE**



# PLC03-3.3

## SO-8 PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

**MOUNTING PAD**

### SO-8

#### PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.80	5.00	0.189	0.196
B	3.80	4.00	0.150	0.157
C	1.35	1.75	0.054	0.068
D	0.35	0.49	0.014	0.019
F	0.40	1.250	0.016	0.049
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.18	0.25	0.007	0.009
K	0.10	0.25	0.004	0.008
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

**NOTES**

- T = Seating Plane and Datum Surface.
- Dimensions "A" and "B" are Datum.
- Dimensions "A" and "B" do not include mold protrusion.
- Maximum mold protrusion is 0.015" (0.380 mm) per side.
- Dimensioning and tolerances per ANSI Y14.5M, 1982.
- Dimensions are exclusive of mold flash and metal burrs.

**TAPE & REEL/BULK ORDERING NOMENCLATURE**

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix-T7 = 7 Inch Reel - 1,000 pieces per 12mm tape, i.e. PLC03-3.3-T7.
- Suffix-T13 = 13 Inch Reel - 2,500 pieces per 12mm tape, i.e., PLC03-3.3-T13.
- Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., PLC03-3.3-LF-T7.
- No Suffix = Product Shipped in Tubes of 98 pcs per Tube.

**Outline & Dimensions: Rev 1 - 11/01, 06009**

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