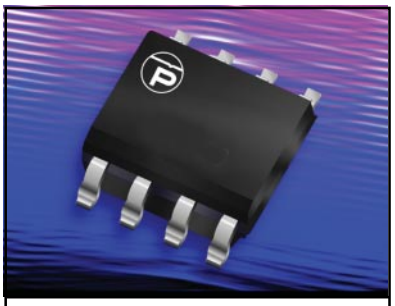
PROTEK DEVICES
Only One Name Means ProTek'Tion™

SM8LC05 thru SM8LC24

LOW CAPACITANCE TVS ARRAY



SO-8

APPLICATIONS

✔ Video On-Demand
✔ ISDN Telecom Interface
✔ USB, ADSL & SCSI Interfaces
✔ Modems
✔ LAN Interconnects
✔ Portable Electronics

IEC COMPATIBILITY (EN61000-4)

✔ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
✔ 61000-4-4 (EFT): 40A - 5/50ns
✔ 61000-4-5 (Surge): 24A, 8/20µs - Level 2(Line-Gnd) & Level 3(Line-Line)

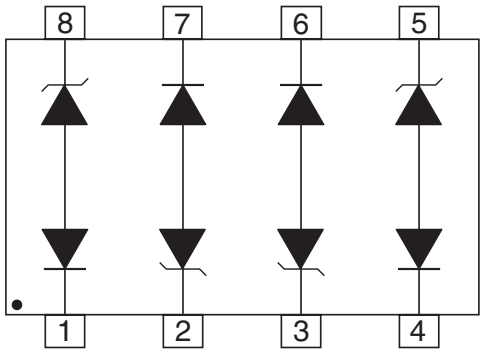
FEATURES

✔ 800 Watts Peak Pulse Power per Line (tp=8/20µs)
✔ Bidirectional Configuration
✔ Available in 5 Voltage Types: 5V to 24V
✔ Protects Up to Two Line Pairs
✔ ESD Protection > 40 kilovolts
✔ ***LOW CAPACITANCE: 25pF***
✔ RoHS Compliant in Lead-Free Versions

MECHANICAL CHARACTERISTICS

✔ Molded JEDEC SO-8 Package
✔ Weight 70 milligrams (Approximate)
✔ Available in Tin-Lead or Lead-Free Pure-Tin Plating(Annealed)
✔ Solder Reflow Temperature:
  Tin-Lead - Sn/Pb, 85/15: 240-245°C
  Pure-Tin - Sn, 100: 260-270°C
✔ 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

PIN CONFIGURATION



DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (t_p = 8/20µs) - See Figure 1	P_{PP}	800	Watts
Operating Temperature	T_J	-55°C to 150°C	°C
Storage Temperature	T_{STG}	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Note 1-2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ 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}	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	MAXIMUM CAPACITANCE 0V @ 1 MHz C pF
SM8LC05	PGA	5.0	6.0	9.8	24.6V @ 45A	100	25
SM8LC08	PGB	8.0	8.5	13.3	25.5V @ 40A	10	25
SM8LC12	PGC	12.0	13.3	19.0	32.9V @ 34A	4	25
SM8LC15	PGD	15.0	16.7	25.5	38.5V @ 27A	4	25
SM8LC24	PGE	24.0	26.7	40.0	48.5V @ 22A	4	25

Note 1: Devices are designed to be used in parallel (See Circuit Diagram) Page 1. For other applications, contact the factory. Do not surge in the "forward" direction of the TVS.
Note 2: Do not surge from pins 1 to 8, 7 to 2, 6 to 3 and 4 to 5. PIV typically greater than 100 volts for each rectifier diode.

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

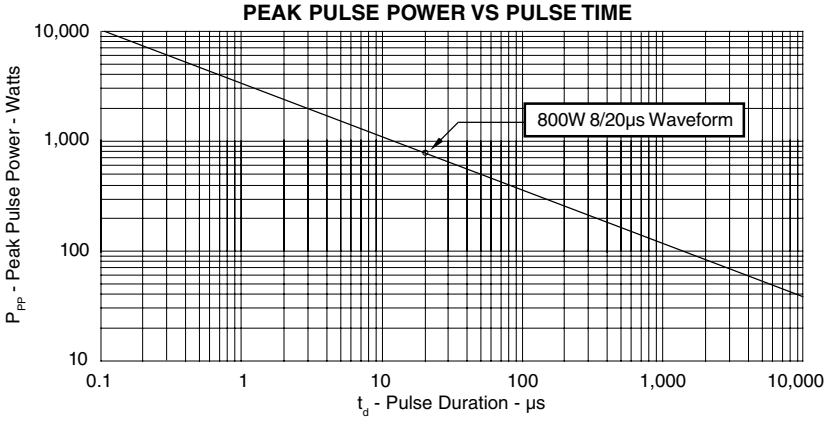


FIGURE 2
PULSE WAVE FORM

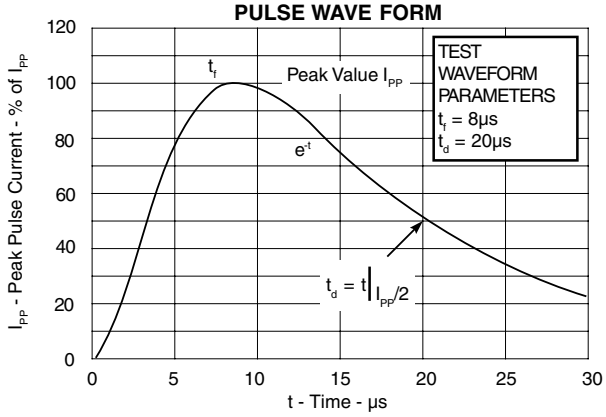
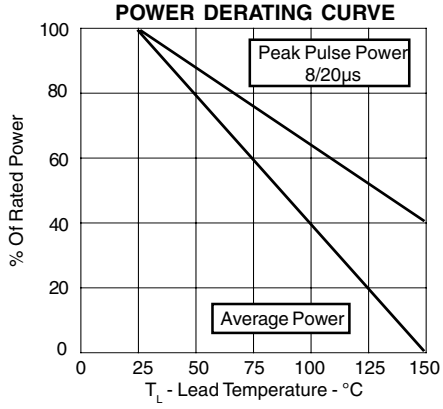
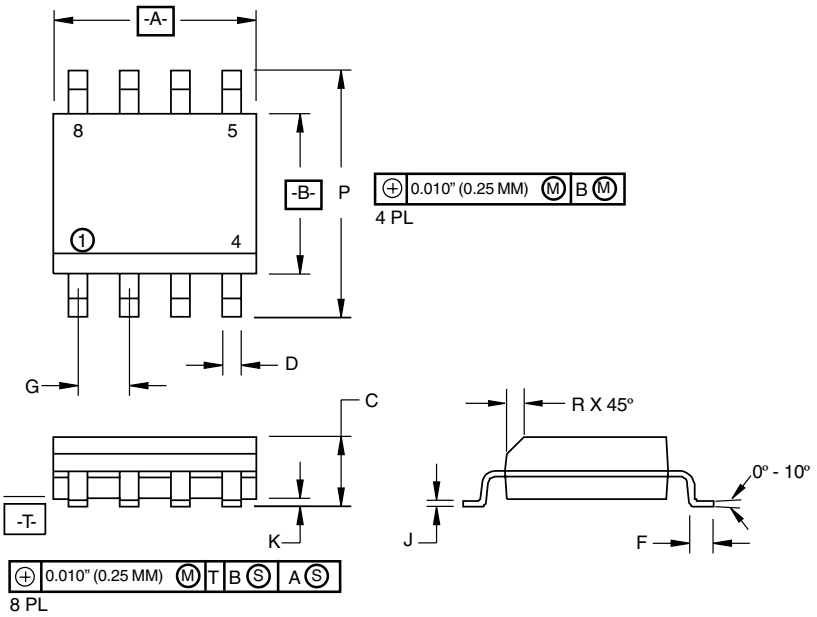


FIGURE 3
POWER DERATING CURVE



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



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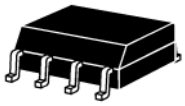
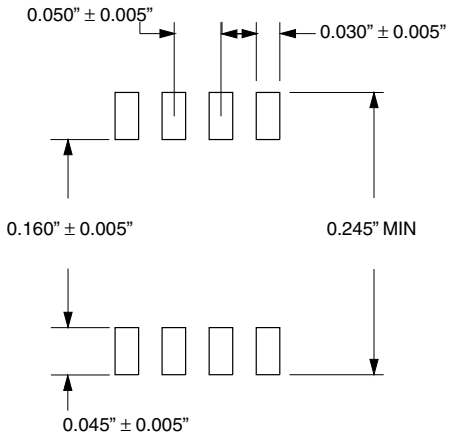


PACKAGE DIMENSIONS

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

MOUNTING PAD



NOTES

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

TAPE & REEL/BULK ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix-T7 = 7 Inch Reel - 1,000 pieces per 12mm tape, i.e., *SM8LC05-T7*.
3. Suffix-T13 = 13 Inch Reel - 2,500 pieces per 12mm tape, i.e., *SM8LC05-T13*.
4. Suffix - LF= Lead-Free, Pure-Tin Plating, i.e., *SM8LC05-LF-T7*.
5. No Suffix = Product Shipped in Tubes of 98 pcs per Tube.

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

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