

STANDARD CAPACITANCE TVS ARRAY

APPLICATIONS

- ✓ Multiple I/O Port Protection
- ✓ Board Level Interface Connection
- ✓ RS-232, RS-422 & RS-423
- ✓ Portable Electronics

IEC COMPATIBILITY (EN61000-4)

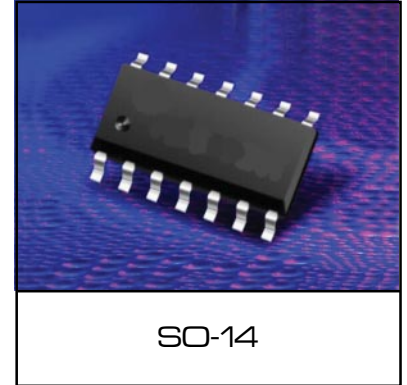
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 μ s - Level 2(Line-Gnd) & Level3(Line-Line)

FEATURES

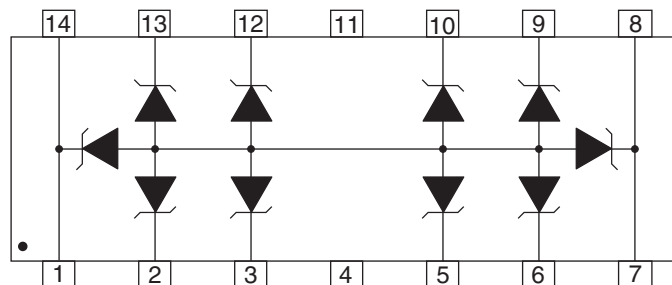
- ✓ 800 Watts Peak Pulse Power per Line (tp=8/20 μ s)
- ✓ ESD Protection > 40 kilovolts
- ✓ Monolithic Design
- ✓ Bidirectional Configuration
- ✓ Design for I/O Protection
- ✓ Available in Voltage Types Ranging From: 5V to 24V
- ✓ Protects Up to Eight (8) Lines
- ✓ RoHS Compliant in Lead-Free Versions

MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SO-14 Package
- ✓ Weight 0.14 grams (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
- ✓ 16mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Logo, Part Number, Date Code & Pin One Defined By Dot on Top of Package



PIN CONFIGURATION



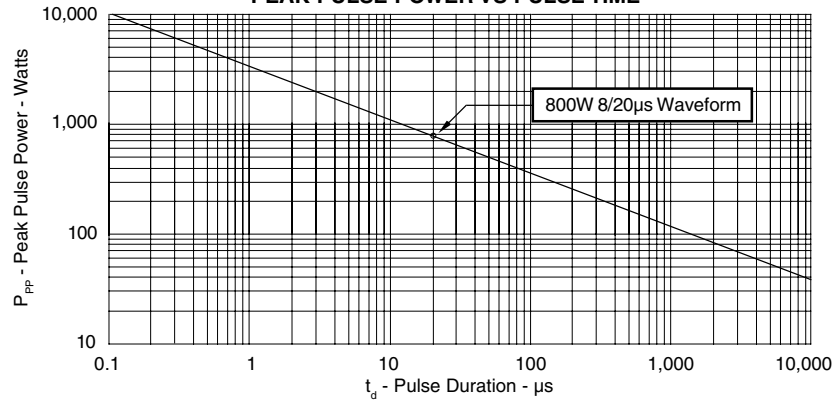
DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ($t_p = 8/20\mu s$) - 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

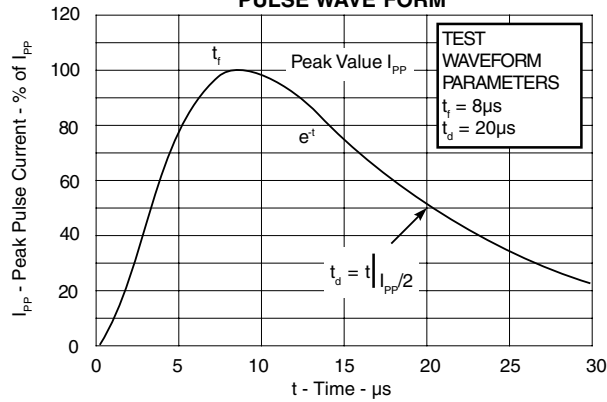
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_p = 1A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	MAXIMUM CAPACITANCE (PER LINE) @ 0V, 1 MHz C pF
SM14M05C	SM14M05C	5.0	6.0	9.8	17.8V @ 47A	100	500
SM14M08C	SM14M08C	8.0	8.5	13.4	20.1V @ 40A	10	440
SM14M12C	SM14M12C	12.0	13.3	19.0	26.6V @ 34A	2	385
SM14M15C	SM14M15C	15.0	16.7	24.0	33.1V @ 25A	2	300
SM14M24C	SM14M24C	24.0	26.7	30.0	42.1V @ 19A	2	200

GRAPHS

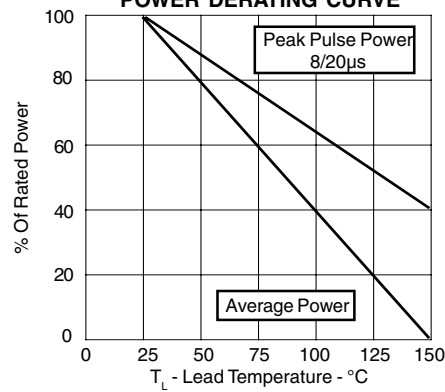
**FIGURE 1
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2
PULSE WAVE FORM**



**FIGURE 3
POWER DERATING CURVE**



PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE

7 PL
 $\oplus 0.010" (0.25 \text{ MM}) \text{ (M) B (M)}$

8 PL
 $\oplus 0.010" (0.25 \text{ MM}) \text{ (M) T B (S) A (S)}$

SO-14

PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	8.55	10.00	0.386	0.393
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	1.25	0.016	0.049
G	1.27 BSC	1.27 BSC	0.05 BSC	0.05 BSC
J	0.19	0.25	0.008	0.009
K	0.10	0.25	0.004	0.009
P	5.80	6.20	0.229	0.244
R	0.25	0.50	0.010	0.019

MOUNTING PAD

0.050" TYP

0.160" ± 0.005"

0.245" MIN

0.030" ± 0.005"

0.045" ± 0.005"

NOTES

- T - = Seating Plane and Datum Surface.
- Dimensions "A" and "B" are Datum.
- Dimensions "A" and "B" do not include mold protrusions.
- 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 16mm tape, i.e., *SM14M05C-T7*.
- Suffix-T13 = 13 Inch Reel - 2,500 pieces per 16mm tape, i.e., *SM14M05C-T13*.
- Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., *SM14M05C-LF-T7*.
- No Suffix = Product Shipped in Tubes of 55 pcs per Tube.

Outline & Dimensions: Rev 1 - 11/01, 06006

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