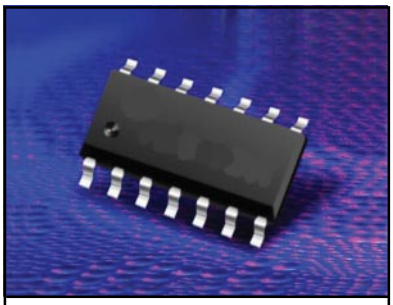
05035

PROTEK DEVICES
Only One Name Means ProTek'Tion™

SM14M05C thru SM14M24C

STANDARD CAPACITANCE TVS ARRAY



SO-14

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, 8/20µs - Level 2(Line-Gnd) & Level3(Line-Line)

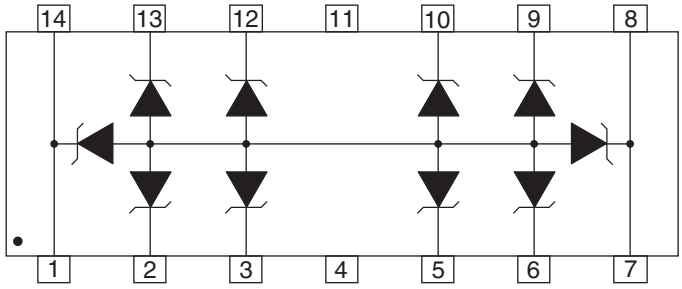
FEATURES

✔ 800 Watts Peak Pulse Power per Line (tp=8/20µs)
✔ 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 = 8/20µs) - 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	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) @8/20µs 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

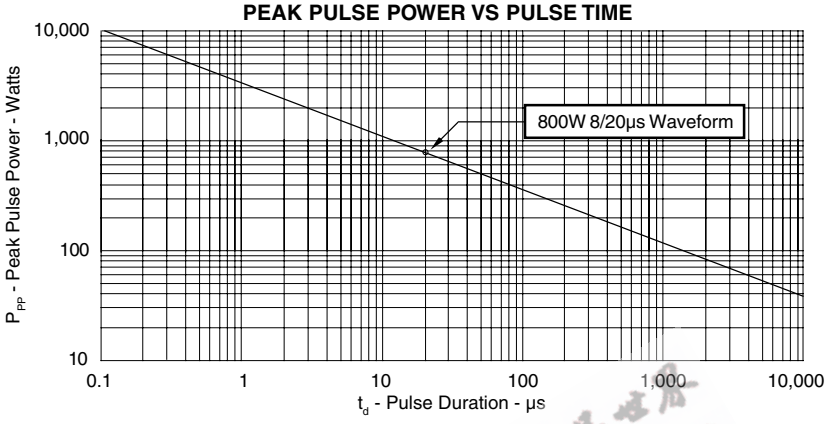


FIGURE 2
PULSE WAVE FORM

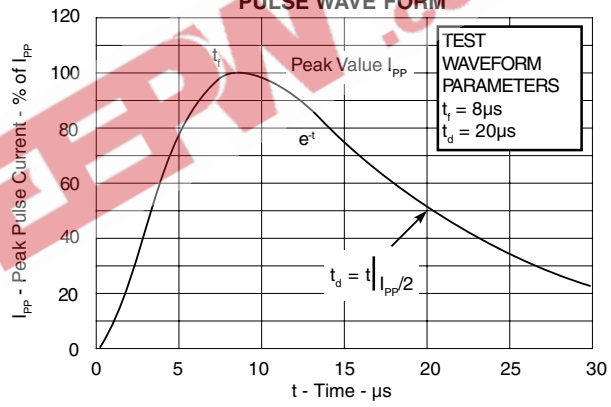
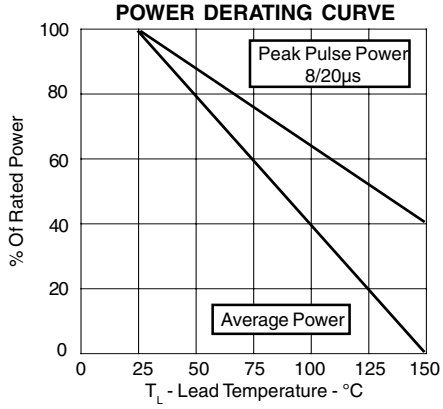
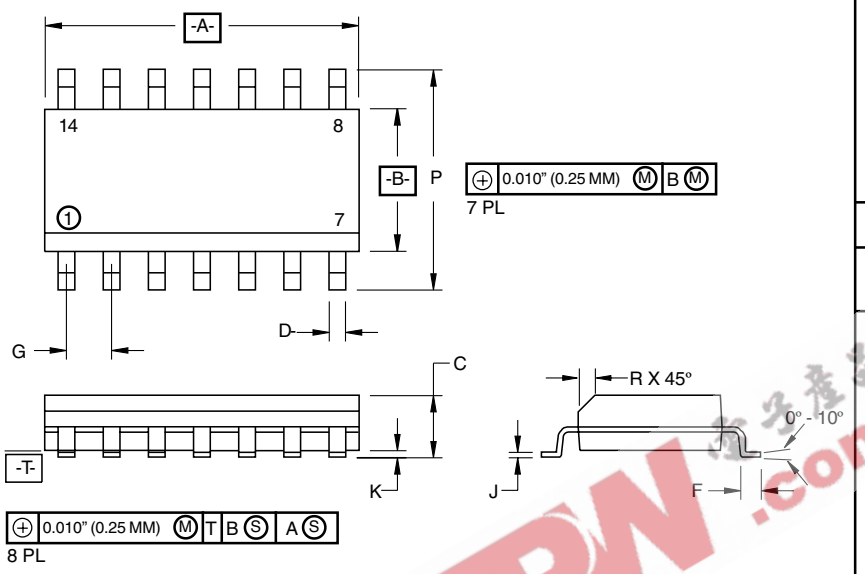


FIGURE 3
POWER DERATING CURVE

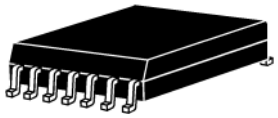


PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



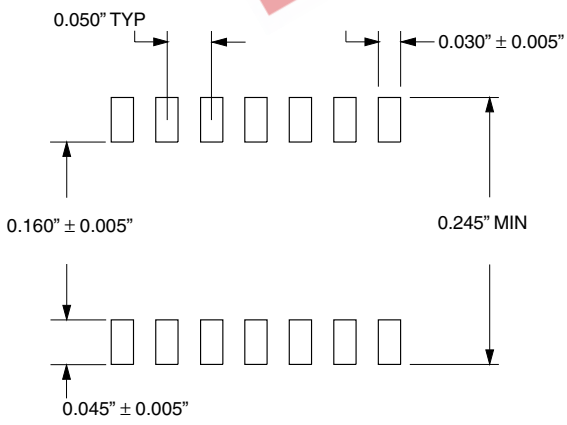
SO-14



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



NOTES

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

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

ProTek Devices
2929 South Fair Lane, Tempe, AZ 85282
Tel: 602-431-8101 Fax: 602-431-2288
E-Mail: sales@protekdevices.com
Web Site: www.protekdevices.com