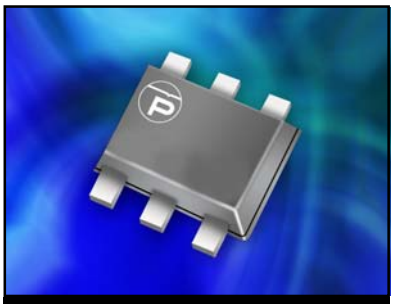
PROTEK DEVICES

VSMF05LCC

LOW CAPACITANCE TVS ARRAY



SOT-963

APPLICATIONS

✔ Computer Notebooks
✔ Communication Systems & Cellular Phones
✔ Printers
✔ Personnal Digital Assitant(PDA)
✔ Video Equipment

IEC COMPATIBILITY (EN61000-4)

✔ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
✔ 61000-4-4 (EFT): 40A - 5/50ns

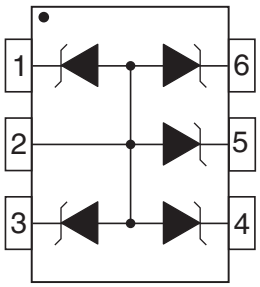
FEATURES

✔ 25 Watts Peak Pulse Power per Line (tp=8/20µs)
✔ Monolithic Structure
✔ Available in 5 Volts
✔ Low Clamping Voltage
✔ ESD Protection > 40 kilovolts
✔ Low Leakage Current
✔ Low Capacitance: 9pF
✔ Protects 5 Unidirectional and 4 Bidirectional Lines
✔ RoHS Compliant

MECHANICAL CHARACTERISTICS

✔ Molded JEDEC SOT-963 Package
✔ Weight 3 milligrams (Approximate)
✔ Available in Lead-Free Nickel-Paladium-Gold Plating
✔ Solder Reflow Temperature:
Nickel-Paladium-Gold (Ni/Pd/Au) Sn/Ag/Cu: 260-270°C
✔ Consult Factory for Leaded Device Availability
✔ Flammability Rating UL 94V-0
✔ 8mm Tape and Reel Per EIA Standard 481
✔ Marking: Marking 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}	25	Watts
Operating Temperature	T_J	-55°C to 150°C	℃
Storage Temperature	T_{STG}	-55°C to 150°C	℃
Maximum Forward Voltage @ 10mA	V_F	1.0	V

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @8/20µs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	TYPICAL CAPACITANCE (See Note 1) 0V @ 1 MHz C pF
VSMF05LCC	5B	5.0	6.0	12.0V @ 2.0A	1	9

Note 1: Pins 1, 3, 4, 5, or 6 to pin 2.

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

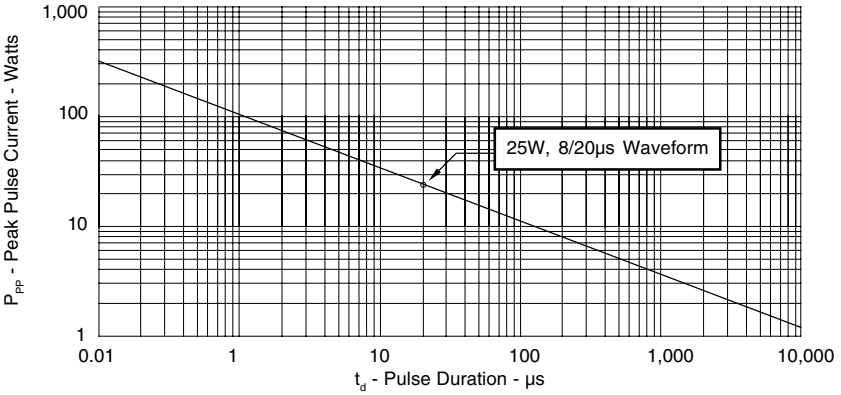
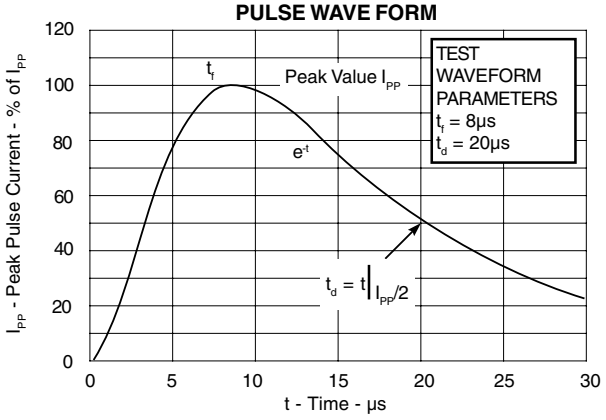


FIGURE 2
PULSE WAVE FORM



GRAPHS

FIGURE 3
POWER DERATING CURVE

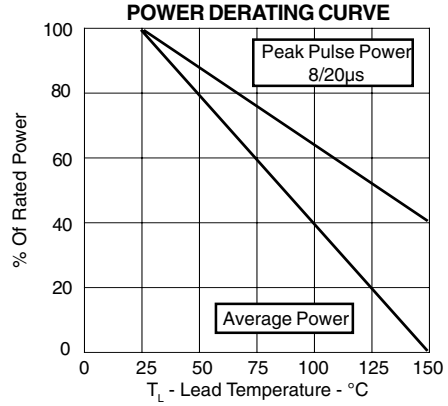
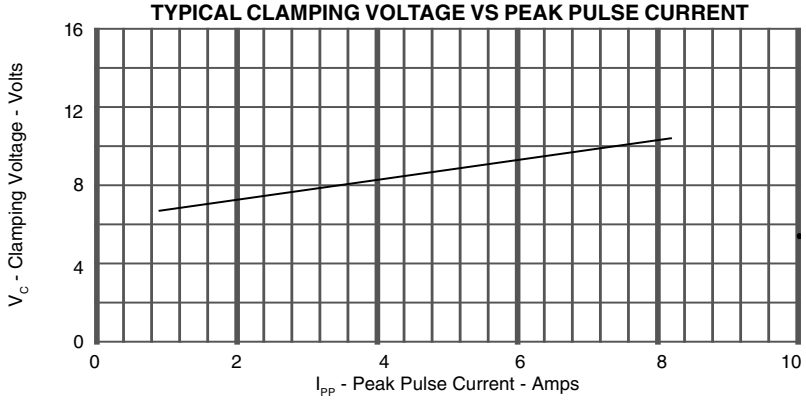
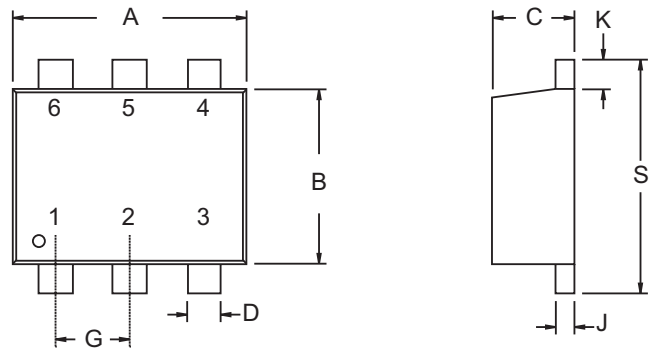


FIGURE 4
TYPICAL CLAMPING VOLTAGE VS PEAK PULSE CURRENT

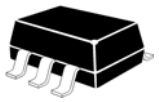


SOT-963 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



SOT-963

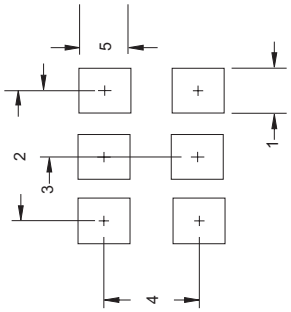


PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.95	1.05	0.037	0.041
B	0.75	0.85	0.028	0.034
C	0.40	0.50	0.016	0.020
D	0.10	0.20	0.004	0.008
G	0.35	0.40	0.014	0.016
J	0.05	0.15	0.002	0.006
K	0.05	0.15	0.002	0.006
S	0.95	1.05	0.037	0.041

MOUNTING PAD

TYPICAL		
DIM	Millimeters	Inches
1	0.20	0.008
2	0.70	0.028
3	0.35	0.014
4	0.90	0.035
5	0.20	0.008



NOTES

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

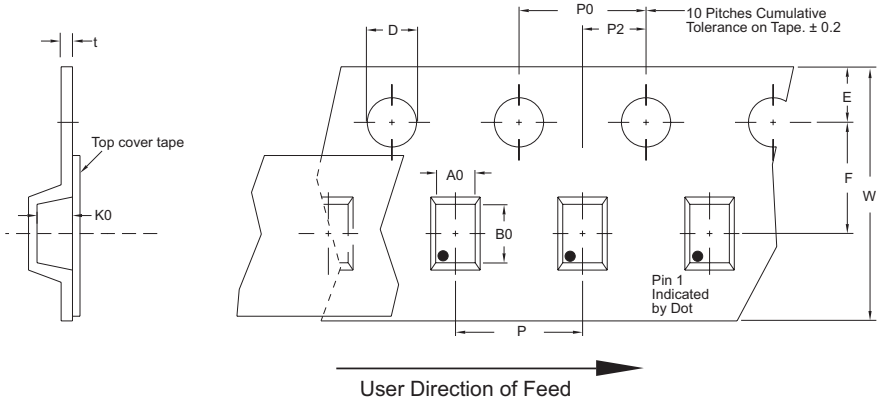
TAPE & REEL/BULK ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., *VSMF05LCC-P-T7*.
3. Suffix -T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., *VSMF05LCC-P-T13*.
4. Suffix - P = Lead-Free, Nickel-Paladium-Gold Plating, i.e., *VSMF05LCC-P*.

Outline & Dimensions: Rev 0 - 9/06, 06070

Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.17 ± 0.05	1.17 ± 0.05	0.66 ± 0.05	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ±0.30	4.00 ±0.10	2.00 ±0.05	4.00 ±0.10	0.25



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