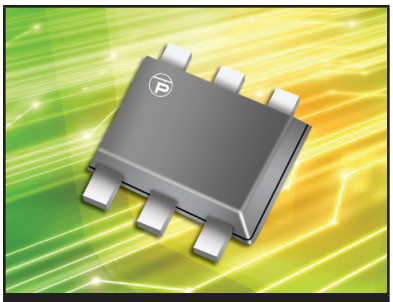
MULTI-LINE LOW CAPACITANCE TVS ARRAY



SOT-963 PACKAGE

DESCRIPTION

The VSMF05LCC is a 5 Volt, low capacitance, multi-line TVS array. This device is designed to protect wireless telecommunications and portable electronic applications from the damaging effects of ESD and EFT. The VSMF05LCC is available in a 5 line unidirectional or 4 line bidirectional configuration with a working voltage of 5 Volts and a minimum breakdown voltage of 6 Volts. This device is rated at 25 Watts peak pulse power, which is sufficient protection for tertiary type lightning threats at key interface locations.

Packaged in a miniature SOT-963, the VSMF05LCC meets IEC 61000-4-2 (ESD) and 61000-4-4 (EFT) immunity requirements. Each device should be placed near a connector to provide the best protection against transients.

FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air 15kV, Contact 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- 25 Watts Peak Pulse Power per Line(tp = 8/20µs)
- Monolithic Design
- Available in 5 Volts
- Low Clamping Voltage
- ESD Protection > 25 kilovolts
- Low Leakage Current
- Low Capacitance: 9pF
- Protects 4 Bidirectional Lines & 5 Unidirectional Lines
- RoHS Compliant
- REACH Compliant

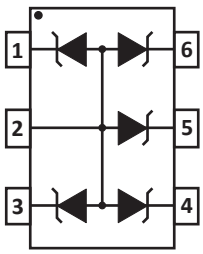
APPLICATIONS

- Communication Systems
- SMART Phones
- Portable Electronics
- Video Interfaces

MECHANICAL CHARACTERISTICS

- Molded JEDEC SOT-963 Package
- Approximate Weight: 3 milligrams
- Lead-Free Nickel Paladium Gold Plating
- Solder Reflow Temperature - 260-270°C
- Flammability Rating UL 94V-0
- 8mm Tape and Reel per EIA Standard 481

PIN CONFIGURATION



TYPICAL DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	25	Watts
Operating Temperature	T_L	-55 to 150	°C
Storage Temperature	T_{STG}	-55 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 (Fig. 2) @ I_P = 2A V_C VOLTS	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	TYPICAL CAPACITANCE (Note 1) @0V, 1MHz C pF
VSMF05LCC	5B	5.0	6.0	12.0	1	9

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

TYPICAL DEVICE CHARACTERISTICS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

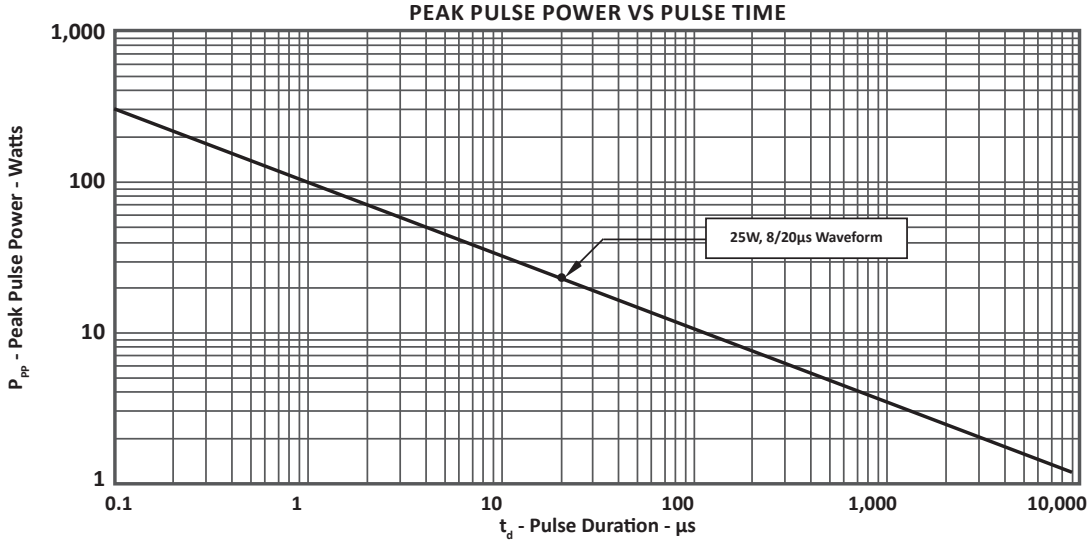


FIGURE 2
PULSE WAVE FORM

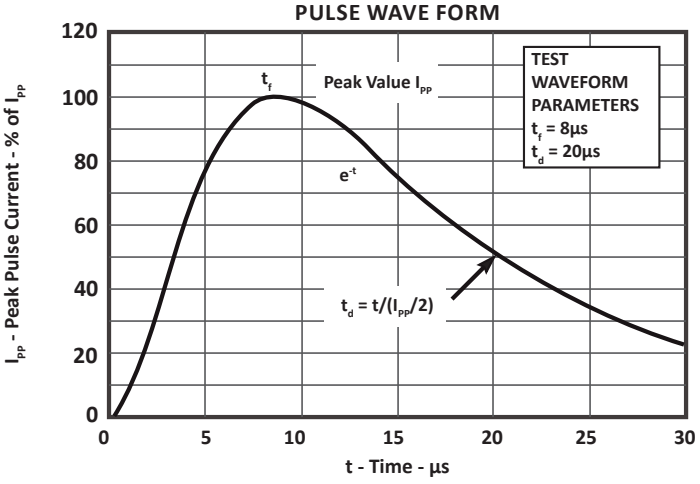
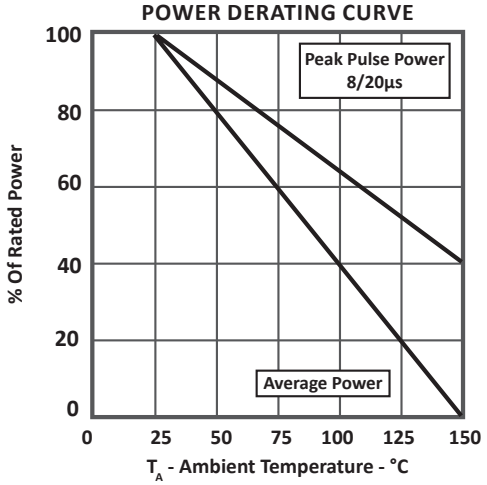


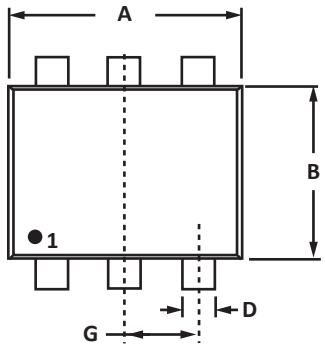
FIGURE 3
POWER DERATING CURVE

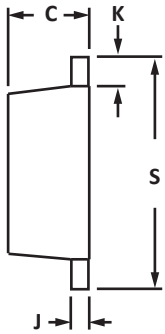


SOT-963 PACKAGE INFORMATION

OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.95	1.05	0.037	0.041
B	0.75	0.85	0.029	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	0.10	0.15	0.004	0.006
S	0.95	1.05	0.037	0.041

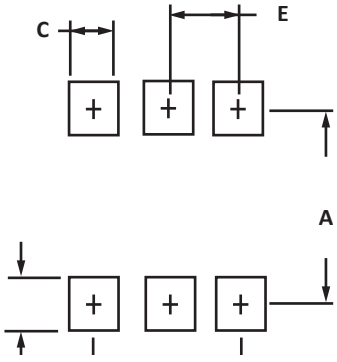
NOTES
1. Controlling dimension: inches.
2. Dimensioning and tolerances per ANSI Y14.5M, 1985.
3. Dimensions are exclusive of mold flash and metal burrs.



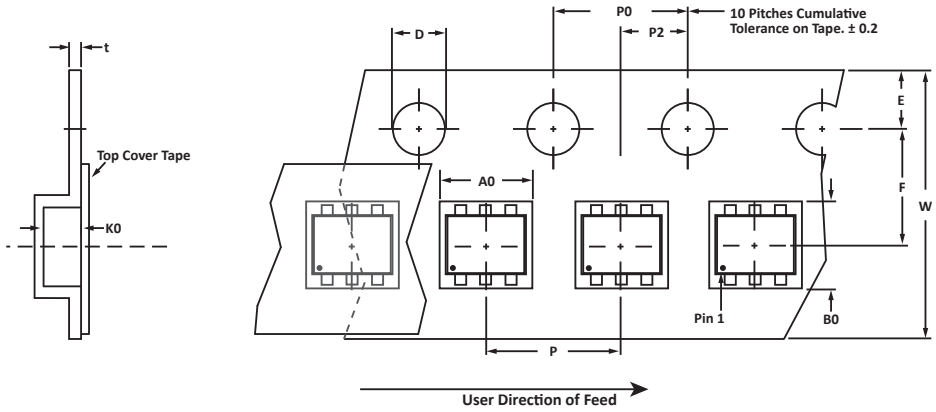


PAD LAYOUT DIMENSIONS		
DIM	MILLIMETERS	INCHES
	NOMINAL	NOMINAL
A	0.90	0.035
B	0.76	0.030
C	0.20	0.008
D	0.20	0.008
E	0.35	0.014

NOTES
1. Controlling dimension: inches.



TAPE AND REEL



SPECIFICATIONS												
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

NOTES
1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Suffix - T74 = 7" Reel - 4,000 pieces per 8mm tape.
4. Marking on Part - marking code (see page 2) and pin one defined by dot on package.

Package outline, pad layout and tape specifications per document number 06070.R1 3/11.

ORDERING INFORMATION					
BASE PART NUMBER	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
VSMF05LCC	-LF	-T74	4,000	7"	n/a

This device is only available in a Lead-Free configuration.

COMPANY INFORMATION

COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

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