

## LOW CAPACITANCE TVS ARRAY

## APPLICATIONS

- ✓ Computer Notebooks
- ✓ Communication Systems & Cellular Phones
- ✓ Printers
- ✓ Personal Digital Assitant(PDA)
- ✓ Video Equipment

## IEC COMPATIBILITY (EN61000-4)

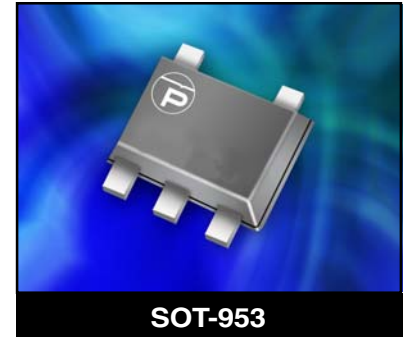
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns

## FEATURES

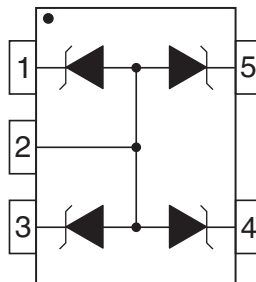
- ✓ 25 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- ✓ Monolithic Structure
- ✓ Available in 5 Volts
- ✓ Low Clamping Voltage
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Leakage Current
- ✓ Low Capacitance: 9pF
- ✓ Protects Four (4) Unidirectional Lines
- ✓ RoHS Compliant

## MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-953 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



# VSMF05LC

## DEVICE CHARACTERISTICS

### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

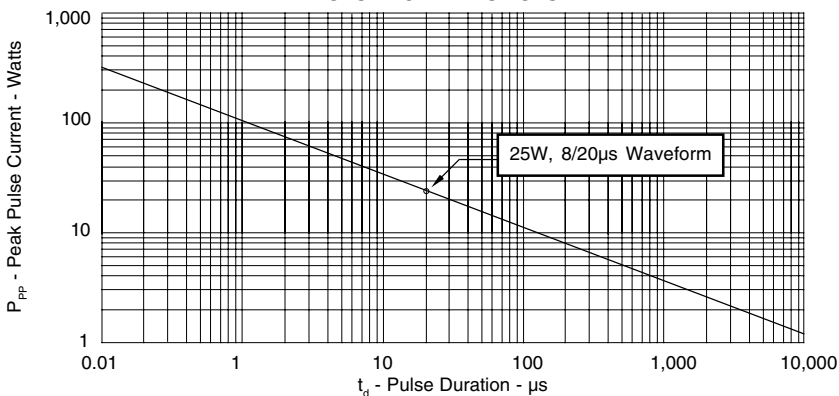
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ ) - See Figure 1	$P_{PP}$	25	Watts
Operating Temperature	$T_L$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C
Maximum Forward Voltage @ 10mA	$V_F$	1.0	V

### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

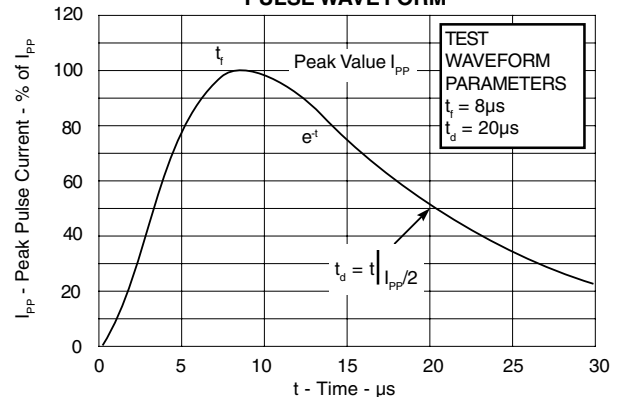
PART NUMBER	DEVICE MARKING	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE (See Note 1)
		$V_{WM}$ VOLTS	@ 1mA $V_{(BR)}$ VOLTS	@ 8/20 $\mu\text{s}$ $V_C @ I_{PP}$	@ $V_{WM}$ $I_b$ $\mu\text{A}$	0V @ 1 MHz C pF
VSMF05LC	5A	5.0	6.0	12.0V @ 2.0A	1	9

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

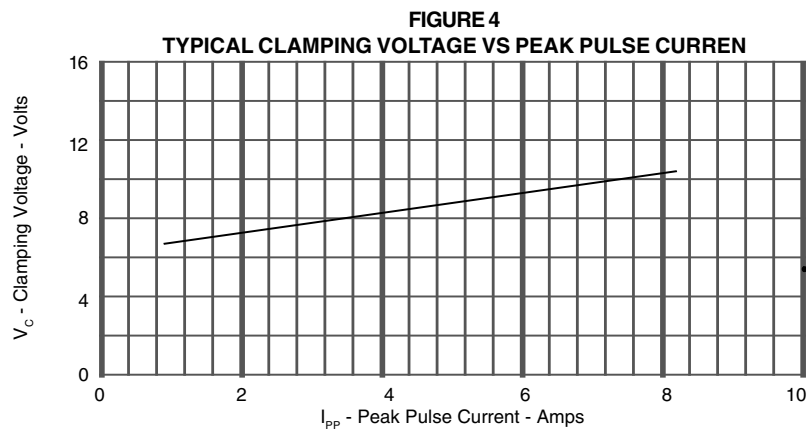
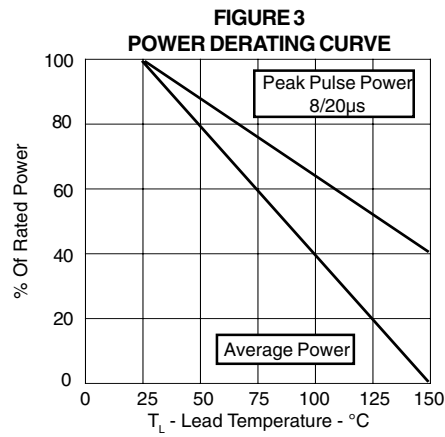
**FIGURE 1**  
PEAK PULSE POWER VS PULSE TIME



**FIGURE 2**  
PULSE WAVE FORM

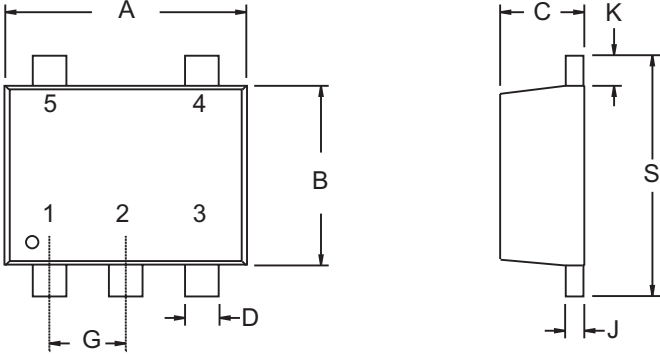
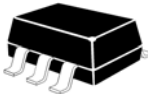
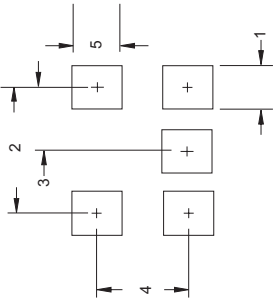


## GRAPHS



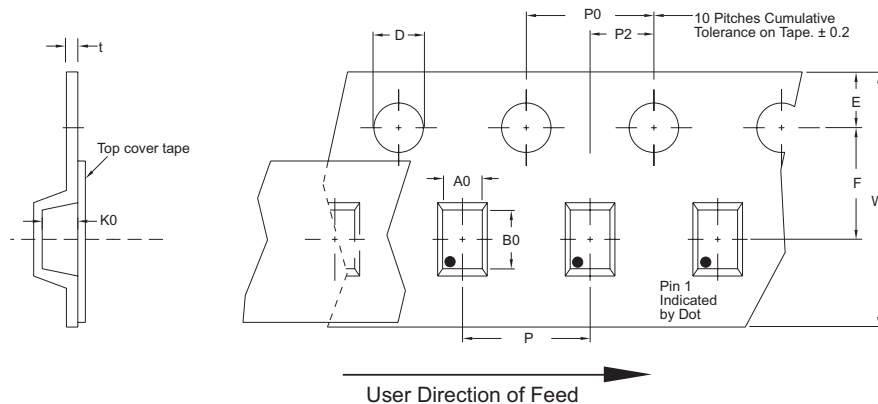
# VSMF05LC

## SOT-953 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE		SOT-953																											
																													
<b>PACKAGE DIMENSIONS</b>																													
<b>DIM</b>	<b>MILLIMETERS</b>		<b>INCHES</b>																										
	<b>MIN</b>	<b>MAX</b>	<b>MIN</b>	<b>MAX</b>																									
A	0.95	1.05	0.037	0.041																									
B	0.75	0.80	0.029	0.034																									
C	0.40	0.50	0.019	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																									
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<b>MOUNTING PAD</b>																													
<table border="1" style="margin: auto;"> <thead> <tr> <th colspan="3">TYPICAL</th> </tr> <tr> <th>DIM</th> <th>Millimeters</th> <th>Inches</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.008</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">0.70</td> <td style="text-align: center;">0.028</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">0.35</td> <td style="text-align: center;">0.014</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">0.90</td> <td style="text-align: center;">0.035</td> </tr> <tr> <td style="text-align: center;">5</td> <td style="text-align: center;">0.20</td> <td style="text-align: center;">0.008</td> </tr> </tbody> </table>			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				<p><b>NOTES</b></p> <ol style="list-style-type: none"> <li>1. Dimensioning and tolerances per ANSI Y14.5M, 1985.</li> <li>2. Controlling Dimension: Inches</li> <li>3. Pin 3 is the cathode (Unidirectional Only).</li> <li>4. Dimensions are exclusive of mold flash and metal burrs.</li> </ol> <p><b>TAPE &amp; REEL/BULK ORDERING NOMENCLATURE</b></p> <ol style="list-style-type: none"> <li>1. Surface mount product is taped and reeled in accordance with EIA-481.</li> <li>2. Suffix -T74 = 7 Inch Reel - 4,000 pieces per 8mm tape, i.e., <i>VSMF05LC-LF-T74</i>.</li> <li>3. Suffix -T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., <i>VSMF05LC-LF-T13</i>.</li> <li>4. Suffix -LF = Lead-Free, Nickel-Paladium-Gold Platin, i.e., <i>VSMF05LC-LF-T74</i>.</li> </ol> <p style="text-align: right;"><b>Outline &amp; Dimensions: Rev 0 - 9/06, 06061</b></p>		
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### 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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