



# ESDA05C-5

## LOW CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ Set-Top Boxes
- ✓ Modems
- ✓ Computers
- ✓ Printers
- ✓ Communication Systems

### IEC COMPATIBILITY (EN61000-4)

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

### FEATURES

- ✓ 80 Watts Peak Pulse Power per Line (tp=8/20μs)
- ✓ ESD Protection > 25 kilovolts
- ✓ Protect Five(5) Lines of Protection
- ✓ Low Clamping Voltage
- ✓ Bidirectional Configuration
- ✓ Low Leakage Current < 1.0μA
- ✓ Low Capacitance: 15pF per Diode
- ✓ RoHS Compliant

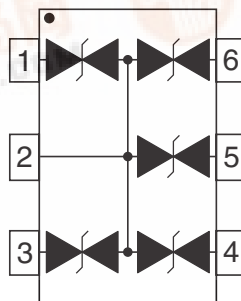
### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-23-6 Package
- ✓ Weight 16 milligrams (Approximate)
- ✓ Available in Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 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 Package



SOT-23-6

### PIN CONFIGURATION



# ESDA05C-5

## 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	$P_{FP}$	80	Watts
Operating Temperature	$T_L$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C

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

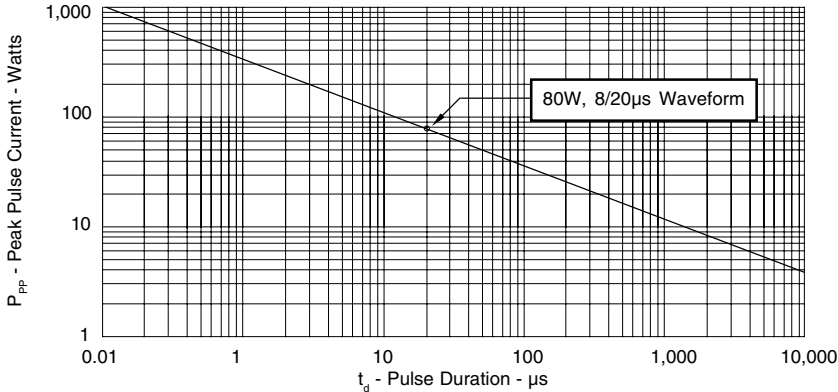
PART NUMBER (See Note 1)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_b$ $\mu\text{A}$	TYPICAL CAPACITANCE  0V @ 1 MHz C pF
ESDA05C-5	ED5	5.0	6.1	1	15

**Note 1:** *Bidirectional Only:* Test between pins 2 to 1, 2 to 6, 2 to 5, 2 to 4 and 2 to 3. Electrical characteristics apply in both directions.

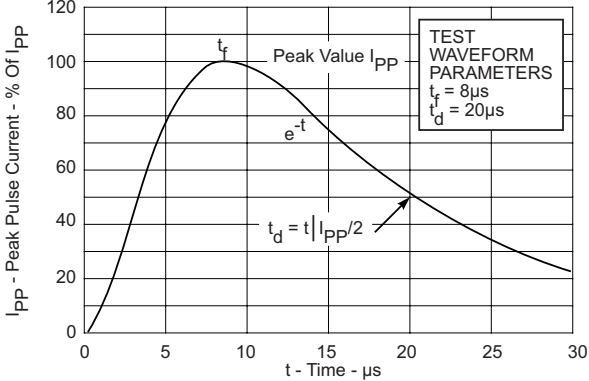
**Note 2:** *Bidirectional Only:* Capacitance measured between pins 1, 3, 4, 5, and 6 to 2.

## GRAPHS

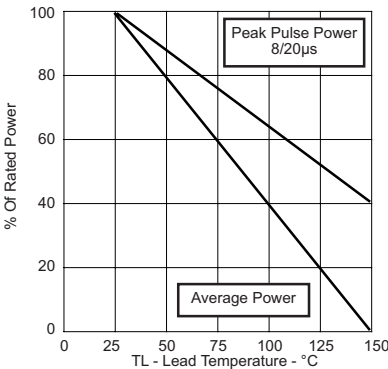
**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
PULSE WAVE FORM**



**FIGURE 3  
POWER DERATING CURVE**



# ESDA05C-5

## SOT-23-6 PACKAGE OUTLINE & DIMENSIONS

### PACKAGE OUTLINE

### SOT-23-6

### PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.05	0.110	0.120
B	1.50	1.75	0.059	0.070
C	0.90	1.30	0.036	0.051
D	0.35	0.50	0.014	0.020
E	0.85	1.05	0.033	0.040
F	1.70	2.10	0.067	0.083
G	0.90	1.45	0.036	0.057
J	0.09	0.20	0.003	0.008
K	2.60	3.00	0.102	0.118
L	0.20 TYP	0.20 TYP	0.007 TYP	0.007 TYP
M	0.35	0.55	0.014	0.022

### MOUNTING PAD

TYPICAL		
DIM	Millimeters	Inches
1	0.70	0.028
2	1.90	0.074
3	0.95	0.037
4	2.40	0.094
5	1.00	0.039

### NOTES

- Dimensioning and tolerances per ANSI Y14.5M, 1985.
- Controlling Dimension: Inches
- Dimensions are exclusive of mold flash and metal burrs.

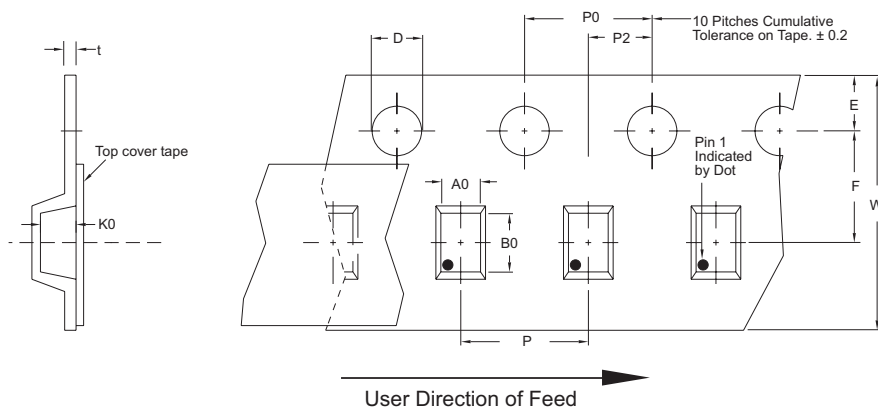
#### TAPE & REEL/BULK ORDERING NOMENCLATURE

- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., *ESDA05C-5-T7*
- Suffix -LF = Lead-Free, Pure-Tin Plating, i.e., *ESDA05C-5-LF-T7*.

**Outline & Dimensions: Rev 2 - 10/05, 06013**

### Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	3.20 ± 0.10	3.20 ± 0.10	1.65 ± 0.10	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



**COPYRIGHT © ProTek Devices 2007**

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice (except JEDEC).

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice, and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance, ProTek assumes no responsibility with respect to the selection or specifications of such products.

**ProTek Devices**

2929 South Fair Lane, Tempe, AZ 85282

Tel: 602-431-8101 Fax: 602-431-2288

E-Mail: [sales@protekdevices.com](mailto:sales@protekdevices.com)

Web Site: [www.protekdevices.com](http://www.protekdevices.com)