



# ESDA05C-4

## 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 Four(4) Line of Protection
- ✓ Low Clamping Voltage
- ✓ Bidirectional Configuration
- ✓ Low Leakage Current < 1.0µA
- ✓ Low Capacitance: 15pF per Diode
- ✓ RoHS Compliant

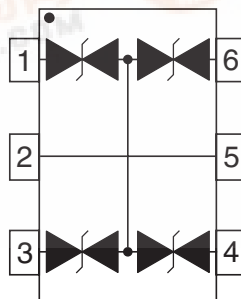
### MECHANICAL CHARACTERISTICS

- ✓ 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



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## DEVICE CHARACTERISTICS

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

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - 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  @ $V_{WM}$ $I_b$ $\mu A$	TYPICAL CAPACITANCE  0V @ 1 MHz C pF
ESDA05C-4	ED4	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

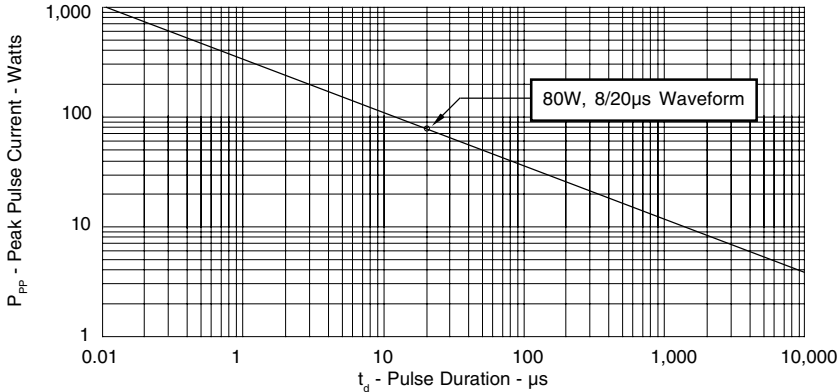


FIGURE 2  
PULSE WAVE FORM

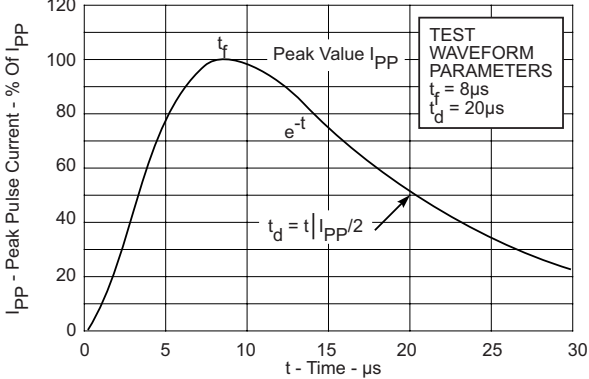
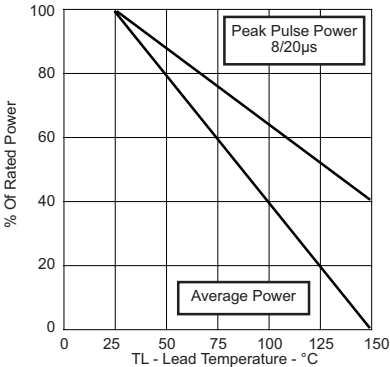


FIGURE 3  
POWER DERATING CURVE



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## 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.

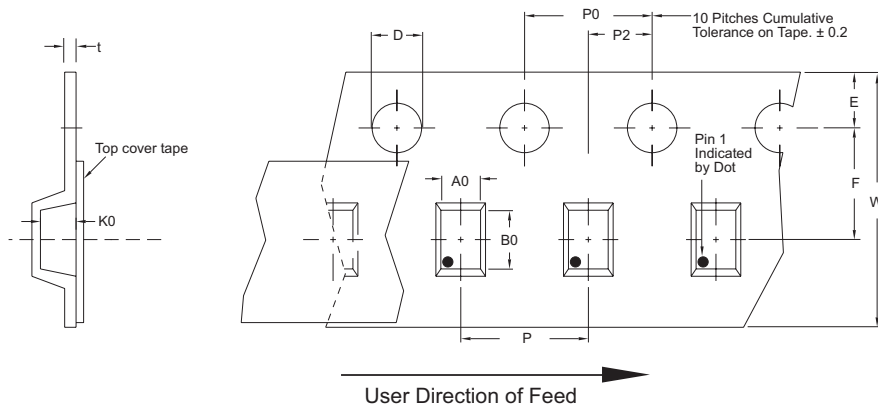
**TAPE & REEL/BULK ORDERING NOMENCLATURE**

- 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-4-T7*
- Suffix -LF = Lead-Free, Pure-Tin Plating, i.e., *ESDA05C-4-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



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