

## LOW CAPACITANCE TVS ARRAY

### APPLICATIONS

- ✓ Ethernet - 10/100/1000 Base T
- ✓ CAN Bus
- ✓ Cellular Phones
- ✓ Audio/Video Inputs
- ✓ Personal Digital Assistant (PDA)
- ✓ E1/T1 & E3/T3

### IEC COMPATIBILITY (EN61000-4)

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

### FEATURES

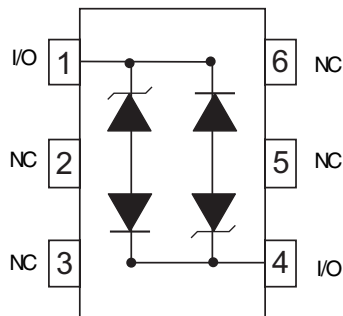
- ✓ ESD Protection > 25 kilovolts
- ✓ 250 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- ✓ Protects Two (2) Bidirectional Lines
- ✓ Bidirectional Configuration
- ✓ Low Leakage Current < 1.0 $\mu A$
- ✓ Low Capacitance: 3pF per Line
- ✓ RoHS Compliant

### MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-23 Package
- ✓ Weight 8 milligrams (Approximate)
- ✓ Lead-Free Pure-Tin Plating (Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Marking: Marking Code



### PIN CONFIGURATION



# ESOT12LCC-1

## DEVICE CHARACTERISTICS

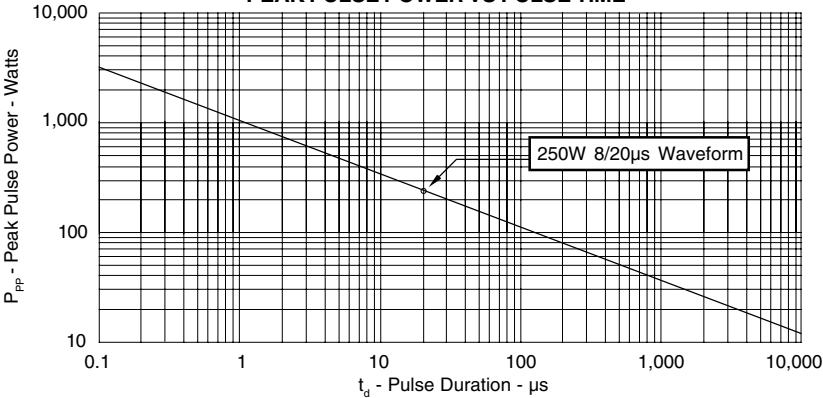
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P <sub>PP</sub>	250	Watts
Peak Pulse Current (tp = 8/20µs)	I <sub>PP</sub>	9	A
Operating Temperature	T <sub>A</sub>	-55 to 150	°C
Storage Temperature	T <sub>STG</sub>	-55 to 150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Notes 1 & 2)	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
		V <sub>WM</sub> VOLTS	@ 1mA V <sub>(BR)</sub> VOLTS	@ I <sub>p</sub> = 1A V <sub>C</sub> VOLTS	@ 8/20µs V <sub>C</sub> @ I <sub>PP</sub>	@ V <sub>WM</sub> I <sub>b</sub> µA	@ 0V, 1 MHz C pF
ESOT12LCC-1	12L	12.0	13.3	19.0	29.0 @ 9.0A	1	3

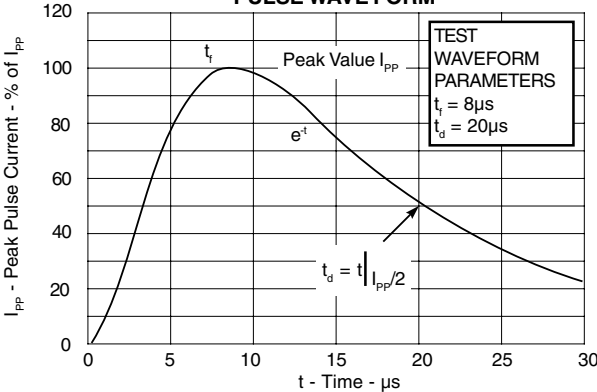
**Note 1:** Test between pins 1 to 3 and 2 to 3 in both directions.

**Note 2:** Per IEC 6100-4-2, ESD ±25kV.

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



**FIGURE 2**  
PULSE WAVE FORM



# ESOT12LCC-1

## 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.

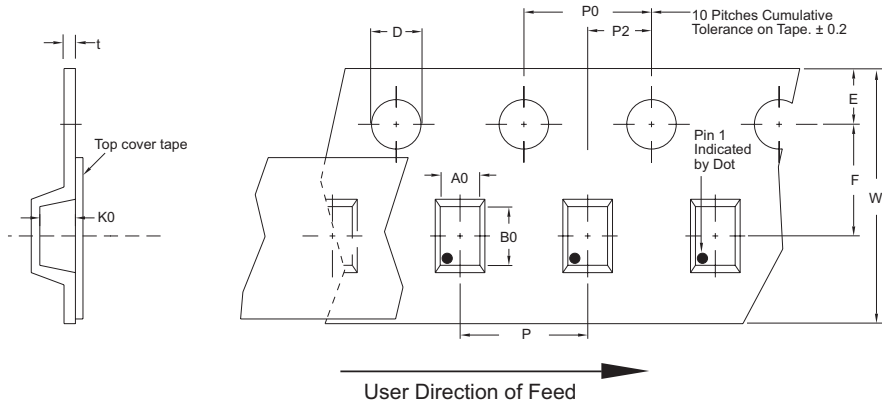
**TAPE & REEL/BULK ORDERING NOMENCLATURE**

- 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. ESOT12LCC-1-T7
- Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., ESOT12LCC-1-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)