PROTEK DEVICES

ESOT12LCC-1

LOW CAPACITANCE TVS ARRAY



SOT-23-6

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

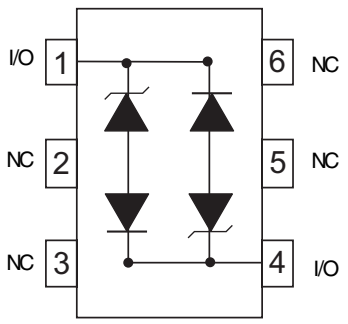
FEATURES

✔ ESD Protection > 25 kilovolts
✔ 250 Watts Peak Pulse Power per Line (tp=8/20µs)
✔ Protects Two (2) Bidirectional Lines
✔ Bidirectional Configuration
✔ Low Leakage Current < 1.0µA
✔ 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



DEVICE CHARACTERISTICS

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	**SYMBOL**	**VALUE**	**UNITS**
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P_{PP}	250	Watts
Peak Pulse Current (tp = 8/20µs)	I_{PP}	9	A
Operating Temperature	T_A	-55 to 150	℃
Storage Temperature	T_{STG}	-55 to 150	℃

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified							
PART NUMBER (See Notes 1 & 2)	DEVICE MARKING CODE	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ I_P = 1A V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @8/20µs V_C @ I_{PP}	MAXIMUM LEAKAGE CURRENT @V_{WM} I_D µA	TYPICAL CAPACITANCE @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

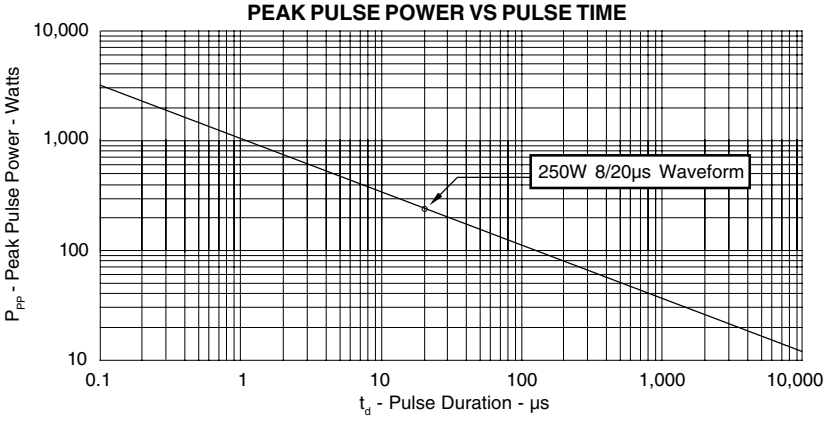
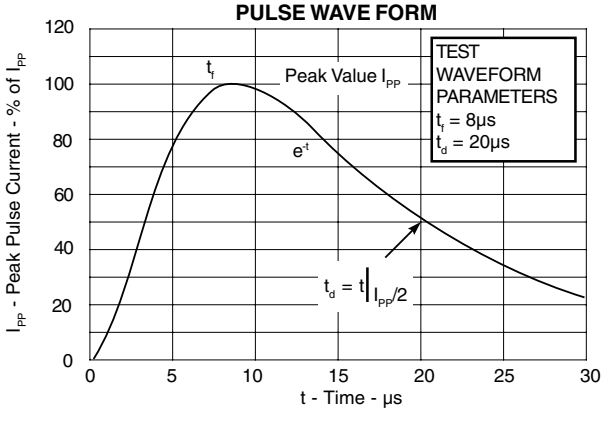
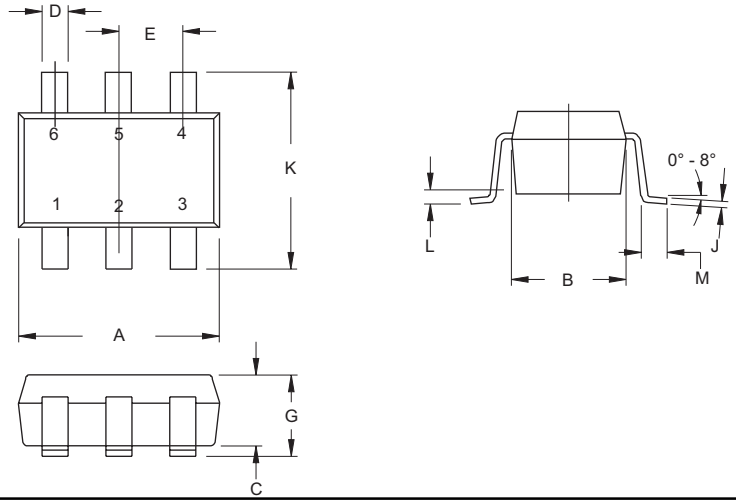


FIGURE 2
PULSE WAVE FORM

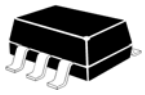


SOT-23-6 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



SOT-23-6

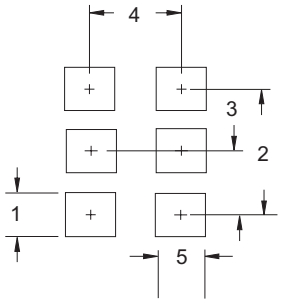


PACKAGE DIMENSIONS

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

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

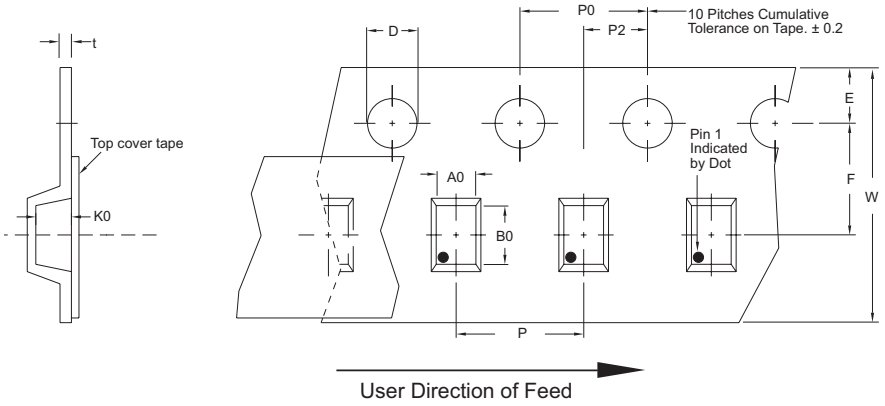
TAPE & REEL/BULK ORDERING NOMENCLATURE

1. Surface mount product is taped and reeled in accordance with EIA-481.
2. Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e.ESOT12LCC-1-*T7*
3. 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



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