

STANDARD CAPACITANCE TVS ARRAY
APPLICATIONS

- ✓ RS-232, RS-422 & RS-423
- ✓ Digital Sensor I/O Ports
- ✓ Control & Monitoring Systems
- ✓ Portable Electronics
- ✓ 12 & 33 Volt DC Protection

IEC COMPATIBILITY (EN61000-4)

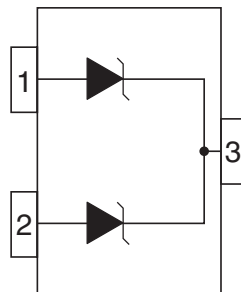
- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 12A, 8/20 μ s - Level 1(Line-Gnd) & Level 2(Line-Line)

FEATURES

- ✓ 300 Watts Peak Pulse Power per Line (tp = 8/20 μ s)
- ✓ 200 Watts Peak Pulse Power per Line (tp = 1.2/50 μ s)
- ✓ 40 Watts Peak Pulse Power per Line (tp = 10/1000 μ s)
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Clamping Voltage
- ✓ Common Cathode Configuration
- ✓ Provides Two Lines of Protection
- ✓ RoHS Compliant

MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOT-23 Package
- ✓ Weight 8 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 CONFIGURATION


PSOT15KCA
thru
PSOT36KCA

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_{PP}	300	Watts
Peak Pulse Power ($t_p = 1.2/50\mu s$) - See Figure 1	P_{PP}	200	Watts
Peak Pulse Power ($t_p = 10/100\mu s$) - See Figure 1	P_{PP}	40	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 CODE	RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ $I_P = 1.9A$ V_C VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2) @ 8/20 μs $V_C @ I_{PP}$	MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	TYPICAL CAPACITANCE @ 0V, 1 MHz C_J pF
PSOT15KCA	PKA	12.8	14.3	21.2	33V @ 9A	0.1	120
PSOT36KCA	PKB	33.0	36.0	45.0	66V @ 6A	0.1	45

Note 1: For Unidirectional test only pins 1-3 and 2-3.

GRAPHS

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

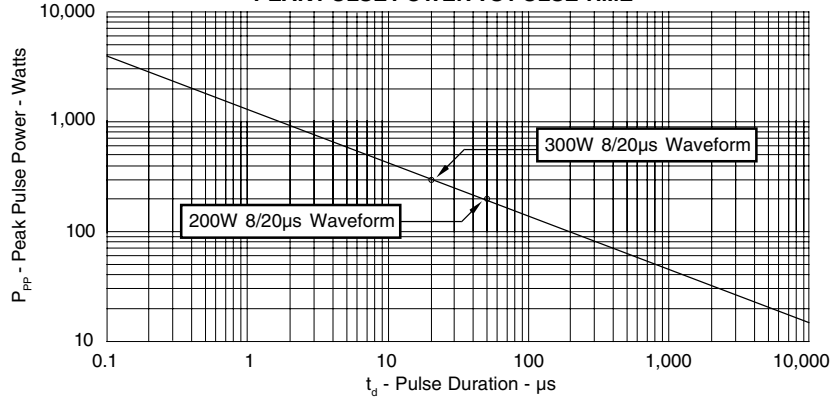


FIGURE 2
PULSE WAVE FORM

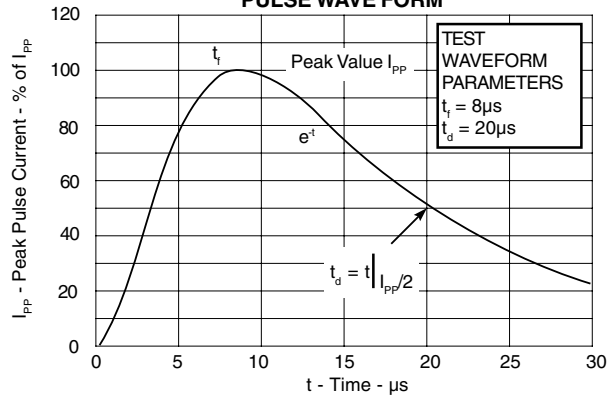
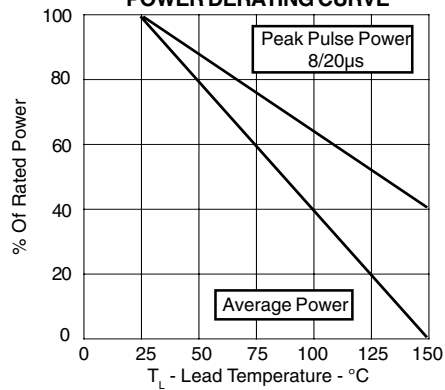


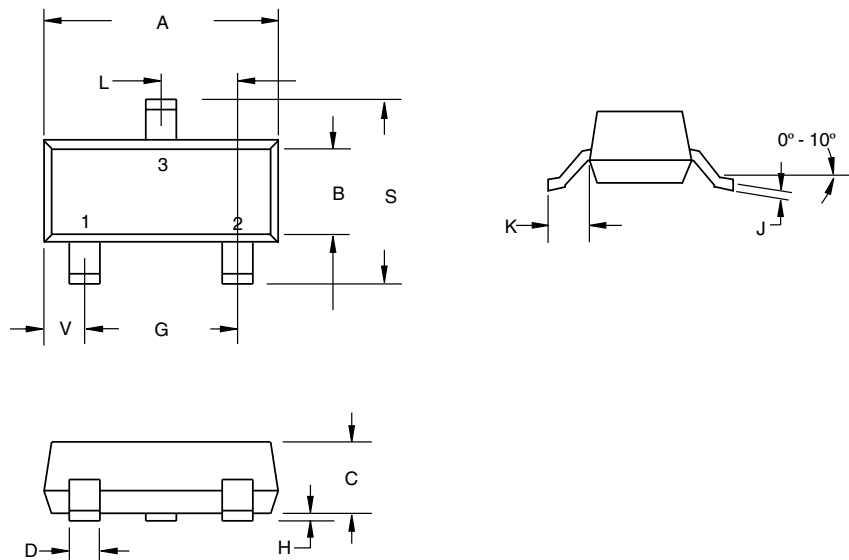
FIGURE 3
POWER DERATING CURVE



PSOT15KCA thru PSOT36KCA

SOT-23 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE



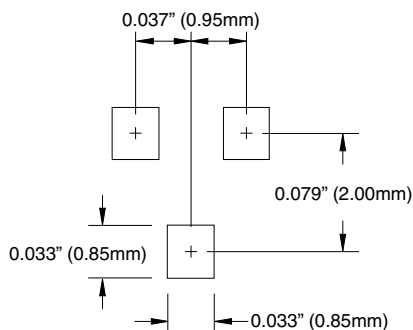
SOT-23



PACKAGE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.80	3.04	0.1102	0.1197
B	1.20	1.40	0.0472	0.0551
C	0.89	1.11	0.0350	0.0440
D	0.37	0.50	0.0150	0.0200
G	1.78	2.04	0.0701	0.0807
H	0.013	0.100	0.0005	0.0040
J	0.085	0.177	0.0034	0.0070
K	0.45	0.60	0.0180	0.0236
L	0.89	1.02	0.0350	0.0401
S	2.10	2.50	0.0830	0.0984
V	0.45	0.60	0.0177	0.0236

MOUNTING PAD



NOTES

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

TAPE & REEL 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., PSOT15KCA-T7.
3. Suffix-T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, i.e., PSOT15KCAT13.
4. Suffix - LF = Lead-Free, Pure-Tin Plating, i.e., PSOT15KCA-LF-T7.

Outline & Dimensions: Rev 1 - 11/01, 06012

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