



DESCRIPTION

The PAM37SDxxAL/CAL Series is a transient voltage suppressor array, designed to protect applications such as consumer electronic products, automotive, telecommunications, aerospace and intelligent control systems. This series is available in both unidirectional and bidirectional configurations. This series is rated for 400 Watts peak pulse power (10/1000 μ s) and is offered in a space saving SOD-123FL package. The PAM37SDxxAL/CAL series meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements.

FEATURES

- AEC-Q101 Qualified
- Compatible with IEC 61000-4-2 (ESD): Air \pm 15kV, Contact \pm 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20 μ s Waveform
- 400 Watts Peak Pulse Power per Line (tp = 10/1000 μ s)
- Low Inductance
- Excellent Clamping Capability
- Unidirectional and Bidirectional Configurations
- Low Leakage Current: < 1 μ A (Typical)
- Fast Response Time
- Available in Multiple Voltages
- RoHS Compliant
- REACH Compliant

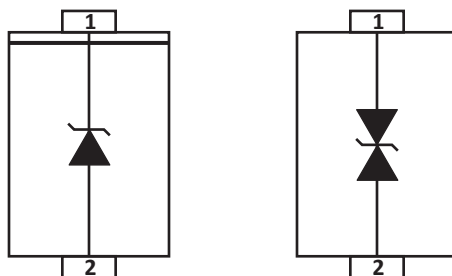
APPLICATIONS

- Automotive

MECHANICAL CHARACTERISTICS

- Molded SOD-123FL Package
- Approximate Weight: 0.0136 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- 12mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

PIN CONFIGURATIONS



TYPICAL DEVICE CHARACTERISTICS

RTCA DO-160G COMPLIANT PRODUCT

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Operating Temperature	T_J	-55 to 150	°C
Storage Temperature	T_{STG}	-55 to 150	°C
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$	$P_{M(AV)}$	2.8	W
Peak Pulse Power ($t_p = 10/1000\mu\text{s}$) - See Figure 1	P_{PP}	400	Watts
Maximum Instantaneous Forward Voltage at 20A	V_F	5.0	V
Typical Thermal Resistance Junction to Lead	RJL	100	°C/W
Typical Thermal Resistance Junction to Ambient	RJA	220	°C/W

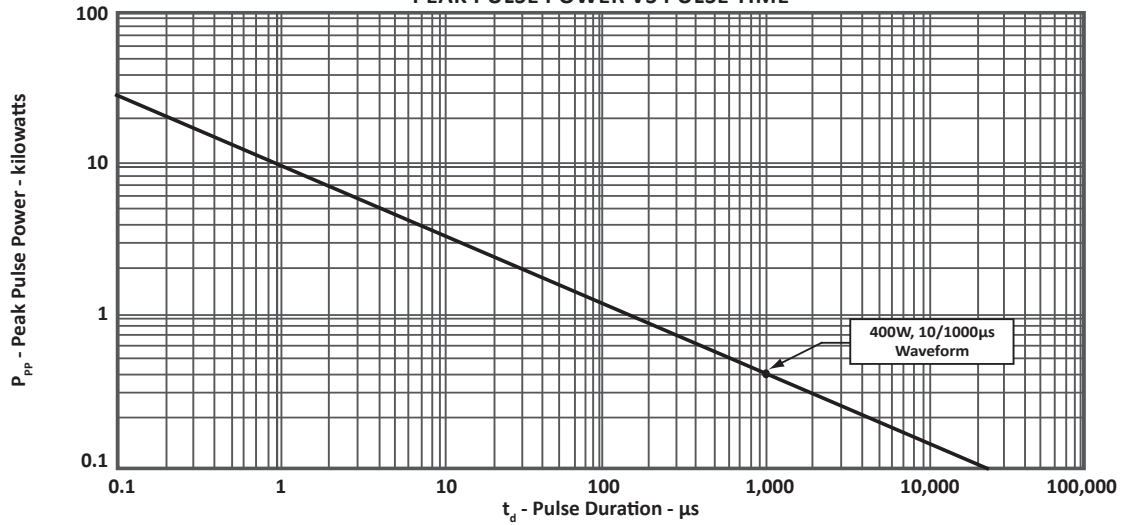
ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (See Note 1-3)	DEVICE MARKING		REVERSE STAND-OFF VOLTAGE V_{RWM} VOLTS	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ VOLTS		TEST CURRENT @ I_T mA	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I_P V_C VOLTS	MAXIMUM REVERSE SURGE CURRENT @ I_{PP} AMPS	MAXIMUM REVERSE LEAKAGE CURRENT @ V_{RWM} I_R μA
	UNI	BI		MIN	MAX				
PAM37SD6.0AL	AG	AGC	6.0	6.67	7.37	10	10.3	35.9	120
PAM37SD6.5AL	AK	AKC	6.5	7.22	7.98	10	11.2	33.1	80
PAM37SD12AL	BE	BEC	12.0	13.30	14.70	1	19.9	20.1	1
PAM37SD13AL*	BG	-	13.0	14.40	15.90	1	21.5	18.6	1
PAM37SD15AL	BM	BMC	15.0	16.70	18.50	1	24.4	16.4	1
PAM37SD18AL*	BT	-	18.0	20.0	22.1	1	29.2	13.7	1
PAM37SD30CAL*	-	CKC	30.0	33.30	36.80	1	48.4	8.3	1
PAM37SD36CAL*	-	CPC	36.0	40.00	44.20	1	58.1	6.9	1
PAM37SD58AL*	DE	-	58.0	64.40	71.20	1	93.6	4.3	1

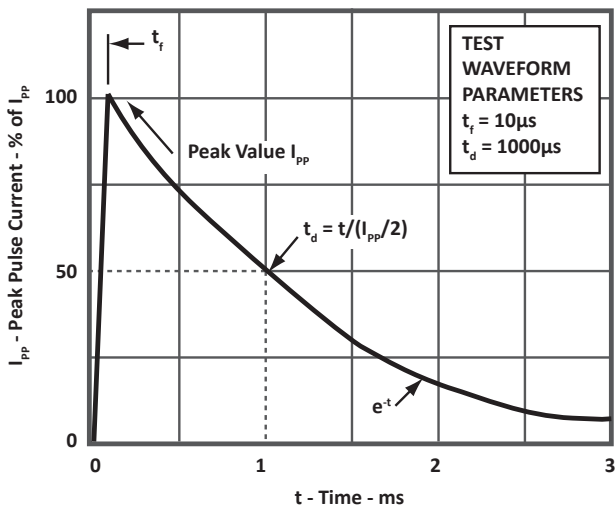
NOTE

1. Add a 'CAL' specify a bidirectional device; i.e., "PAM37SD6.0CAL".
2. *Only offered in either unidirectional or bidirectional, but not both.
3. Consult factory for other voltages.

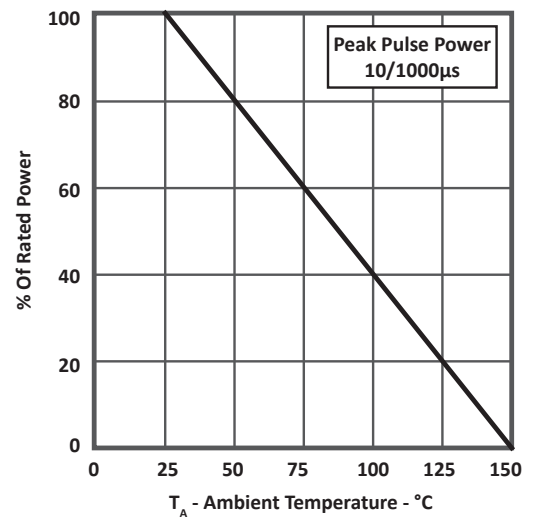
**FIGURE 1
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2
PULSE WAVEFORM**



**FIGURE 3
POWER DERATING CURVE**



PACKAGE INFORMATION

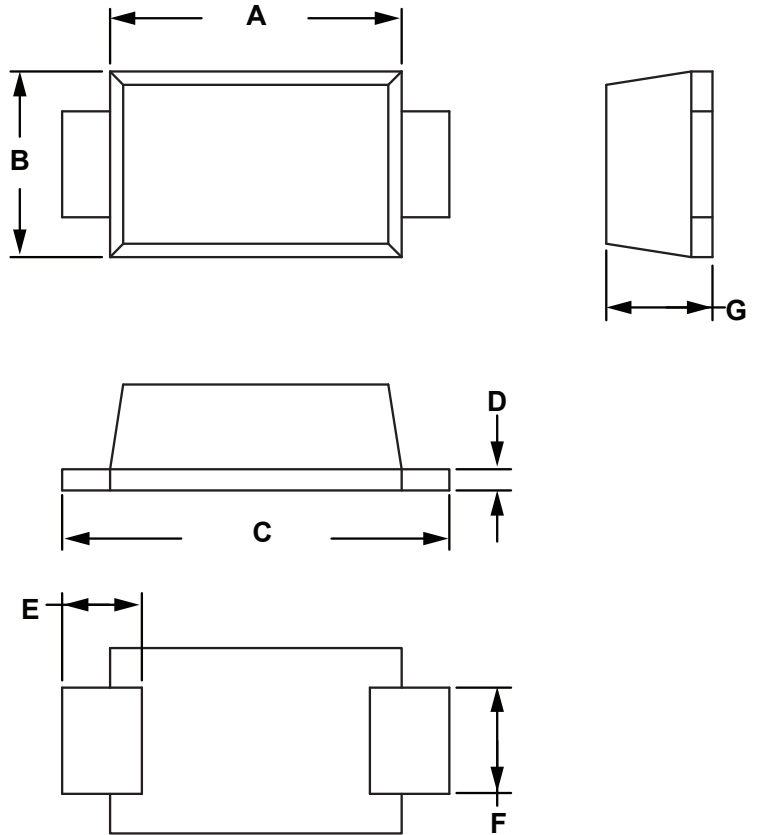
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OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.010
E	0.30	0.90	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053

NOTES

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

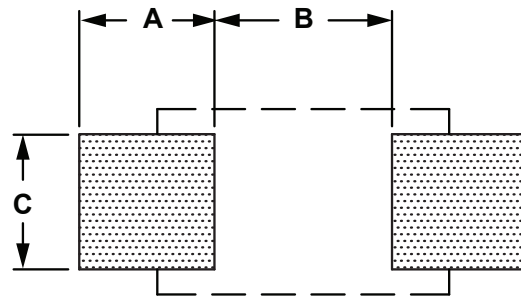


PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.30		0.051	
B		1.70		0.067
C	1.30		0.051	

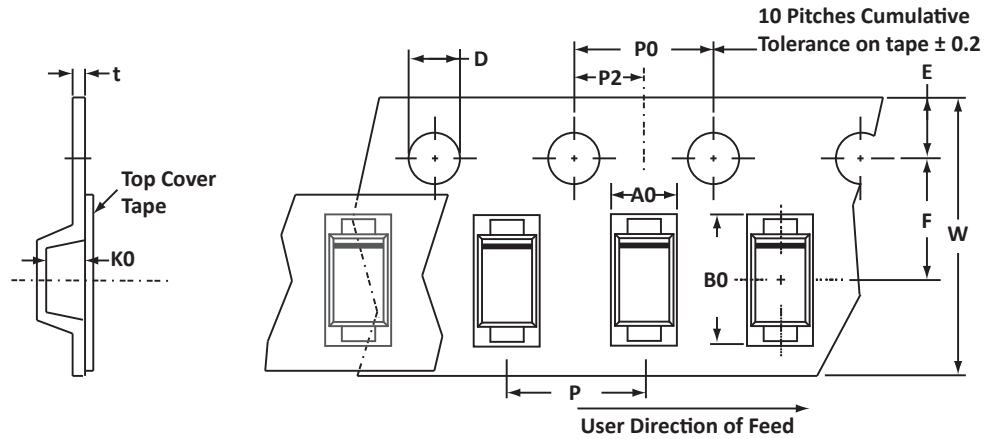
NOTES

1. Controlling dimension: millimeters



TAPE AND REEL

RTCA DO-160G COMPLIANT PRODUCT



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.95 ± 0.3	3.95 ± 0.3	1.40 ± 0.05	1.55 ± 0.10	1.75 ± 0.20	3.50 ± 0.5	8.00 ± 0.20	4.00 ± 0.20	2.00 ± 0.2	4.00 ± 0.20	0.25

NOTES

1. Dimensions are in millimeters.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Empty pocket between sprocket holes.
4. Suffix - T73 = 7" Reel - 3,000 pieces per 8mm tape.
5. Marking on Part - marking code (see page 2), polarity band and date code.

ORDERING INFORMATION

BASE PART NUMBER (xx = Voltage)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
PAM37SDxxAL/CAL	n/a	-T73	3,000	7"	n/a

This device is only available in a Lead-Free configuration.

COMPANY INFORMATION**RTCA DO-160G COMPLIANT PRODUCT****COMPANY PROFILE**

In business more than 25 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products. ProTek Devices is ISO 9001:2015 certified.

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