200 WATT TVS COMPONENT

RTCA DO-160G COMPLIANT PRODUCT

SOD-123FL PACKAGE

DESCRIPTION

The PAM40SDxxBL/CBL Series are transient voltage suppressor arrays, designed to protect automotive applications. This series is available in both unidirectional and bidirectional configurations. This series is rated for 200 Watts peak pulse power (10/1000µs) and is offered in a space saving SOD-123FL package. The PAM40SDxxBL/CBL 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 ±30kV, Contact ±30kV
- Compatible with IEC 61000-4-4 (EFT): 40A, 5/50ns
- Compatible with IEC 61000-4-5 (Surge): 8/20µs Waveform
- 200 Watts Peak Pulse Power per Line (tp = 10/1000µs)
- Low Inductance
- Excellent Clamping Capability
- Unidirectional & Bidirectional Configurations
- Low Leakage Current: < 1µA (Typical)
- Fast Response Time
- Available in Multiple Voltages
- RoHS Compliant

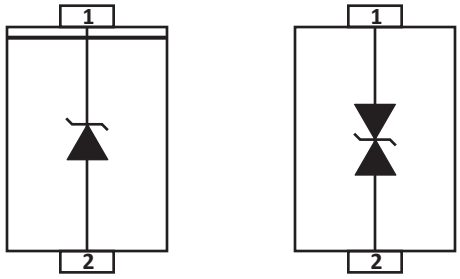
APPLICATIONS

- Automotive

MECHANICAL CHARACTERISTICS

- Low Profile Molded SOD-123FL Package
- Approximate Weight: 0.0144 grams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature: 260-270°C, 10 seconds max
- 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°C	$P_{M(AV)}$	2.8	W
Peak Pulse Power (tp =10/1000µs) - See Figure 1	P_{PP}	200	Watts
Maximum Instantaneous Forward Voltage at 20A	V_F	3.5	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)	DEVICE MARKING		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS		TEST CURRENT	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT
	UNI	BI	V_{RWM} VOLTS	MIN	MAX	@ I_T mA	@ I_P V_C VOLTS	@I_{PP} AMPS	@V_{RWM} I_R µA
PAM40SD10BL	KXH	10CH	10.0	11.10	12.30	1	17.0	11.8	1
PAM40SD11BL	KZH	11CH	11.0	12.20	13.50	1	18.2	11.0	1
PAM40SD12BL	LEH	12CH	12.0	13.30	14.70	1	19.9	10.1	1
PAM40SD13BL	LGH	13CH	13.0	14.40	15.90	1	21.5	9.3	1
PAM40SD14BL	LKH	14CH	14.0	15.60	17.20	1	23.2	8.6	1
PAM40SD15BL	LMH	15CH	15.0	16.70	18.50	1	24.4	8.2	1
PAM40SD16BL	LPH	16CH	16.0	17.80	19.70	1	26.0	7.7	1
PAM40SD17BL	LRH	17CH	17.0	18.90	20.90	1	27.6	7.2	1
PAM40SD18BL	LTH	18CH	18.0	20.00	22.10	1	29.2	6.8	1
PAM40SD20BL	LVH	20CH	20.0	22.20	24.50	1	32.4	6.2	1
PAM40SD22BL	LXH	22CH	22.0	24.40	26.90	1	35.5	5.6	1
PAM40SD24BL	LZH	24CH	24.0	26.70	29.50	1	38.9	5.1	1
PAM40SD26BL	MEH	26CH	26.0	28.90	31.90	1	42.1	4.8	1
PAM40SD28BL	MGH	28CH	28.0	31.10	34.40	1	45.4	4.4	1
PAM40SD30BL	MKH	30CH	30.0	33.30	36.80	1	48.4	4.1	1
PAM40SD33BL	MMH	33CH	33.0	36.70	40.60	1	53.3	3.8	1
PAM40SD36BL	MPH	36CH	36.0	40.00	44.20	1	58.1	3.4	1
PAM40SD40BL	MRH	40CH	40.0	44.40	49.10	1	64.5	3.1	1
PAM40SD43BL	MTH	43CH	43.0	47.80	52.80	1	69.4	2.8	1
PAM40SD45BL	MVH	45CH	45.0	50.00	55.30	1	72.7	2.7	1
PAM40SD48BL	MXH	48CH	48.0	53.30	58.90	1	77.4	2.6	1
PAM40SD51BL	MZH	51CH	51.0	56.70	62.70	1	82.4	2.4	1
PAM40SD54BL	NEH	54CH	54.0	60.00	66.30	1	87.1	2.3	1

TYPICAL DEVICE CHARACTERISTICS

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (See Note 1)	DEVICE MARKING		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS		TEST CURRENT	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ I_P	MAXIMUM REVERSE SURGE CURRENT	MAXIMUM REVERSE LEAKAGE CURRENT @ V_{RWM}
	UNI	BI	V_{RWM} VOLTS	MIN	MAX	@ I_T mA	V_C VOLTS	@ I_{PP} AMPS	I_R µA
PAM40SD58BL	NGH	58CH	58.0	64.40	71.20	1	93.6	2.1	1
PAM40SD60BL	NKH	60CH	60.0	66.70	73.70	1	96.8	2.0	1
PAM40SD64BL	NMH	64CH	64.0	71.10	78.60	1	103.0	1.9	1
PAM40SD70BL	NPH	70CH	70.0	77.80	86.00	1	113.0	1.8	1
PAM40SD75BL	NRH	75CH	75.0	83.30	92.10	1	121.0	1.7	1
PAM40SD78BL	NVH	78CH	78.0	86.70	95.80	1	126.0	1.6	1
PAM40SD85BL	NXH	85CH	85.0	94.40	104.0	1	137.0	1.5	1
PAM40SD90BL	NZH	90CH	90.0	100.0	111.0	1	146.0	1.4	1
PAM40SD100BL	PEH	100CH	100.0	111.0	123.0	1	162.0	1.2	1
PAM40SD110BL	PGH	110CH	110.0	122.0	135.0	1	177.0	1.1	1
PAM40SD120BL	PKH	120CH	120.0	133.0	147.0	1	193.0	1.0	1
PAM40SD130BL	PMH	130CH	130.0	144.0	159.0	1	209.0	0.9	1
PAM40SD150BL	PRH	150CH	150.0	167.0	185.0	1	243.0	0.8	1
PAM40SD160BL	PVH	160CH	160.0	178.0	197.0	1	259.0	0.8	1
PAM40SD170BL	PXH	170CH	170.0	189.0	209.0	1	275.0	0.7	1
PAM40SD180BL	PZH	180CH	180.0	201.0	222.0	1	292.0	0.7	1
PAM40SD200BL	QEH	200CH	200.0	224.0	247.0	1	324.0	0.6	1
PAM40SD220BL	QRH	220CH	220.0	246.0	272.0	1	356.0	0.5	1

NOTE
1. Add a 'CBL' specify a bidirectional device; i.e., "**PAM40180CBL**".

TYPICAL DEVICE CHARACTERISTICS

RTCA DO-160G COMPLIANT PRODUCT

FIGURE 1
PEAK PULSE POWER VS PULSE TIME

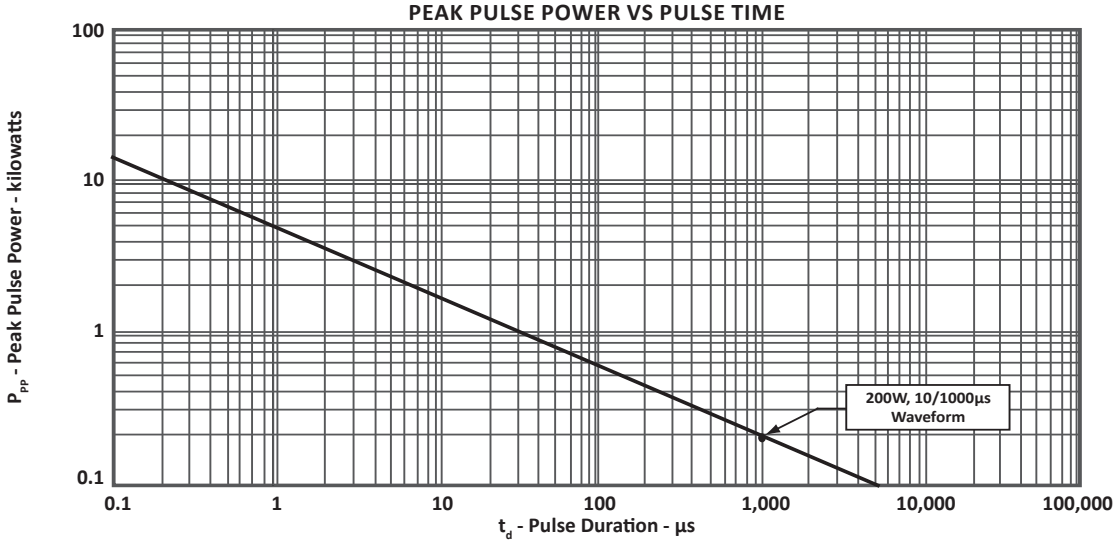


FIGURE 2
PULSE WAVEFORM

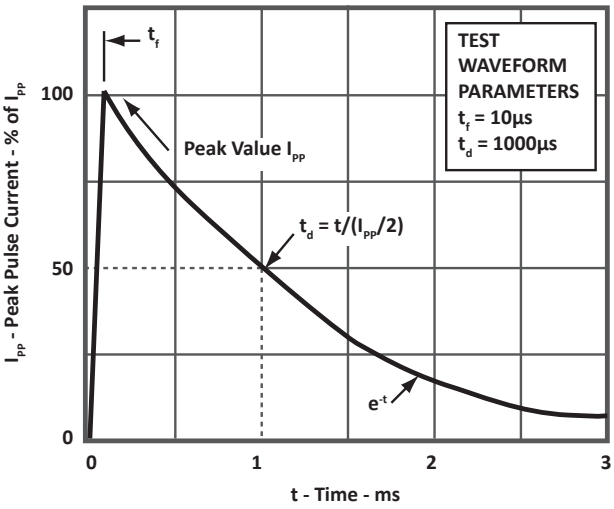
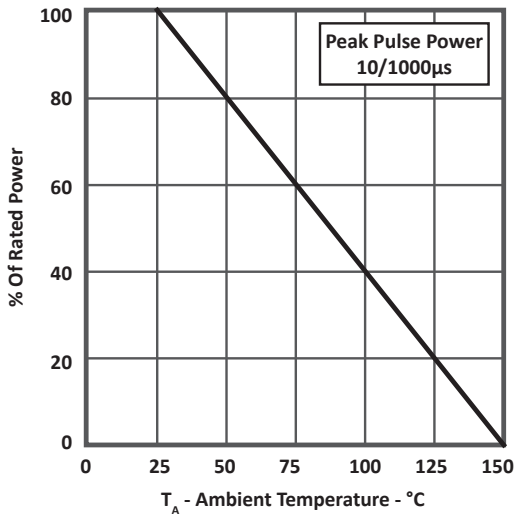


FIGURE 3
POWER DERATING CURVE

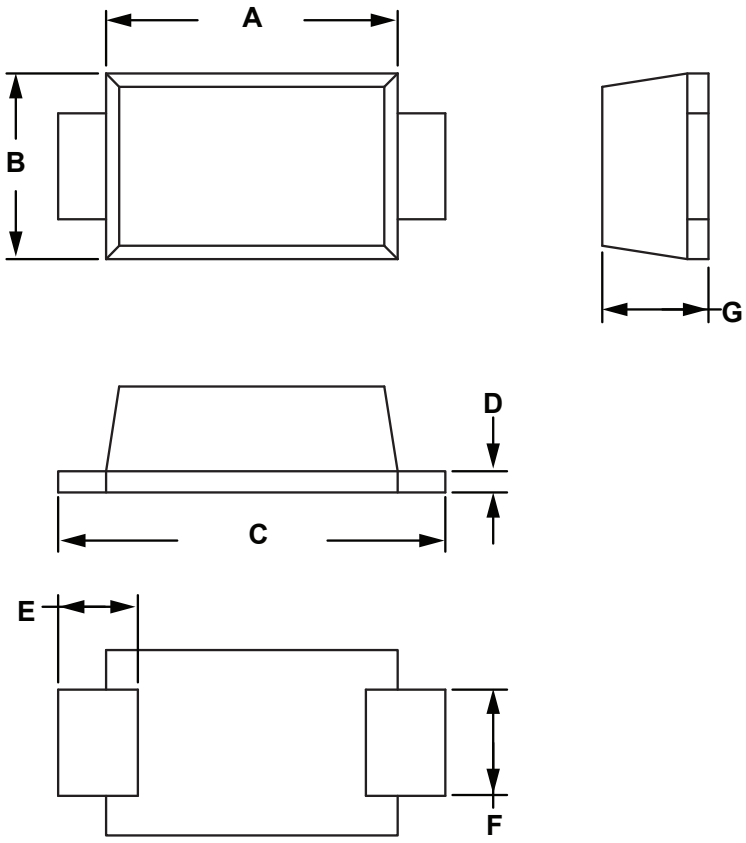


PACKAGE INFORMATION

RTCA DO-160G COMPLIANT PRODUCT

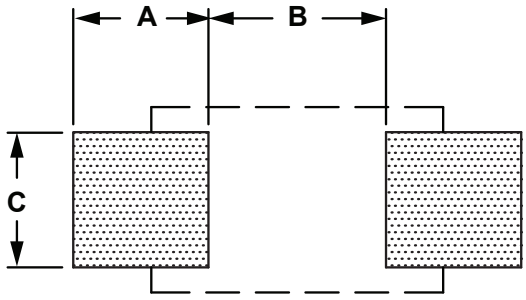
OUTLINE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.60	3.00	0.102	0.118
B	1.60	2.00	0.063	0.079
C	3.45	3.95	0.136	0.156
D	0.10	0.25	0.004	0.010
E	0.30	0.90	0.012	0.035
F	0.80	1.20	0.031	0.047
G	0.95	1.35	0.037	0.053

NOTES
1. Controlling dimension: millimeters.
2. Dimensions are exclusive of mold flash and metal burrs.



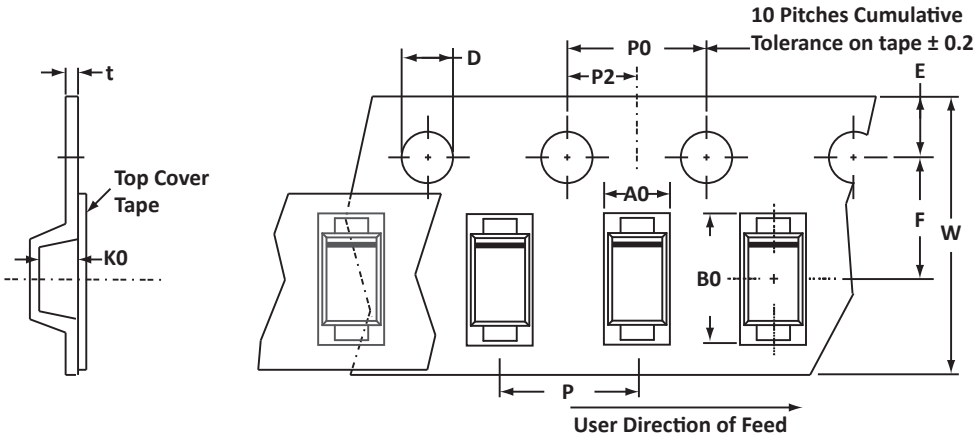
PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.30		0.051	
B		1.70		0.067
C	1.30		0.051	

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.
1. Surface mount product is taped and reeled in accordance with EIA-481.
2. 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
PAM40SDxxBL/CBL	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 30 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection that include Transient Voltage Suppressor (TVS) Arrays, Steering Diode Array Hybrids, High-power Components and Modules, as well as Steering Diodes, EMI Filter/TVS Arrays and Thyristor Surge Suppressors. These components deliver circuit protection in electronic systems from numerous overvoltage events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices is an ISO 9001 certified company.

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