

200 WATT TVS COMPONENT

RTCA DO-160G COMPLIANT PRODUCT



SOD-123FL PACKAGE

DESCRIPTION

The PSMFxxBL/CBL 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 200 Watts peak pulse power (10/1000 μ s) and is offered in a space saving SOD-123FL package. The PSMFxxBL/CBL series meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements.

FEATURES

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

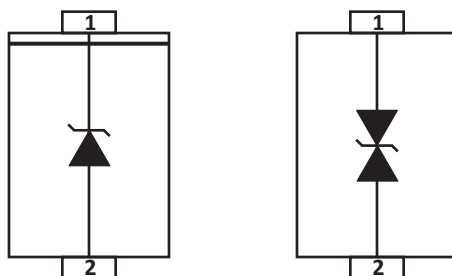
APPLICATIONS

- Consumer Electronics
- Automotive
- Telecommunications
- Aerospace
- Intelligent Control Systems

MECHANICAL CHARACTERISTICS

- Molded SOD-123FL Package
- Approximate Weight: 0.0144 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

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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}	200	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				
PSMF5.0BL	KE	KEC	5.0	6.40	7.00	10	9.2	21.7	100
PSMF6.0BL	KG	KGC	6.0	6.67	7.37	10	10.3	19.4	100
PSMF6.5BL	KK	KKC	6.5	7.22	7.98	10	11.2	17.9	80
PSMF7.0BL	KM	KMC	7.0	7.78	8.6	10	12.0	16.7	10
PSMF7.5BL	KP	KPC	7.5	8.33	9.21	1	12.9	15.5	5
PSMF10BL	KX	KXC	10.0	11.10	12.3	1	17.0	11.8	1
PSMF12BL	LE	LEC	12.0	13.30	14.70	1	19.9	10.1	1
PSMF13BL	LG	LGC	13.0	14.40	15.90	1	21.5	9.3	1
PSMF14BL	LK	LKC	14.0	15.60	17.20	1	23.2	8.6	1
PSMF15BL	LM	LMC	15.0	16.70	18.50	1	24.4	8.2	1
PSMF16BL	LP	LPC	16.0	17.8	19.7	1	26.0	7.7	1
PSMF17BL	LR	LRC	17.0	18.9	20.9	1	27.6	7.2	1
PSMF18BL	LT	LTC	18.0	20.0	22.1	1	29.2	6.8	1
PSMF20BL	LV	LVC	20.0	22.20	24.50	1	32.4	6.2	1
PSMF22BL	LX	LXC	22.0	24.40	26.90	1	35.5	5.6	1
PSMF24BL	LZ	LZC	24.0	26.7	29.5	1	38.9	5.1	1
PSMF26BL	ME	MEC	26.0	28.90	31.90	1	42.1	4.8	1
PSMF28BL	MG	MGC	28.0	31.1	34.4	1	45.4	4.4	1
PSMF30BL	MK	MKC	30.0	33.30	36.80	1	48.4	4.1	1
PSMF33BL	MM	MMC	33.0	36.70	40.60	1	53.3	3.8	1
PSMF36BL	MP	MPC	36.0	40.00	44.20	1	58.1	3.4	1

NOTE

1. Add a 'CBL' specify a bidirectional device; i.e., "PSMF6.0CBL".
2. Consult factory for other voltages.

TYPICAL DEVICE CHARACTERISTICS

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				
PSMF40BL	MR	MRC	40.0	44.40	49.10	1	64.5	3.1	1
PSMF43BL	MT	MTC	43.0	47.80	52.80	1	69.4	2.8	1
PSMF45BL	MV	MVC	45.0	50.00	55.30	1	72.7	2.7	1
PSMF48BL	MX	MXC	48.0	53.30	58.90	1	77.4	2.6	1
PSMF51BL	MZ	MZC	51.0	56.70	62.70	1	82.4	2.4	1
PSMF54BL	NE	NEC	54.0	60.00	66.30	1	87.1	2.3	1
PSMF58BL	NG	NGC	58.0	64.40	71.20	1	93.6	2.1	1
PSMF60BL	NK	NKC	60.0	66.70	73.70	1	96.8	2.0	1
PSMF64BL	NM	NMC	64.0	71.10	78.60	1	103.0	1.9	1
PSMF70BL	NP	NPC	70.0	77.80	86.00	1	113.0	1.8	1

NOTE

1. Add a 'CBL' specify a bidirectional device; i.e., "PSMF6.0CBL".
2. Consult factory for other voltages.

TYPICAL DEVICE CHARACTERISTICS

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FIGURE 1
PEAK PULSE POWER VS PULSE TIME

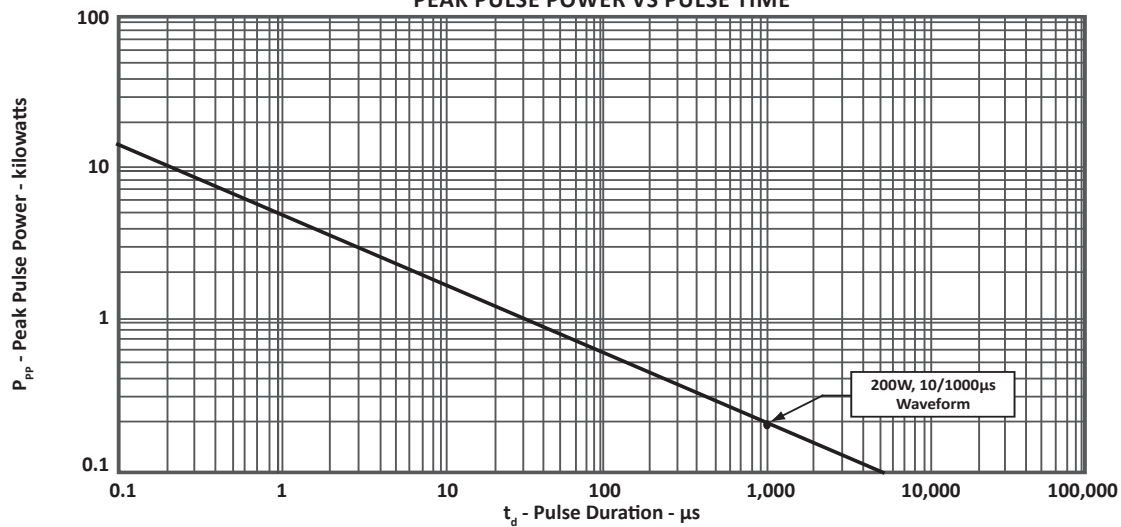


FIGURE 2
PULSE WAVEFORM

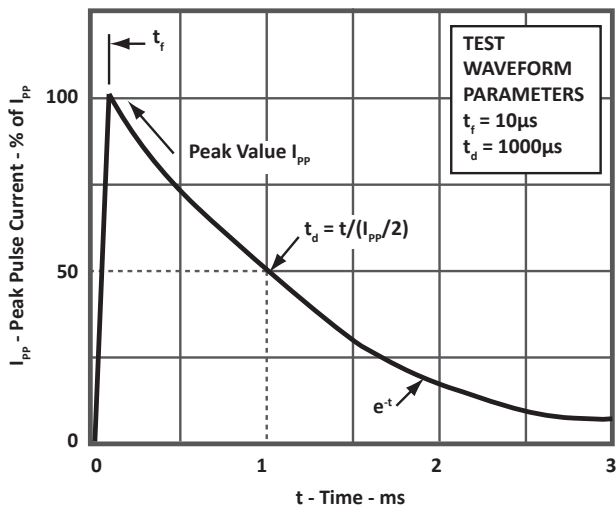
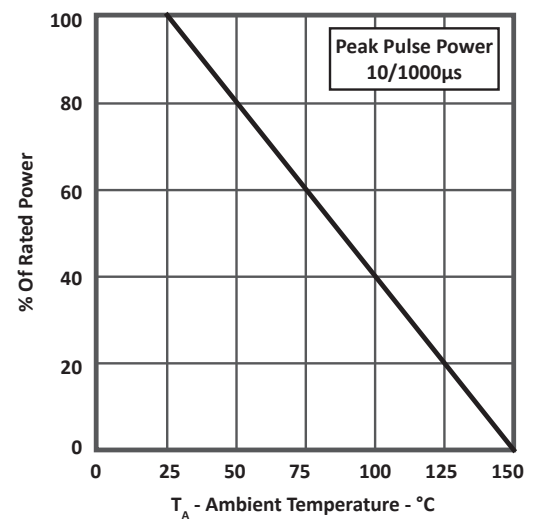


FIGURE 3
POWER DERATING CURVE



PACKAGE INFORMATION

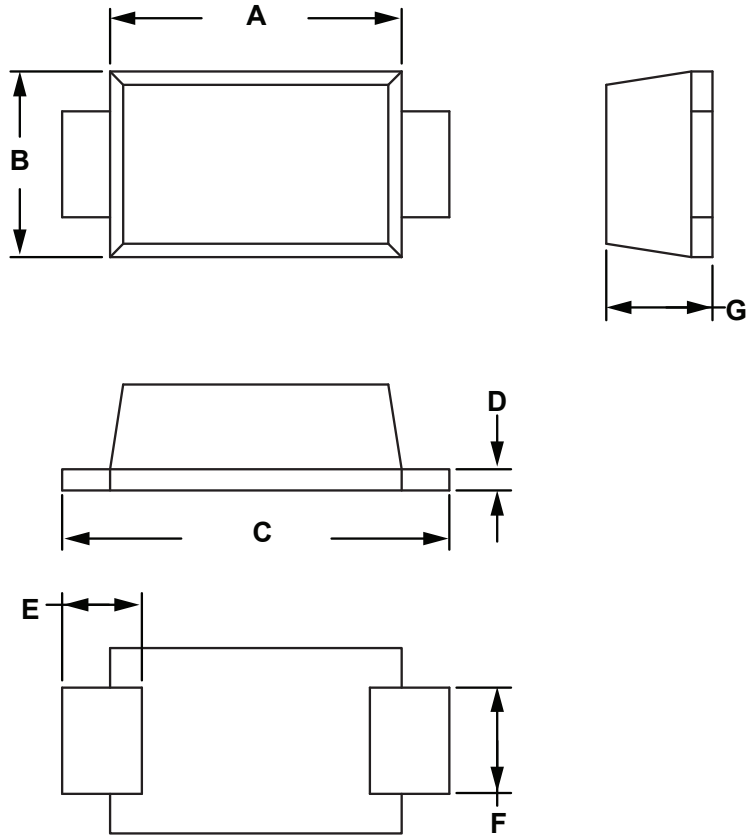
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OUTLINE DIMENSIONS

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

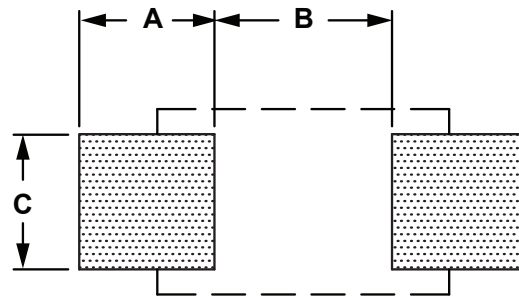


PAD LAYOUT DIMENSIONS

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

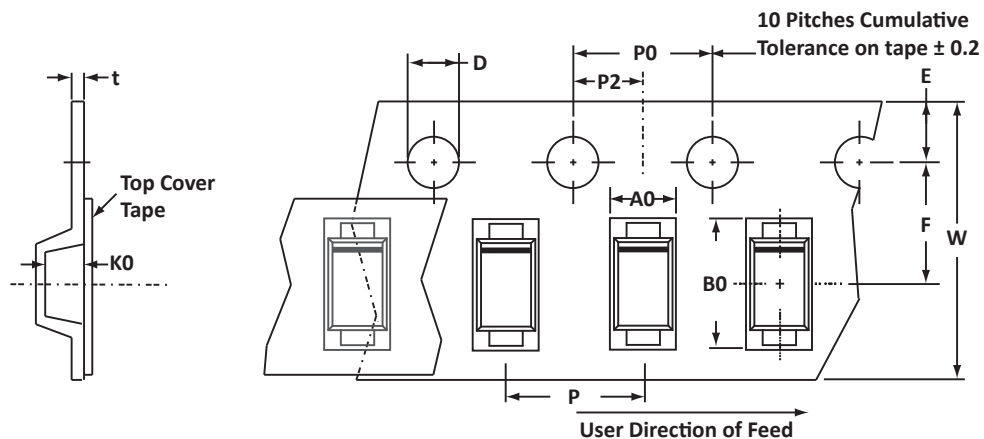
NOTES

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.
2. Surface mount product is taped and reeled in accordance with EIA-481.
3. Empty pocket between sprocket holes.
4. 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
PSMFxxBL/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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