



DESCRIPTION

The SM10KWExxA/CA Series are high-powered surface mount transient voltage suppression components designed to protect equipment and systems from the damaging effects of high voltage spikes. The DFN-2-KW surface mount package configuration provides a lower profile at a reduce cost.

These devices provide 10 kilowatts of peak pulse power dissipation for an 10/1000 μ s waveform. Applications include relay drive protection module and secondary lightning protection.

FEATURES

- RTCA DO-160G COMPLIANT PRODUCT
- 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): 60kW, 8/20 μ s
- 10 kilowatts Peak Pulse Power per Line ($t_p = 10/1000\mu$ s)
- Unidirectional & Bidirectional Configurations
- Easy Mounting to Printed Circuit Board
- RoHS Compliant
- REACH Compliant

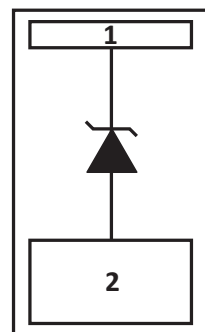
APPLICATIONS

- Relay Drives
- Motor (Start/Stop) Back EMF Protection
- Module Lightning Protection
- Secondary Lightning Protection

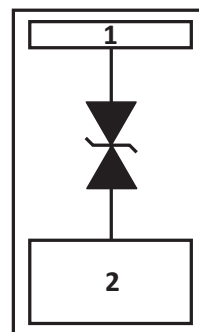
MECHANICAL CHARACTERISTICS

- Molded Surface Mount Package
- Approximate Weight: 2.5 grams
- Lead-Free Pure-Tin Plating
- Solder Reflow Temperature:
Pure-Tin - Sn, 100: 260-270°C
- Flammability Rating UL 94V-0

PIN CONFIGURATIONS



UNIDIRECTIONAL



BIDIRECTIONAL

TYPICAL DEVICE CHARACTERISTICS

RTCA DO-160G COMPLIANT PRODUCT

MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

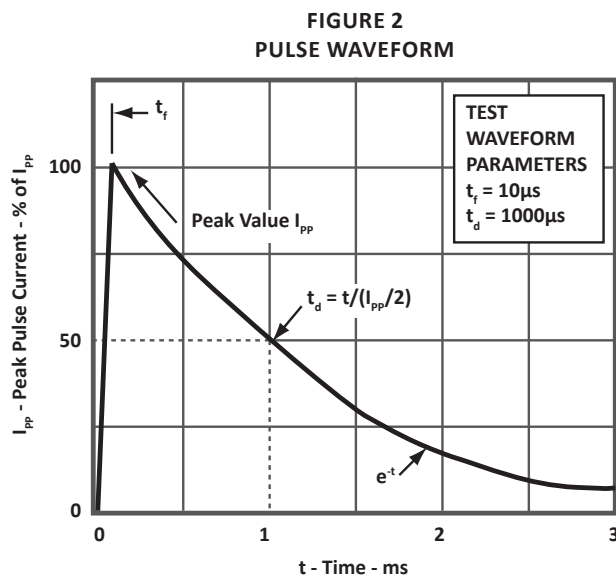
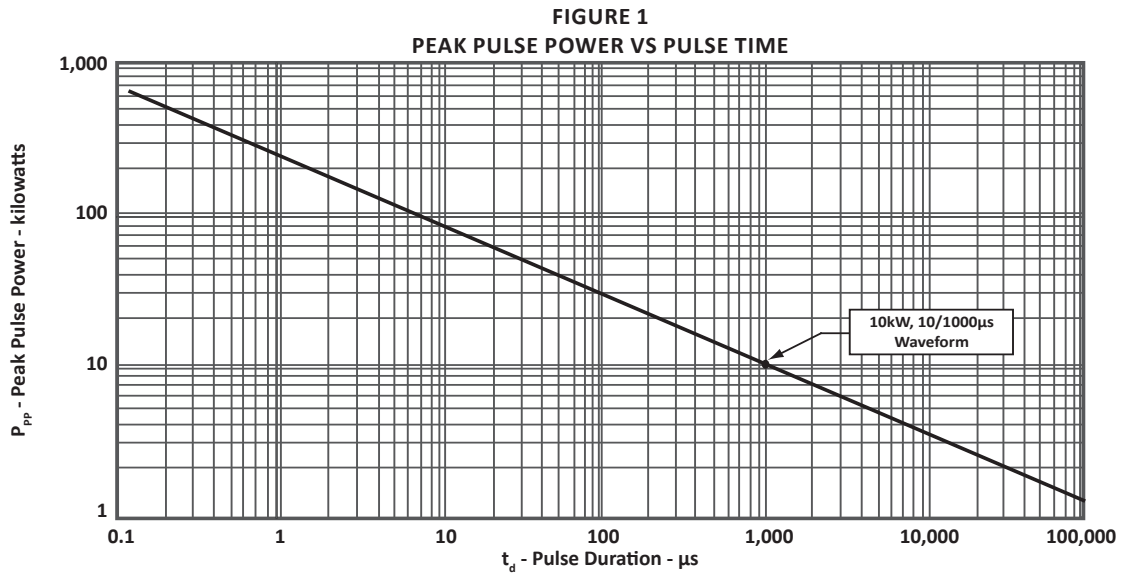
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 10/1000μs) - See Figure 1	P_{PP}	10	kilowatts
Storage Temperature	T_{STG}	-55 to +150	°C
Operating Temperature	T_J	-55 to +150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (Note 1)	MARKING CODE		RATED STAND-OFF VOLTAGE V_{WM} VOLTS	MINIMUM BREAKDOWN VOLTAGE		MAXIMUM LEAKAGE CURRENT @ V_{WM} I_D μA	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ 10/1000μs $V_C @ I_{PP}$
	UNI	BI		MIN $V_{(BR)}$ VOLTS	@ I_T mA		
SM10KWE10A	EOU10	E0B10	10	11.1	5	15	17.0V @ 588A
SM10KWE12A	EOU12	E0B12	12	13.4	5	8	19.9V @ 502A
SM10KWE22A	EOU22	E0B22	22	24.4	5	8	36.5V @ 282A
SM10KWE24A	EOU24	E0B24	24	26.8	5	8	38.9V @ 258A
SM10KWE26A	EOU26	E0B26	26	29.0	5	8	42.0v @ 238A
SM10KWE28A	EOU28	E0B28	28	31.2	5	8	45.4V @ 220A
SM10KWE30A	EOU30	E0B30	30	33.5	5	8	48.4V @ 206A
SM10KWE33A	EOU33	E0B33	33	36.8	5	8	53.3V @ 187A
SM10KWE36A	EOU36	E0B36	36	40.0	5	8	58.1V @ 172A
SM10KWE48A	EOU48	E0B48	48	53.0	5	8	77.4V @ 129A

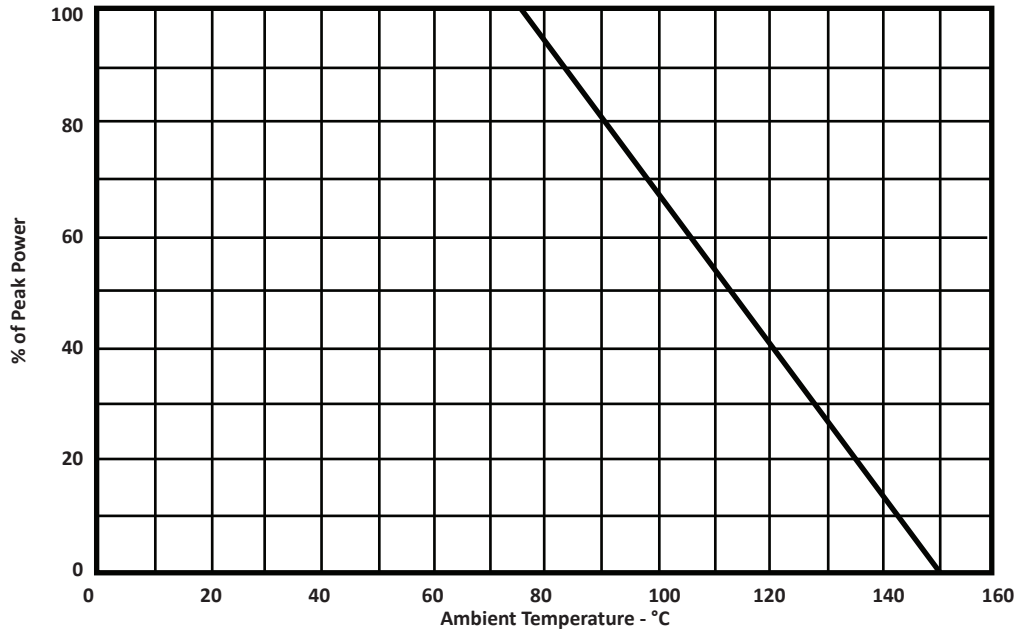
NOTES

1. Part numbers shown are unidirectional devices. Add a "CA" suffix to specify bidirectional devices, such as SM10KWE36CA.



TYPICAL DEVICE CHARACTERISTICS

**FIGURE 3
POWER DERATING CURVE**



PACKAGE INFORMATION

RTCA DO-160G COMPLIANT PRODUCT

OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	10.95	11.15	0.431	0.439
B	9.04	9.24	0.356	0.364
C	2.95	3.15	0.116	0.124
D	7.06	7.16	0.278	0.282
E	0.97	1.07	0.038	0.042
F	3.61	3.81	0.142	0.150
G	4.62	4.72	0.185	0.189
H	0.83	1.03	0.033	0.041
J	8.03	8.23	0.316	0.324
K	0.46	0.56	0.018	0.022
L	4.46	4.66	0.174	0.184
M	4.01	4.21	0.158	0.166
N	0.60	0.70	0.024	0.028
P	0.20	0.30	0.008	0.012

NOTES

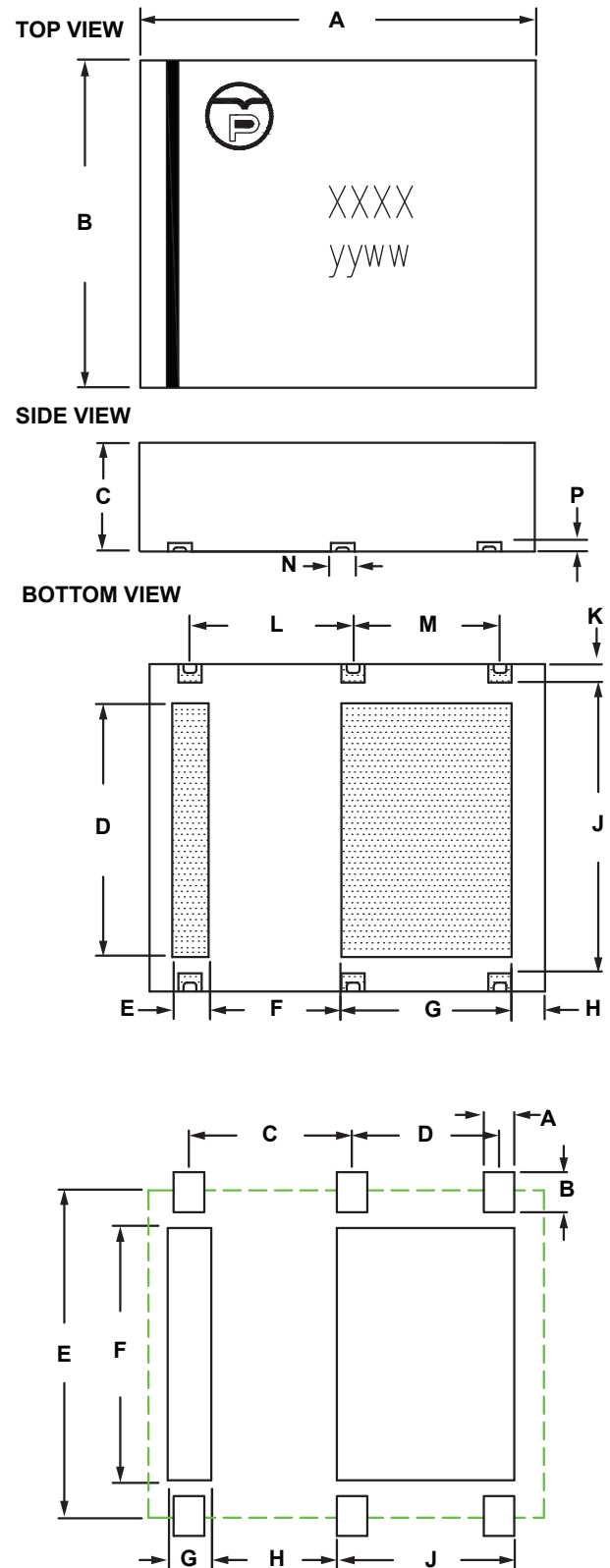
1. Dimensions are exclusive of mold flash and metal burrs.

PCB PAD LAYOUT DIMENSIONS

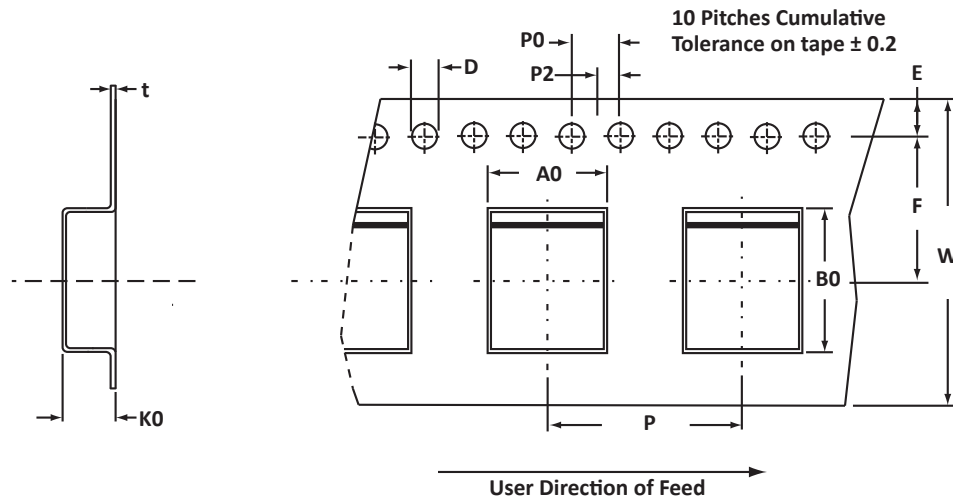
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.80	0.95	0.032	0.038
B	1.07	1.22	0.042	0.048
C	4.54		0.179	
D	4.11		0.162	
E	9.04		0.356	
F	7.26	7.36	0.286	0.290
G	1.17	1.32	0.046	0.052
H	3.46	3.61	0.136	0.143
J	4.91	5.06	0.195	0.199

NOTES

1. Suggested solder print uses some dimensions as PCB pad layout.



TAPE AND REEL



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
330mm (13")	24mm	9.40 \pm 0.10	11.60 \pm 0.10	3.175 \pm 0.10	1.50 \pm 0.10	1.75 \pm 0.10	11.5 \pm 0.10	24.00 \pm 0.30	4.00 \pm 0.10	2.00 \pm 0.10	16.00 \pm 0.10	0.30

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Marking on Part - marking code (see page 2), date code, logo and polarity band.

ORDERING INFORMATION

BASE PART NUMBER (xx = Voltage)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
SM10KWExxA/CA	n/a	-T13	1000	13"	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 certified company.

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