

DESCRIPTION

The SM10KWxxAE/CAE 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
- IEC Compatibility 61000-4-5 (Surge): 48A, 8/20 μ s - L3(Line-Ground), L4(Line-Line) & L1 (Power)
- 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

MECHANICAL CHARACTERISTICS

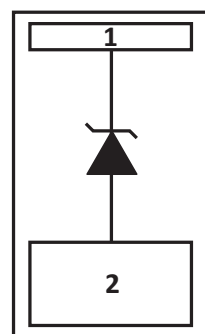
- Molded DFN-2-KW
- Approximate Weight: 2.5 grams
- Lead-Free Silver Plating
- Solder Reflow Temperature: 260-270°C
- Flammability Rating UL 94V-0

APPLICATIONS

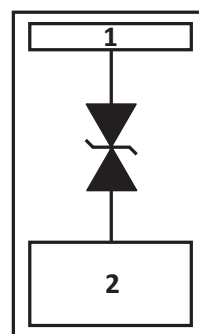
- Relay Drives
- Motor (Start/Stop) Back EMF Protection
- Module Lightning Protection
- Secondary Lightning Protection

PRELIMINARY

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 ($t_p = 10/1000\mu s$) - See Figure 1	P_{PP}	10	kilowatts
Storage Temperature	T_{STG}	-55 to +150	°C
Operating Temperature	T_L	-55 to +150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	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) $@ 10/1000\mu s$ $V_C @ I_{PP}$
			MIN $V_{(BR)}$ VOLTS	$@ I_T$ mA		
SM10KW10AE	E0U10	10	11.1	5	15	17.0V @ 588A
SM10KW12AE	E0U12	12	13.4	5	8	19.9V @ 502A
SM10KW22AE	E0U22	22	24.4	5	8	36.5V @ 282A
SM10KW24AE	E0U24	24	26.8	5	8	38.9V @ 258A
SM10KW28AE	E0U28	28	31.2	5	8	45.4V @ 220A
SM10KW30AE	E0U30	30	33.5	5	8	48.4V @ 206A
SM10KW33AE	E0U33	33	35.8	5	8	53.3V @ 187A
SM10KW36AE	E0U36	36	40.0	5	8	58.1V @ 172A
SM10KW48CAE	E0B48	48	53.0	5	8	77.4V @ 129A

PRELIMINARY

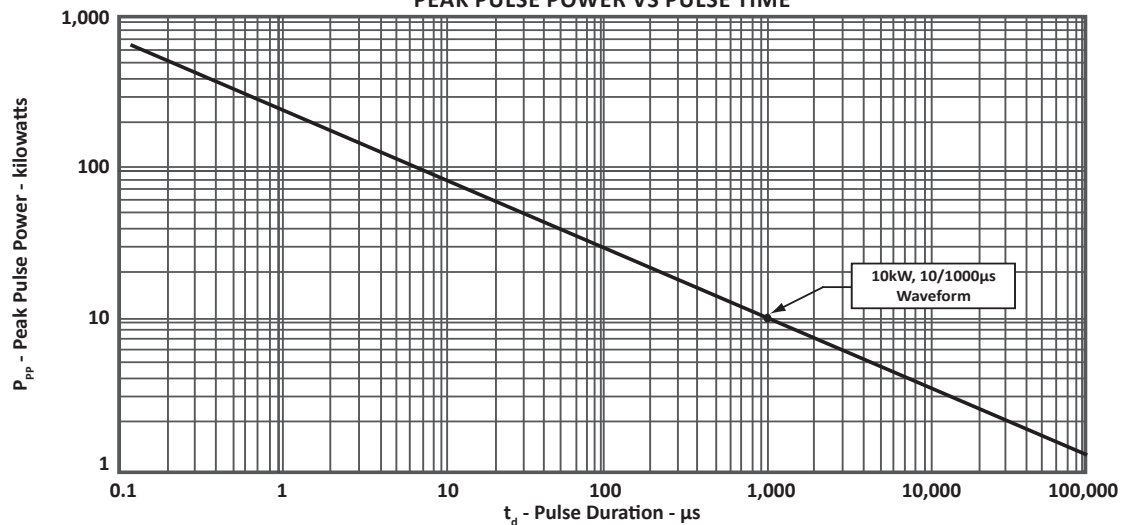
 FIGURE 1
 PEAK PULSE POWER VS PULSE TIME


FIGURE 2
PULSE WAVEFORM

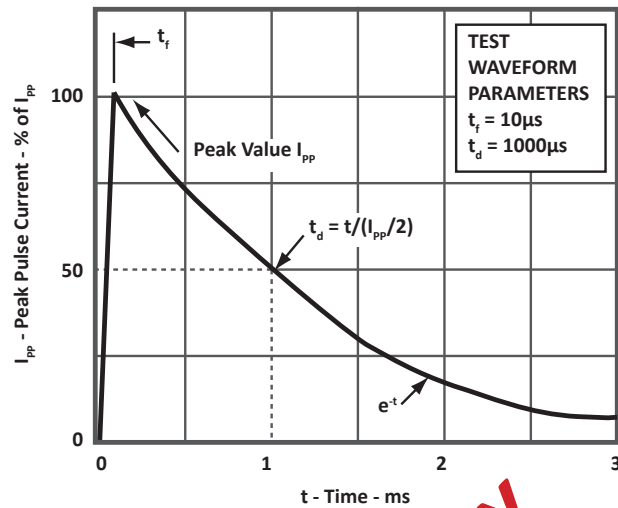
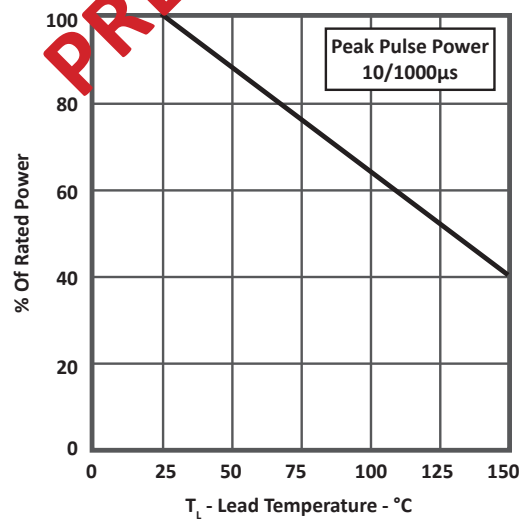
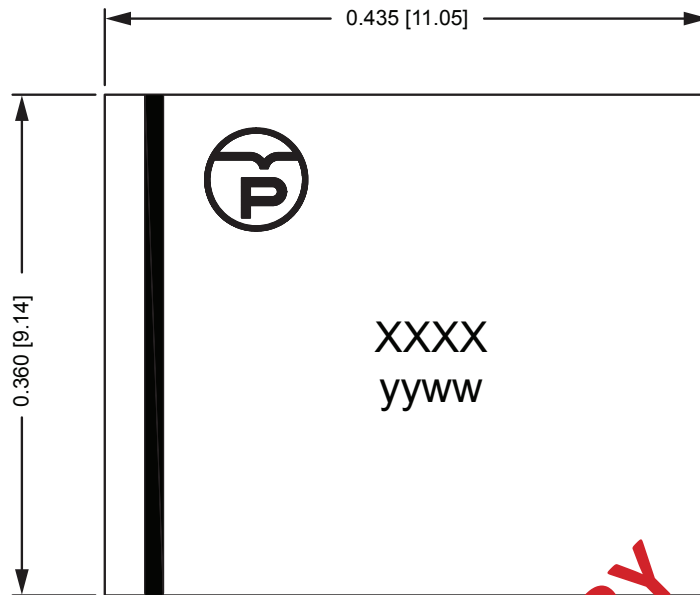
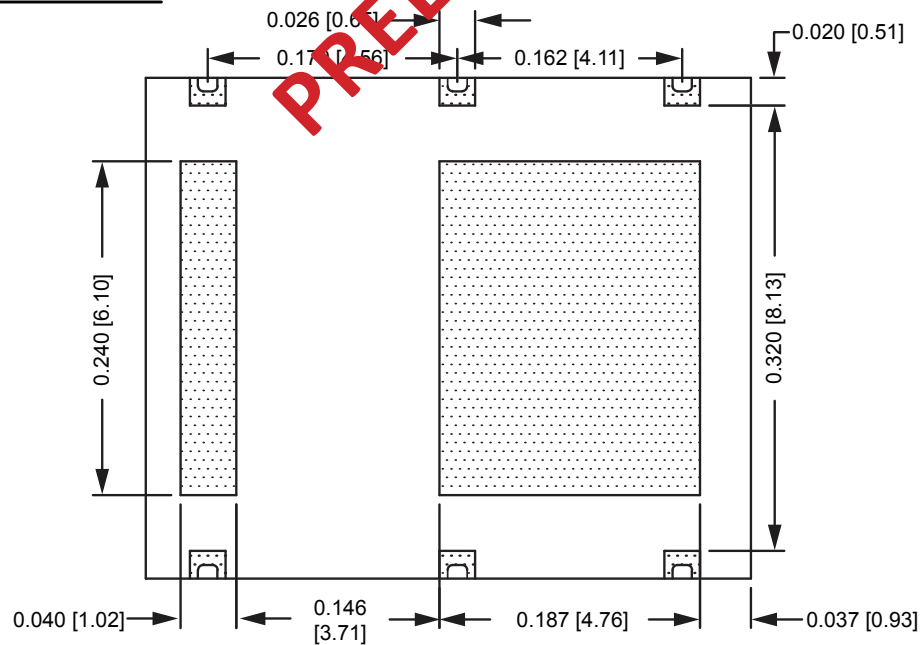


FIGURE 3
POWER DERATING CURVE



PACKAGE INFORMATION

RTCA DO-160G COMPLIANT PRODUCT

**SIDE VIEW****BOTTOM VIEW**

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

In business more than 20 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.

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