



MOLDED 2L PACKAGE

DESCRIPTION

The SM100KWE78CA is a high-powered surface mount transient voltage suppression component designed to protect equipment and systems from the damaging effects of high voltage spikes. The surface mount package configuration provides a lower profile compared to legacy axial lead package configurations.

The SM100KWE78CA provides 100 kilowatts of peak pulse power dissipation for an 10/1000 μ s waveform. Applications include AC and DC power line protection in aircraft systems.

FEATURES

- RTCA DO-160G COMPLIANT PRODUCT
- Waveforms (Pin Injection) 3 and 4 - Level 5; Waveform 5A - Level 6 (2000V/2000A)
- Low Clamping Voltage
- 100 kilowatts Peak Pulse Power per Line (tp = 10/1000 μ s)
- Bidirectional Configuration
- Easy Mounting to Printed Circuit Board
- Minimum Breakdown Voltage of 78V (Other voltages please consult factory)
- RoHS Compliant
- REACH Compliant

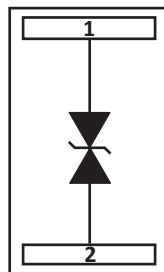
APPLICATIONS

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

MECHANICAL CHARACTERISTICS

- Molded Surface Mount Package
- Approximate Weight: 10.5 grams
- Lead-Free Au Plated Pads
- Solder Reflow Temperature: 260-270°C, 10 seconds
- Flammability Rating UL 94V-0

PIN CONFIGURATION



TYPICAL DEVICE CHARACTERISTICS

RTCA DO-160G COMPLIANT PRODUCT

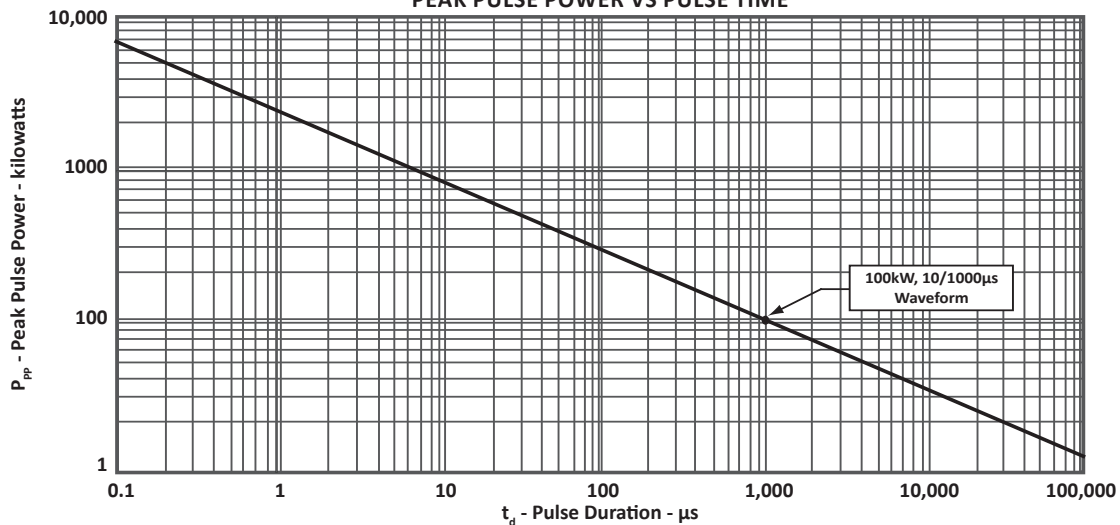
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

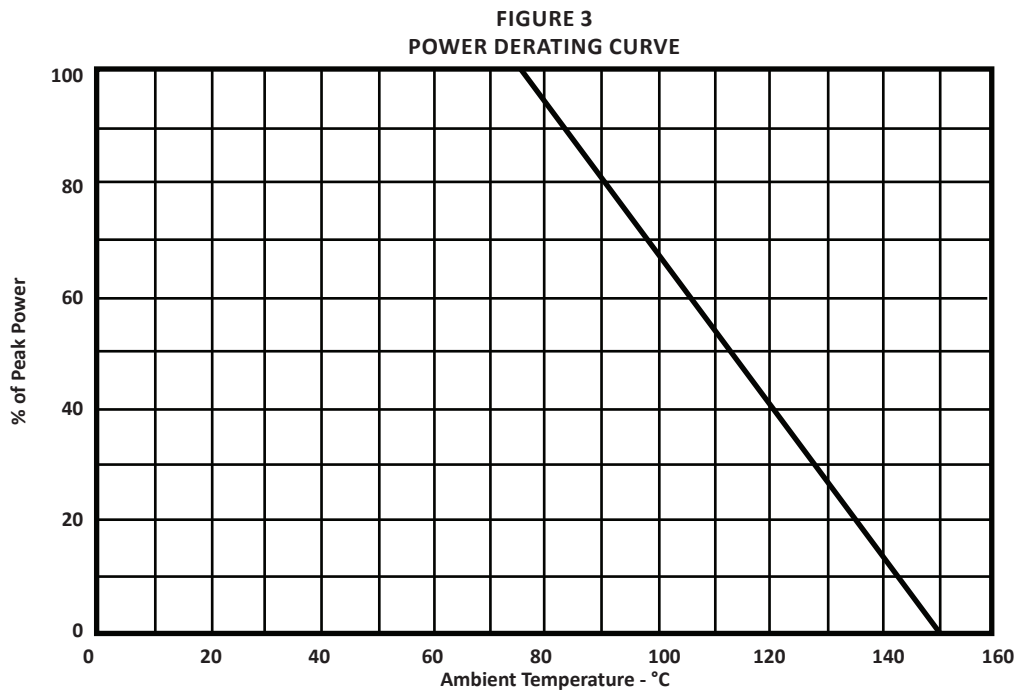
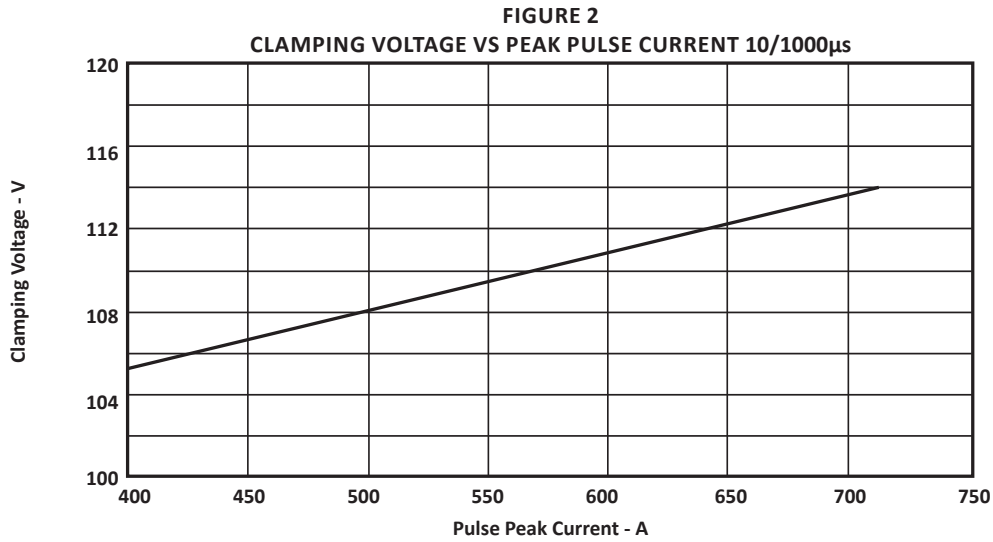
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 10/1000μs) - See Figure 1	P_{PP}	100	kilowatts
Storage Temperature	T_{STG}	-55 to +150	°C
Operating Temperature	T_J	-55 to +150	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	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 $V_C @ I_{PP}$
			MIN $V_{(BR)}$ VOLTS	@ I_T mA		
SM100KWE78CA	SM100KWE78CA	78.0	86.7	5	10.0	139V @ 720A

FIGURE 1
PEAK PULSE POWER VS PULSE TIME





PACKAGE INFORMATION

RTCA DO-160G COMPLIANT PRODUCT

OUTLINE DIMENSIONS

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	-	40.1	-	-	1.575	-
B	-	17.78	-	-	0.700	-
C	-	9.02	-	-	0.355	-
D	-	0.76	-	-	0.030	-
E	11.51	11.58	11.66	0.453	0.456	0.459
F	3.73	3.81	3.88	0.147	0.150	0.153
G	29.92	30.00	30.07	1.178	1.181	1.184

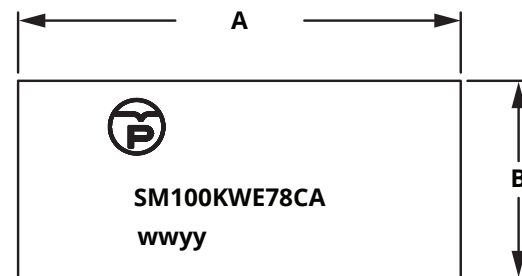
NOTES

- Control dimensions in inches.
- Dimensions A, B and C, subject to change.

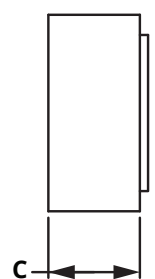
PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS	INCHES
A	40.0	1.575
B	17.8	0.700
C	12.1	0.476
D	4.3	0.170
E	30.0	1.180

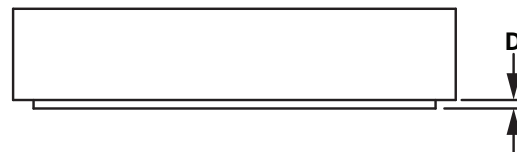
Top View



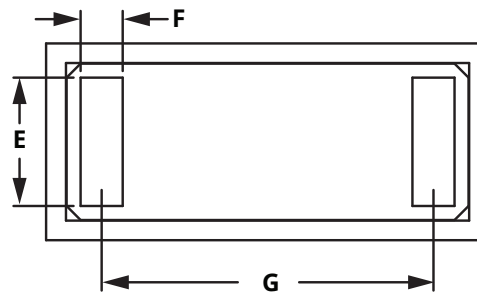
Side View



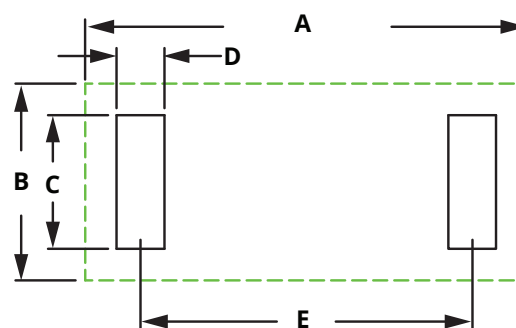
Side View



Bottom View



Pad Layout



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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