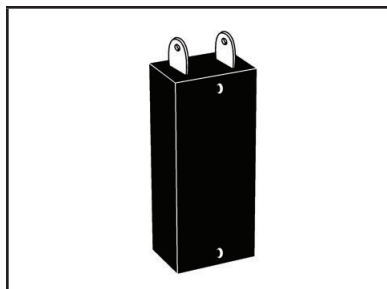
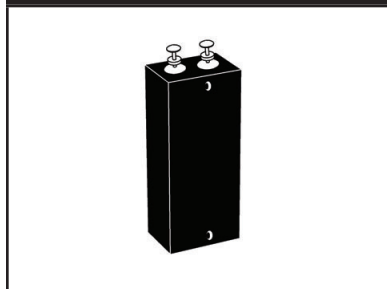


## HIGH POWER AIRCRAFT/ VEHICLE DC BUS VOLTAGE SUPPRESSOR

### RTCA DO-160G COMPLIANT PRODUCT



**704 PACKAGE**



**704T PACKAGE**

### DESCRIPTION

The 704-15K36 and 704-15K36T are 15 kilowatt silicon transient voltage suppressors (TVS) designed for use primarily in 28 Volt aircraft applications in accordance with MIL-STD-704 and MIL-STD-19500. These assemblies typically operate with a minimum source impedance of 0.25 Ohms.

These devices have a peak pulse power rating of 15,000 Watts for a 1 ms waveshape and therefore can be used in applications where induced lightning on rural or remote transmission lines present a hazard to electronic circuitry. The 704-15K36 is designed for high current short peak pulse transient applications, where as the 704-15K36T is designed for extended peak pulse transients greater than 1 millisecond.

This series can be screened upon request for military requirements in accordance with MIL-PRF-19500 (applicable tests).

### FEATURES

- RTCA DO-160G COMPLIANT PRODUCT
- Meets MIL-STD-704
- 15 kilowatts Peak Pulse Power per Line ( $t_p = 10/1000\mu s$ )
- Each Device 100% Tested
- 28 Volt Power Supply Protection

### MECHANICAL CHARACTERISTICS

- Molded Plastic Case
- 704-15K36 Approximate Weight: 38 grams
- 704-15K36T Approximate Weight: 65 grams
- Flammability Rating UL 94V-0
- Military Screening Available Upon Request for IAW MIL-PRF-19500
- Standard Screening Available Upon Request:
  - H1 - Submodule Screening (Test Plans 05231 & 05232)
  - H2 - Submodule & Module Screening (Test Plan 05233)
  - H3 - Submodule & Module Screening with Group B & C Lot Testing (Test Plans 05234 & 05235)

### APPLICATIONS

- DC Power Supply Protection
- MIL-STD-704 Power Bus Protection

## TYPICAL DEVICE CHARACTERISTICS

## RTCA DO-160G COMPLIANT PRODUCT

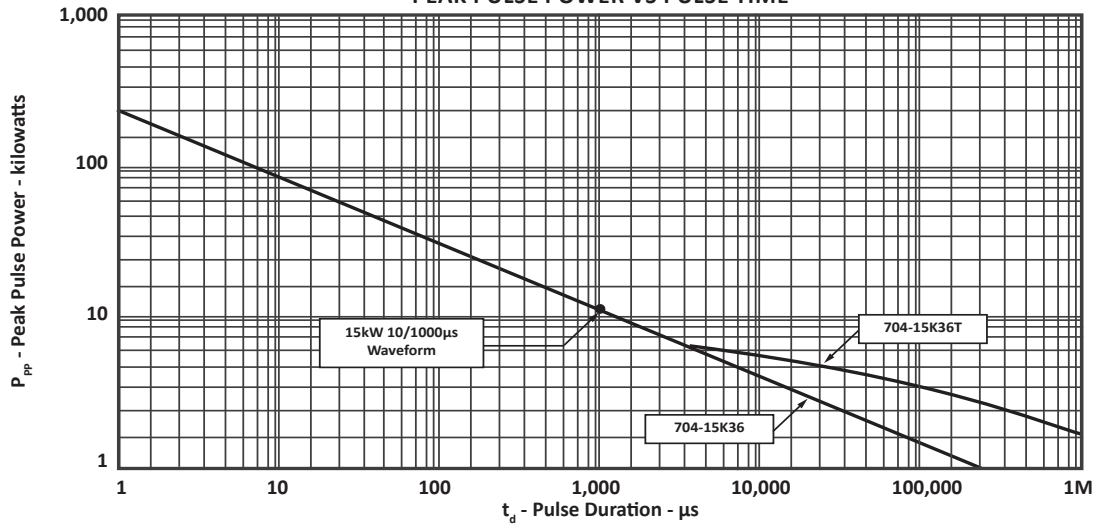
## MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 10/1000) - See Figure 1	$P_{PP}$	15	kilowatts
Operating Temperature	$T_L$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C
Steady State Power Dissipation @ 50°C	$T_A$	10.0	Watts
Forward Surge Rating @ 25°C 1/120 seconds	FI	300	Amps

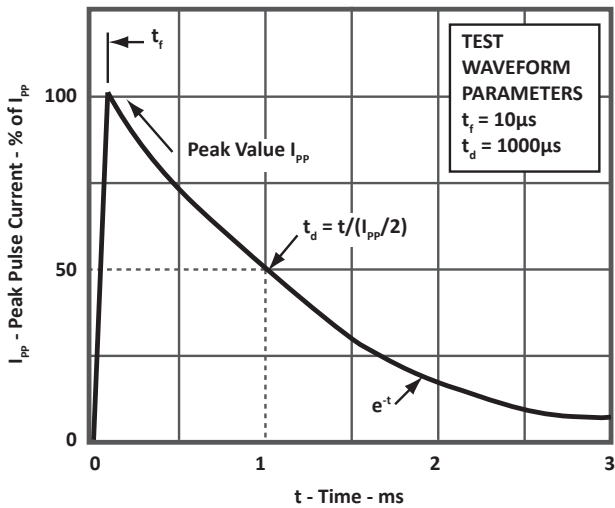
## ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER	RATED STAND-OFF VOLTAGE $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE @10mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_{PPM}$ $V_C$ VOLTS	MAXIMUM LEAKAGE CURRENT @ $V_{WM}$ $I_D$ $\mu A$	MAXIMUM PEAK PULSE CURRENT (Fig. 2) $I_{PPM}$ AMPS	MAXIMUM FORWARD VOLTAGE @100A, 8.3ms $V_F$ VOLTS DC
704-15K36	31.5	36	53	100	300	3.0
704-15K36T	31.5	36	53	500	300	15.0

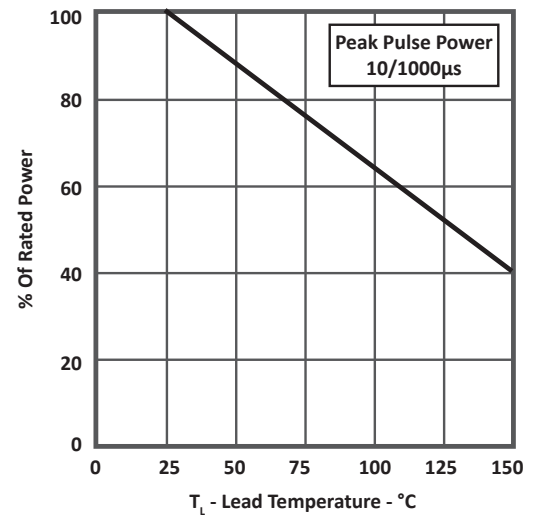
**FIGURE 1**  
PEAK PULSE POWER VS PULSE TIME



**FIGURE 2**  
PULSE WAVEFORM



**FIGURE 3**  
POWER DERATING CURVE



## PACKAGE INFORMATION

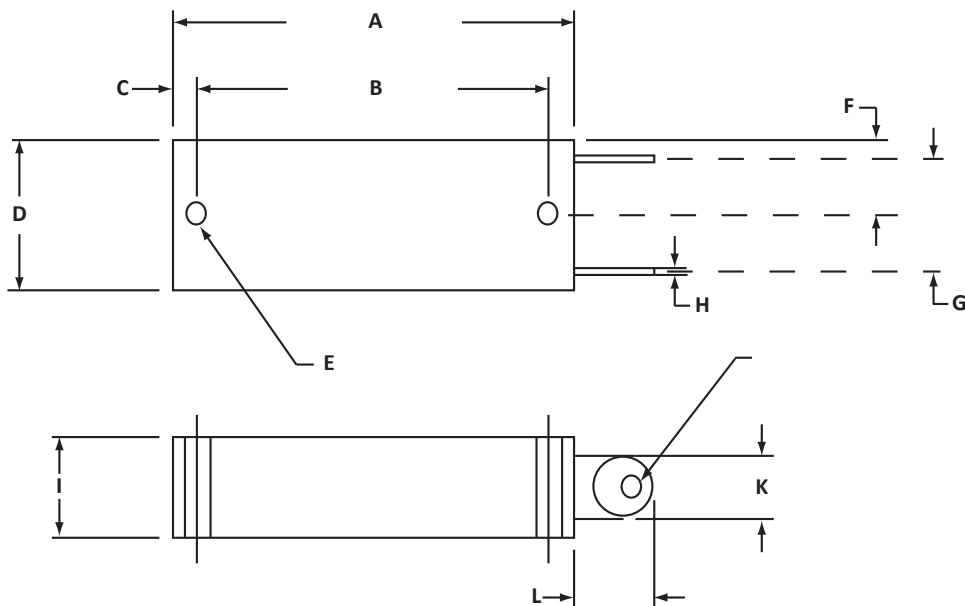
## RTCA DO-160G COMPLIANT PRODUCT

## 704 OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	49.28	51.56	1.97	2.03
B	43.92	44.96	1.73	1.77
C	2.79	3.56	0.11	0.14
D	18.29	19.81	0.72	0.78
E	3.18 DIA		0.125 DIA	
F	8.76	10.29	0.345	0.405
G	13.51	15.04	0.532	0.592
H	0.66	0.71	0.026	0.028
I	11.94	13.46	0.47	0.53
J	2.41	2.92	0.095	0.115
K	7.70	8.20	0.303	0.323
L	9.40	10.92	0.37	0.43

## NOTES

- Dimension "E" is nominal.



**Note:** Recommended torque value for mounting: less than 10 inch pounds

## PACKAGE INFORMATION

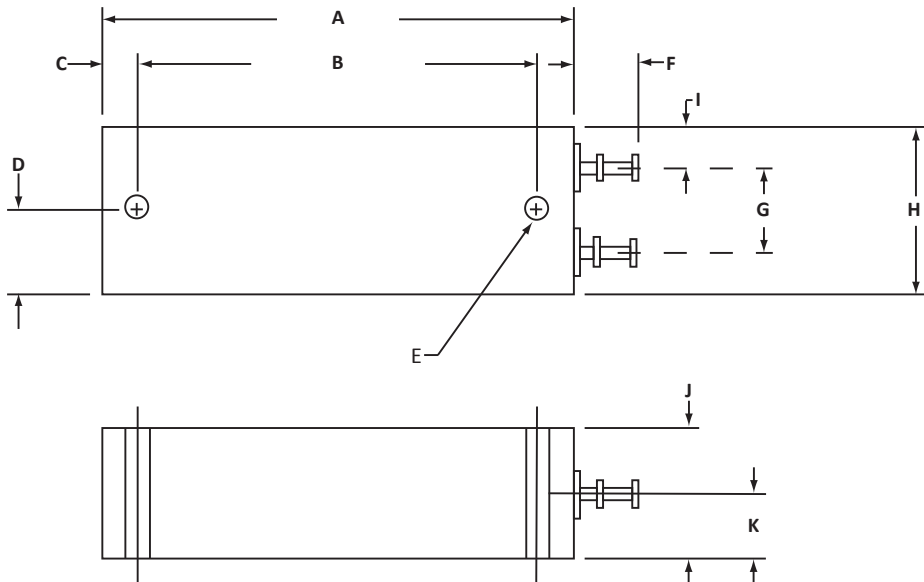
## RTCA DO-160G COMPLIANT PRODUCT

## 704T OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	62.74	64.26	2.47	2.53
B	53.34	54.48	2.10	2.145
C	4.32	5.33	0.17	0.21
D	10.54	12.07	0.415	0.475
E	3.18 DIA		0.125 DIA	
F	8.26	9.27	0.325	0.365
G	11.43		0.45	
H	21.84	23.37	0.86	0.92
I	5.59		0.22	
J	16.51	17.53	0.65	0.69
K	8.51		0.335	

## NOTES

1. Dimensions "E", "G", "I" and "K" are nominal.



Note: Recommended torque value for mounting: less than 10 inch pounds

## ORDERING INFORMATION

BASE PART NUMBER	SUBMODULE SCREENING	SUBMODULE & MODULE SCREENING	SUBMODULE, MODULE, GROUP B & C LOT TESTING
704-15K36	H1	H2	H3
704-15K36T	H1	H2	H2

## NOTES

1. Marking on Part - logo, date code, polarity dot (for positive terminal) and part number.

**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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