

**HIGH POWER AIRCRAFT/ VEHICLE DC BUS VOLTAGE SUPPRESSOR****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**

- 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

**APPLICATIONS**

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

*A Warranty Disclaimer is required for the purchase of this part. Contact Customer Service for more information.*

## TYPICAL DEVICE CHARACTERISTICS

## 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  @ $V_{WM}$ $I_D$ μA	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

## TYPICAL DEVICE CHARACTERISTICS

FIGURE 1  
PEAK PULSE POWER VS PULSE TIME

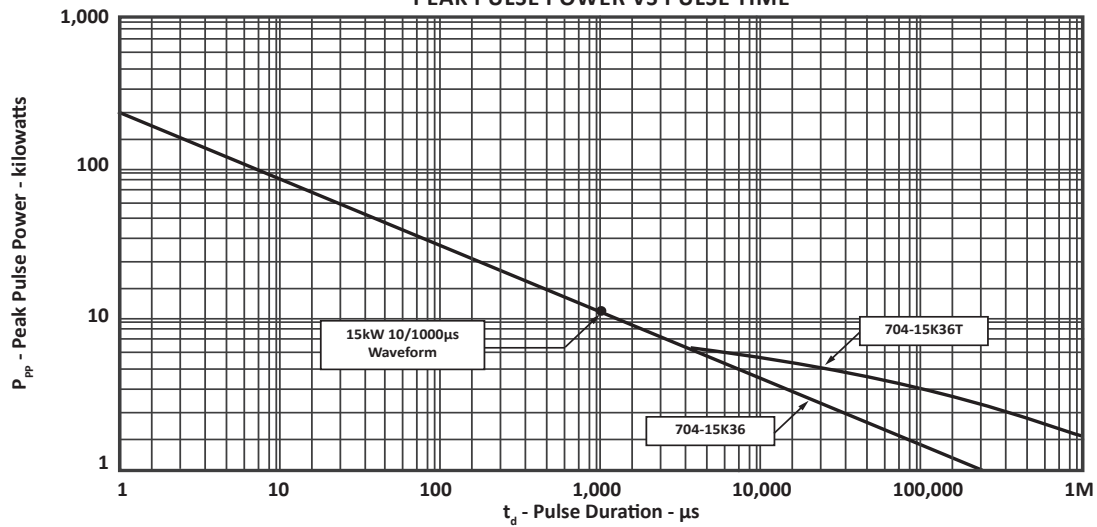


FIGURE 2  
PULSE WAVEFORM

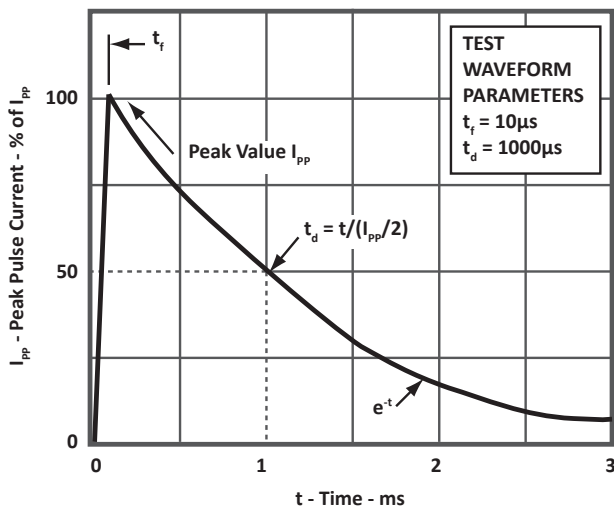
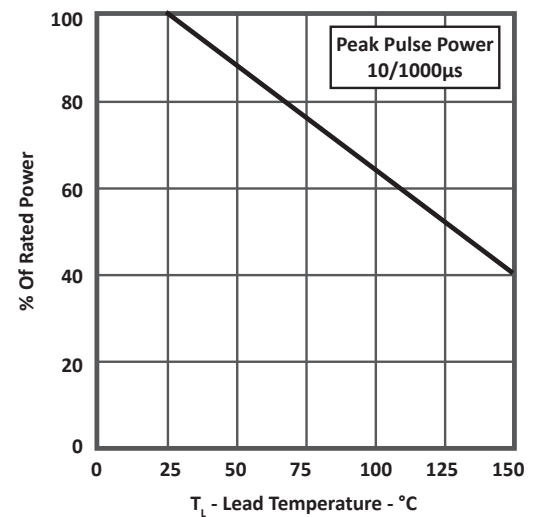


FIGURE 3  
POWER DERATING CURVE



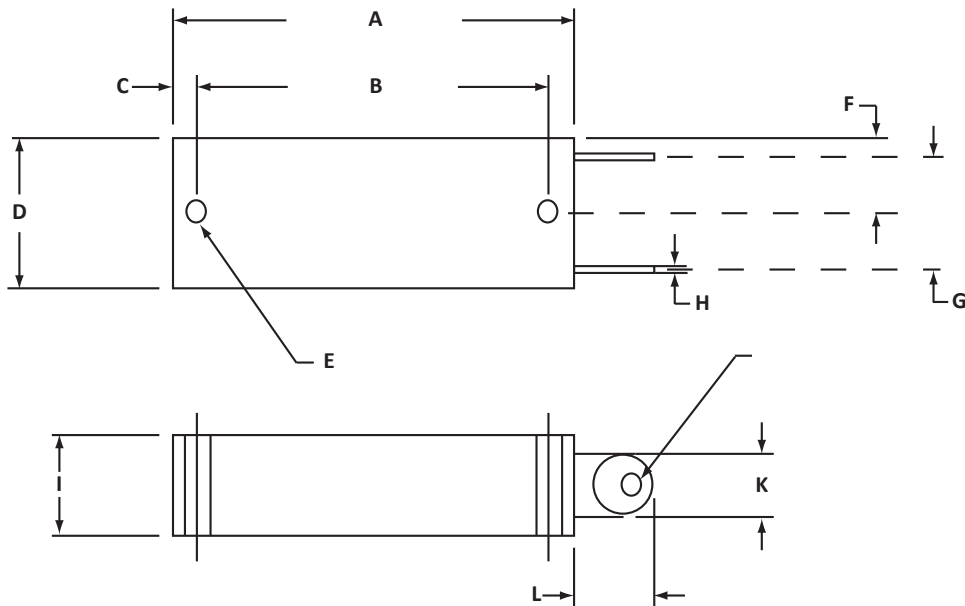
## PACKAGE INFORMATION

### 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

1. Dimension "E" is nominal.

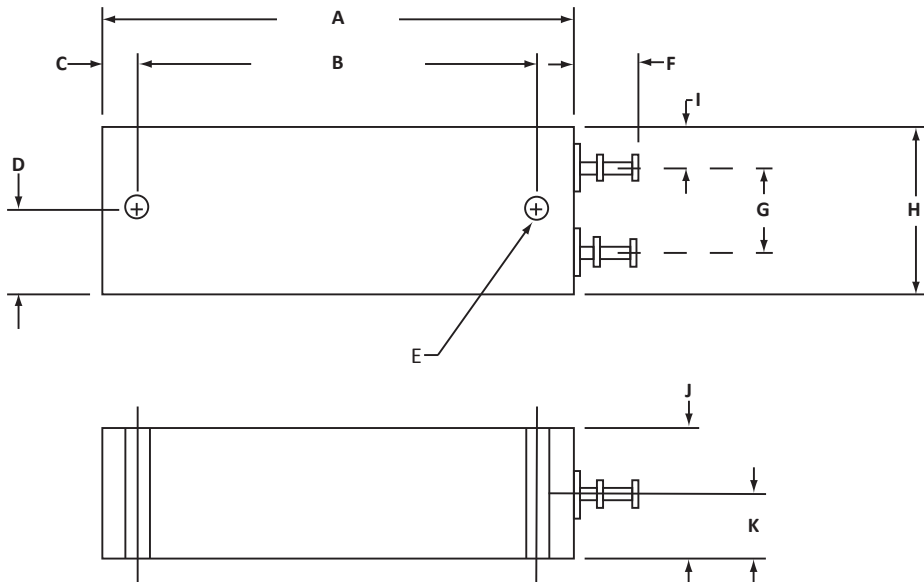



**PACKAGE INFORMATION**
**704T OUTLINE DIMENSIONS**

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.


**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.

Package outline per document number 06035.R2 9/09

## COMPANY INFORMATION

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### COMPANY PROFILE

ProTek Devices, based in Tempe, Arizona USA, is a manufacturer of Transient Voltage Suppression (TVS) products designed specifically for the protection of electronic systems from the effects of lightning, Electrostatic Discharge (ESD), Nuclear Electromagnetic Pulse (NEMP), inductive switching and EMI/RFI. With over 25 years of engineering and manufacturing experience, ProTek designs TVS devices that provide application specific protection solutions for all electronic equipment/systems.

ProTek Devices Analog Products Division, also manufactures analog interface, control, RF and power management products.

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