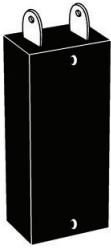
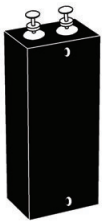


## HIGH POWER AIRCRAFT/ VEHICLE DC BUS VOLTAGE SUPPRESSOR



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

### 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

*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**

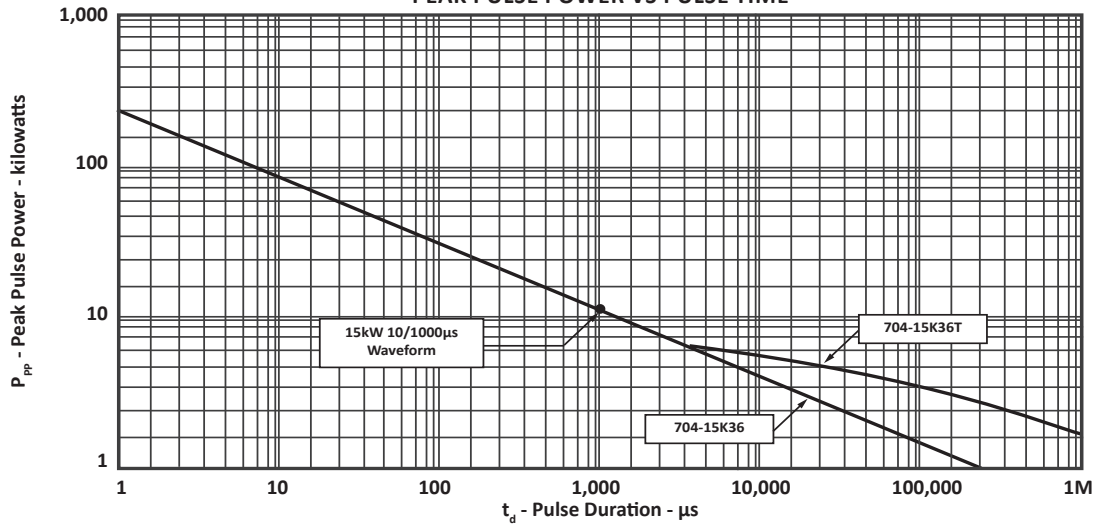
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 10/1000) - See Figure 1	$P_{PP}$	15	kilowatts
Operating Temperature	$T_L$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C
Steady State Power Dissipation @ 50°C	$T_A$	10.0	Watts
Forward Surge Rating @ 25°C 1/120 seconds	FI	300	Amps

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

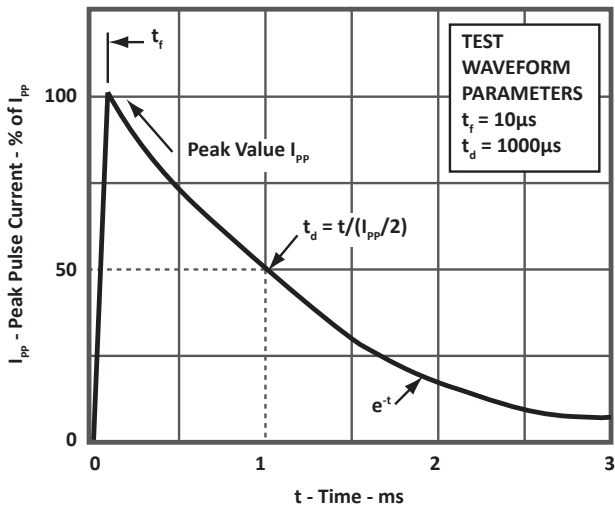
PART NUMBER	RATED STAND-OFF VOLTAGE $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE @10mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (Fig. 2) @ $I_{PPM}$ $V_C$ VOLTS	MAXIMUM LEAKAGE CURRENT @ $V_{WM}$ $I_D$ $\mu A$	MAXIMUM PEAK PULSE CURRENT (Fig. 2) $I_{PPM}$ AMPS	MAXIMUM FORWARD VOLTAGE @100A, 8.3ms $V_F$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

TYPICAL DEVICE CHARACTERISTICS

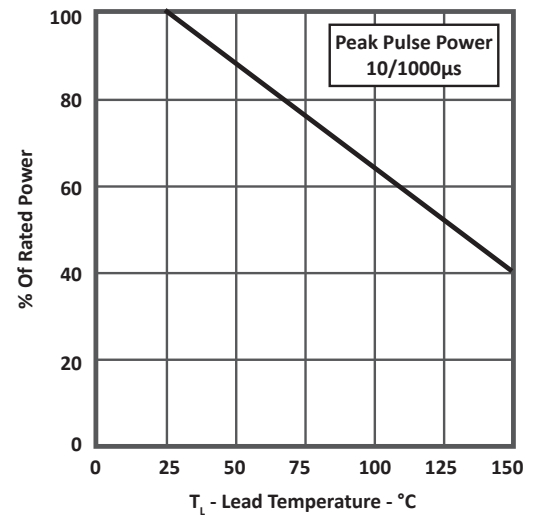
**FIGURE 1**  
**PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2**  
**PULSE WAVEFORM**



**FIGURE 3**  
**POWER DERATING CURVE**

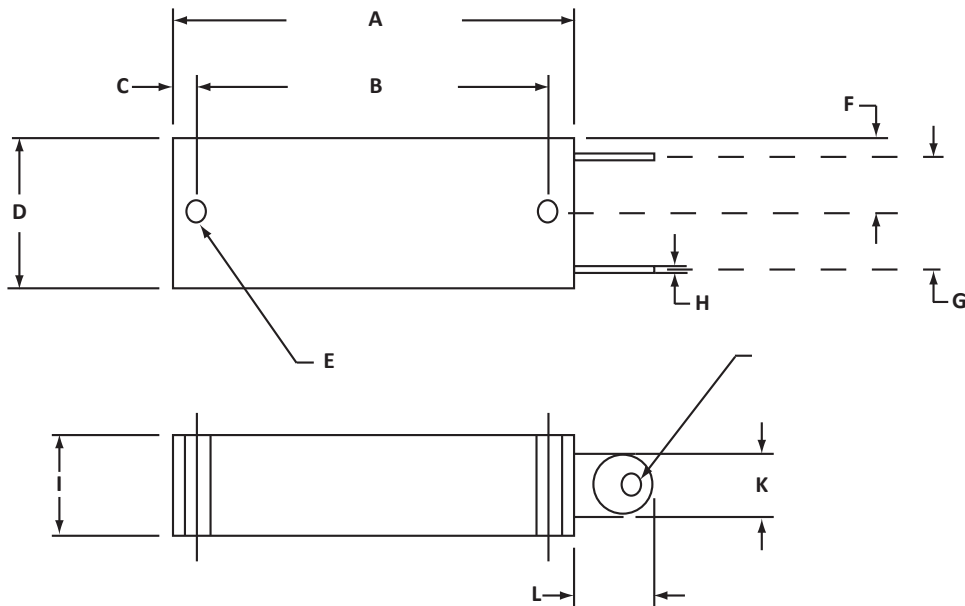


**PACKAGE INFORMATION**
**704 OUTLINE DIMENSIONS**

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**

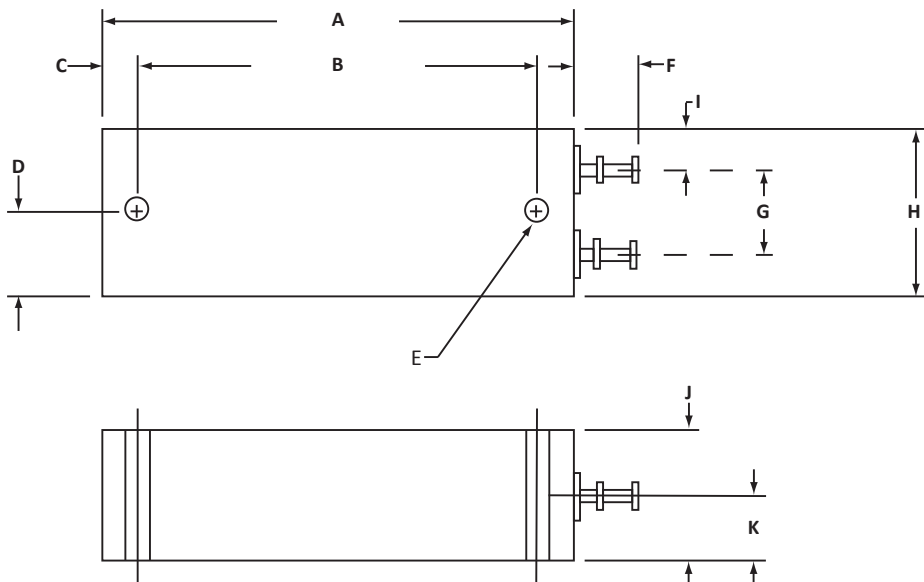
- Dimension "E" is nominal.



**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

---

### COMPANY PROFILE

In business more than 20 years, ProTek Devices™ is a privately-held company located in Tempe, Arizona, that offers a product line of transient voltage suppressors (TVS); avalanche breakdown diodes; steering diode TVS arrays and other surge suppressor component products. These TVS devices protect electronic systems from the effects of lightning, electrostatic discharge (ESD), nuclear electromagnetic pulses (NEMP), inductive switching and EMI / RFI. ProTek Devices also offers high performance interface and linear products that include analog switches; multiplexers; LED drivers; audio control ICs; RF and related high frequency products. The analog devices work in a host of consumer; industrial; automotive and other applications.

### CONTACT US

#### Corporate Headquarters

2929 South Fair Lane  
Tempe, Arizona 85282  
USA

#### By Telephone

General: 602-431-8101  
Sales: & Marketing: 602-414-5109  
Customer Service: 602-414-5114  
Product Technical Support: 602-414-5107

#### By Fax

General: 602-431-2288

#### By E-mail:

Sales: [sales@protekdevices.com](mailto:sales@protekdevices.com)  
Customer Service: [service@protekdevices.com](mailto:service@protekdevices.com)  
Technical Support: [support@protekdevices.com](mailto:support@protekdevices.com)

#### ProTek Devices (Asia Pacific) Pte. Ltd.

8 Ubi Road 2, #06-19  
Zervex  
Singapore - 408538  
Tel: +65-67488312  
Fax: +65-67488313

### WARRANTY DISCLAIMER

#### Web

[www.protekdevices.com](http://www.protekdevices.com) the 704-15K36 product (the "Device") has been manufactured to meet the electrical specifications set forth in the electrical specification data sheet published by ProTek Devices. ProTek disclaims all other warranties. If the Device is applied or used in circumstances in which the electrical characteristics specified for the Device are exceeded, the Device may fail. ProTek Devices is not liable for any failures of the Device if the Device is used in circumstances that exceed the published specifications for the Device. If for any reason the Device fails, customer's sole and exclusive remedy shall be replacement of the failed Device. Customer assumes all risks arising from incorporation of the Device in to any other product. Customer acknowledges that ProTek Devices has made the Device available to the Customer for inspection, and the Customer has had an opportunity to inspect and test the Device.

COPYRIGHT © ProTek Devices 1998 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: ProTek reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES: ProTek reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance. ProTek assumes no responsibility with respect to the selection or specifications of such products. ProTek makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ProTek assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special, consequential or incidental damages.

LIFE SUPPORT POLICY: ProTek Devices products are not authorized for use in life support systems without written consent from the factory.