

**TRANSIENT  
VOLTAGE SUPPRESSOR**

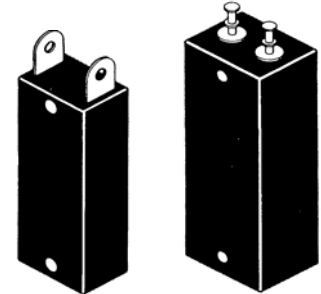
**DESCRIPTION**

These two modularized unidirectional TVS products are primarily used in avionics or other demanding applications for transient voltage protection. They meet all applicable environmental requirements of MIL-PRF-19500 and may be used for both commercial and military applications. The controlling specification for these devices is MIL-STD-704 (Characteristics and Utilization of Aircraft Electric Power) where these 15 kW assemblies are designed typically to operate with a low source impedance of 0.25 Ohms for transients to protect equipment from induced lightning, power surges, and transients originating from inductive switching or power interrupt. The subassembly components can also be tested or screened for military requirements prior to encapsulation into the complete module. The screening would consist of 100% TX level environmental testing per MIL-PRF-19500/500 (Par. 4.3). For ordering these options, use the following suffix:

- H1 – Submodule Screening
- H2 – Submodule and Module Screening
- H3 – Submodule and Module Screening  
& Module Group B & C lot testing

**IMPORTANT:** For the most current data, consult MICROSEMI's website: <http://www.microsemi.com>

**APPEARANCE**



(Flat Terminal) (Turret Terminal)  
704-15K36 704-15K36T

**FEATURES**

- Designed for military or commercial applications
- Can be optionally supplied with JANTX subassemblies in accordance per MIL-PRF-19500/500.
- Module subassemblies are packaged in a hermetically sealed glass-to-metal package
- Designed for MIL-STD-704
- Moisture classification is Level 1 with no dry pack required per IPC/JEDEC J-STD-020B

**MAXIMUM RATINGS**

- Peak Pulse Power dissipation at 25°C: 15,000 watts at 1ms (See Fig. 2)
- Steady State power dissipation: 10 watts
- $t_{clamping}$  (0 volts to  $V_{(BR)}$  min): < 100 ps theoretical
- Operating and Storage temperatures: -65°C to +150°C
- Forward surge rating: 300 amps, 1/120 second at 25°C
- Duty cycle: 0.01%

**APPLICATIONS / BENEFITS**

- 28 volt power supply protection
- Protection from switching transients and induced RF
- Protection from ESD and EFT per IEC 61000-4-2 and IEC 61000-4-4
- Secondary lightning protection per IEC61000-4-5 with 42 Ohm source impedance up to class 5
- Secondary lightning protection per IEC61000-4-5 with 12 Ohm source impedance up to class 4
- Secondary lightning protection per IEC61000-4-5 with 2 Ohm source impedance up to class 4

**MECHANICAL AND PACKAGING**

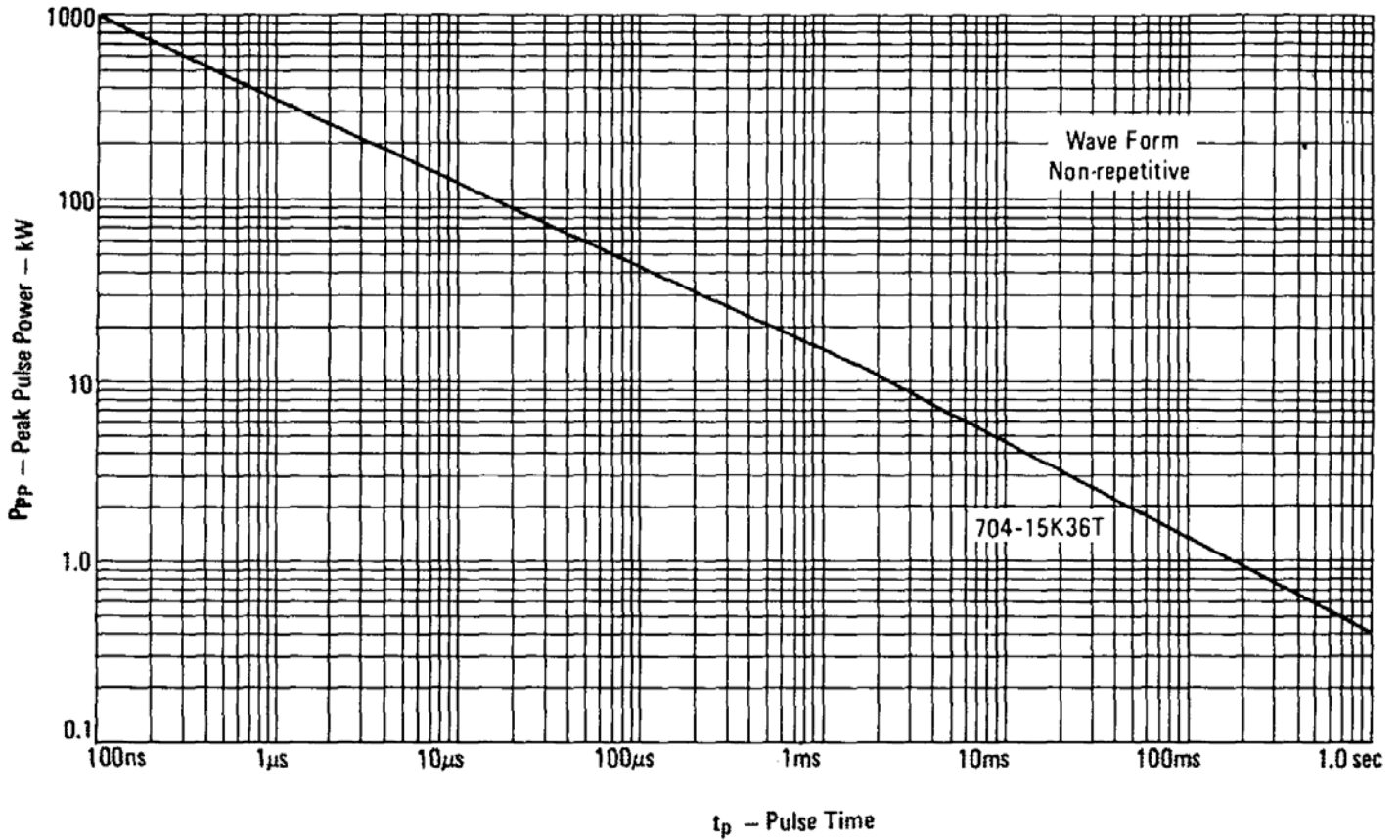
- CASE: Molded case (also see illustration above for part number options)
- TERMINAL: Silver-plated brass
- POLARITY: Cathode terminal marked with a dot
- WEIGHT: 704-15K36 = 38 grams (approximate)  
704-15K36T = 65 grams (approximate)
- Maximum Torque For Mounting: 15 in-lbs

**ELECTRICAL CHARACTERISTICS @ 25°C**

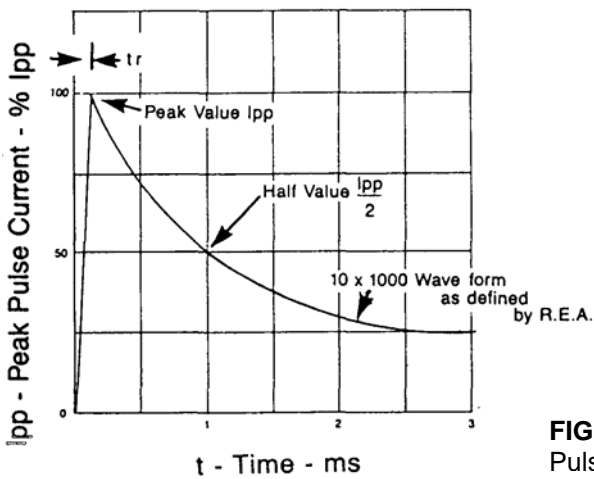
MICROSEMI PART NUMBER	REVERSE STANDOFF VOLTAGE (Note 1) $V_{WM}$ VOLTS	MAXIMUM REVERSE CURRENT @ $V_{WM}$ $I_D$ $\mu A$	MINIMUM BREAKDOWN VOLTAGE @ 10 mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE @ $I_{PP}$ $V_C$ VOLTS	MAXIMUM PEAK PULSE CURRENT (Fig. 2) $I_{PP}$ A	MAXIMUM FORWARD VOLTAGE $V_F$ @ 8.3 ms 100A VOLTS DC
704-15K36	31.5	100	36	51	300	3.0
704-15K36T	31.5	100	36	51	300	3.0

**NOTE 1:** TVS devices are normally selected according to the reverse "Standoff Voltage" ( $V_{WM}$ ) which should be equal to or greater than the dc or continuous peak operating voltage level. Bipolar also available. Consult factory.

GRAPHS

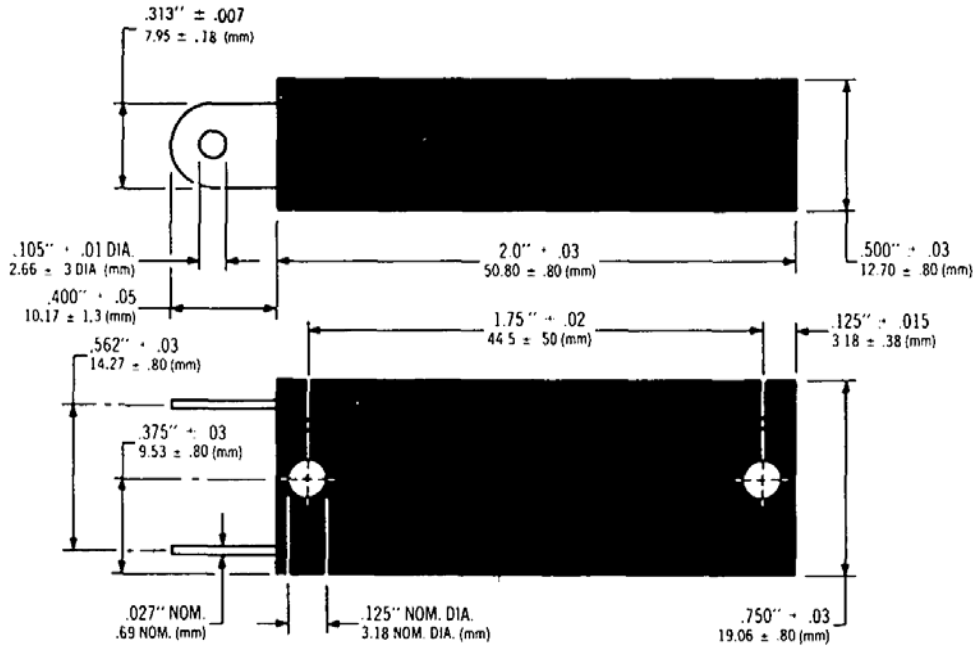


**FIGURE 1**  
Peak Pulse Power vs. Pulse Time

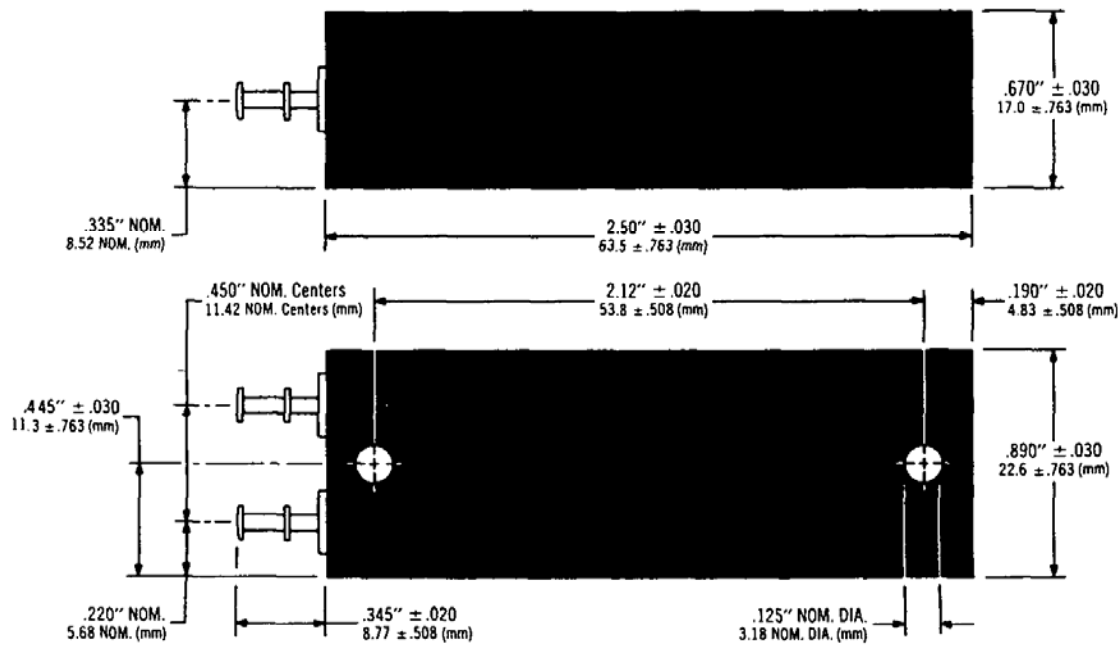


**FIGURE 2**  
Pulse Waveform

**PACKAGE DIMENSIONS**



**CASE 8**



**CASE 9**