TECHNICAL DATA
DATA SHEET 561, REV. A

Transient Voltage Suppressor, Unidirectional

FEATURES:

- Equivalent Industry Standard Part Numbers –704-15K36T
- Designed For MIL-STD-704
- 28 Volt Power Supply Protection
- Can be supplied with JAN/JANTX parts

This series is primarily for use in avionics equipment. It meets all applicable environmental requirements of MIL-S-19500. These 15kW assemblies are designed typically to operate with a minimum source impedance of .25 Ohms for transients.

MAXIMUM RATINGS

Rating	**Condition**	**Minimum**	**Maximum**	**Units**
Peak Pulse Power Dissipation	@ 25°, 1ms	-	15,000	Watts
Steady State Power Dissipation	-	-	10	Watts
$t_{clamping}$	0 Volts to $V_{(BR)}$	-	$< 1x\ 10^{-12}$	Seconds
Operating & Storage Temp.	-	-65	+ 150	°C
Forward Surge Current	1/120 sec. @ 25°C	-	300	Amps
Duty Cycle	-	-	0.01	%

ELECTRICAL CHARACTERISTICS @ 25° (Test Both Polarities)

Part Number	Reverse Stand-Off Voltage (Note 1) V_{WM} Volts	Maximum Reverse Leakage @ V_{wm} I_D µA	Minimum Breakdown Voltage @ 10 mA $V_{(BR)}$ Volts	Maximum Clamping Voltage @ I_{PP} V_c Volts	Maximum Peak Pulse Current (Fig. 2) I_{PP} Amps	Maximum Forward Voltage V_F @ 8.3 msec. 100A Volts DC
704-15K36T	31.5	100	36	51	300	3.0

Note 1: A device is normally selected according to the reverse "Stand Off Voltage" (V_{WM}) which should be equal to or greater than the DC or continuous peak operating voltage level. Special Voltages available from the factory.

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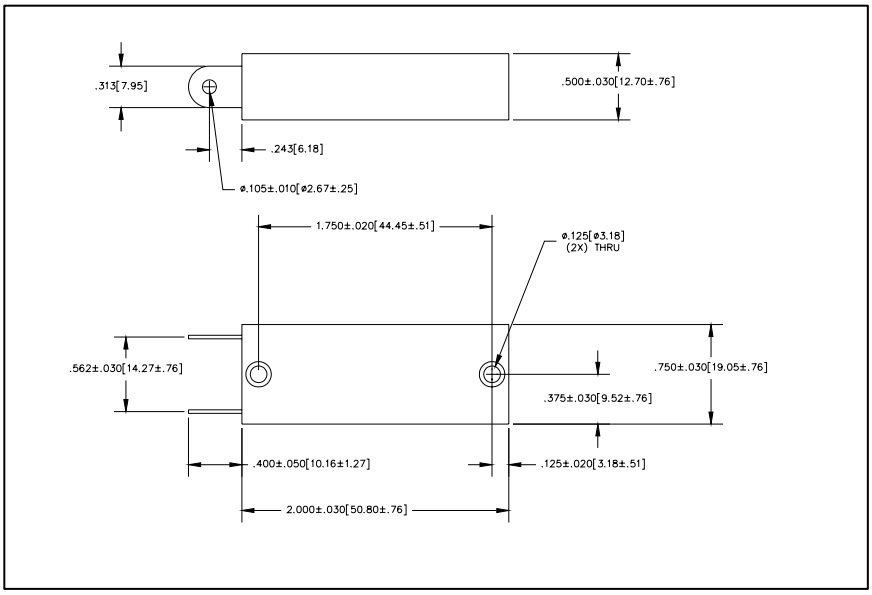
MECHANICAL CHARACTERISTICS

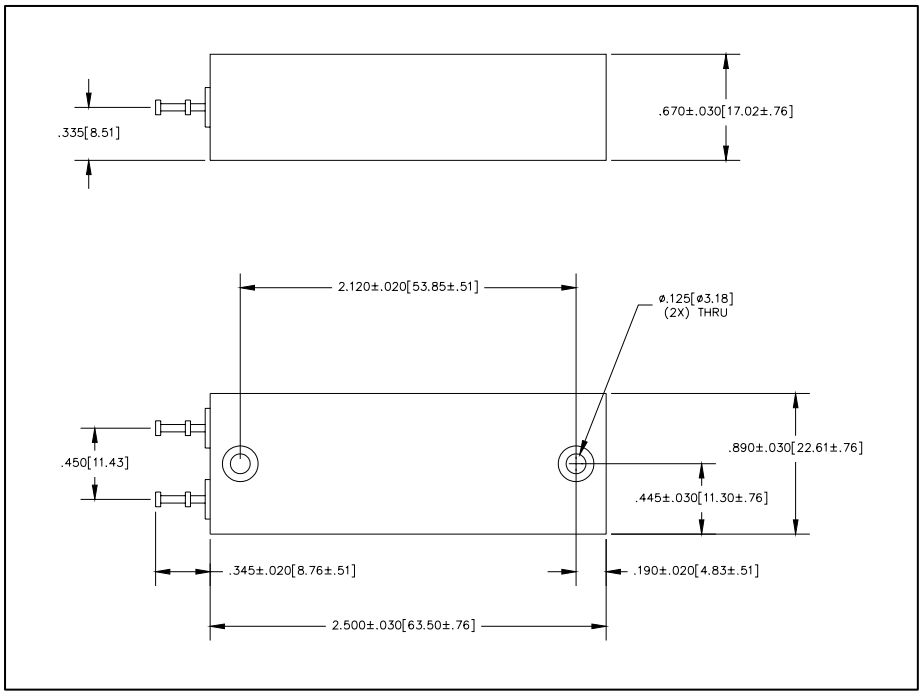
CASE: Molded Case
TERMINAL: Silver Plated Brass
POLARITY: Cathode terminal marked with a dot
WEIGHT: 38 grams
MOUNTING POSITION: Any

MECHANICAL DIMENSIONS: In Inches / mm

Flat Leads



Turret Leads



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SUBMODULE SCREENING TEST PLAN
For Modules H1, H2, and H3

Test	Condition	MIL-STD-750 Test Method
Storage	TA = +175C for 24 hours	1032
Temp Cycle	-65C to +175C, 20 cycles, 15 minutes each extreme	1051
Acceleration	20KG, Y1 axis, no hold time	2006
Electrical	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ	4016 4022
Pulse	20 pulses @ rated Ipp tp = 10μS X 1000μS	
Electrical	Reverse Current (IR) @ rated VR	4016
Burn - In	TA = +125C @ rated VR for 96 hours	1038
Electrical	Reverse Current (IR) @ rated VR D-IR = 50% or 1μA, whichever is > Breakdown voltage (BV) @ IZ D-BV = +-2% from initial reading	4016 4022
Fine Leak	5 X 10-8 atmcc/sec	1071G/H
Gross Leak	T = +125C for 1 min, no bubbles	1071C/D
Group A	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ Clamping voltage (VC) @ Ipp tp = 10μS X 1000μS Forward voltage (VF) @ IF tp = 8.3 msec	4016 4022 4011

NOTE: For bidirectional devices test both polarities-split hours on Burn-in test and surge pulses to 50% each polarity.

Attributes Data Supplied
Module - H1, H2, H3

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MODULE SCREENING TEST PLAN
For Module H1

Test	MIL-STD-750 Test Method
Group A Electricals	4016, 4022

Attributes Data Supplied
Module - H1

MODULE SCREENING TEST PLAN
For Module H2

Test	Condition	MIL-STD-750 Test Method
Storage	TA = +150C for 24 hours	1032
Temp Cycle	-65C to +150C, 10 cycles, 30 minutes each extreme	1051
Electrical	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ	4016 4022
Pulse	20 pulses @ rated Ipp tp = rated	
Electrical	Reverse Current (IR) @ rated VR	4016
Burn - In	TA = +125C @ rated VR for 96 hours	1038
Electrical	Reverse Current (IR) @ rated VR D-IR = 50% or 1μA, whichever is > Breakdown voltage (BV) @ IZ D-BV = +-2% from initial reading	4016 4022
Group A	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ Clamping voltage (VC) @ Ipp tp = rated Forward voltage (VF) @ IF tp = 8.3 msec	4016 4022 4011

NOTE: For bidirectional devices test both plarities-split hours on Burn-in test and surge pulses to 50% each polarity.

Attributes Data Supplied
Module - H2

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MODULE GROUP B TESTING
For Module H3

Test	Condition	MIL-STD-750 Test Method
SUBGROUP 1:		
Solderability		2026
Resistance to solvents		1022
SUBGROUP 2:		
Temp Cycling	-65C/+150C, 10 cycles, 30 minutes each extreme	1051
Electrical	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ	4016 4022
SUBGROUP 3:		
Electrical	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ	4016 4022
Operating Life	@ rated VR, TA = +125C for 340 hours	1026
Electrical	Reverse Current (IR) @ rated VR D-IR = 50% or 1μA, whichever is > Breakdown voltage (BV) @ IZ D-BV = +-5% from initial	4016 4022

NOTE: For bidirectional devices test both polarities-split hours on Operating Life to 50% each polarity.

Attributes Data Supplied
Sampling per MIL-S-19500
Module - H3 (Group B)

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MODULE GROUP C TESTING
For Module H3

Test	Condition	MIL-STD-750 Test Method
SUBGROUP 1:		
Physical dimensions		2066
SUBGROUP 2:		
Terminal strength (tension)	Test condition A, W = 10lbs., t = 15 seconds	2036
Moisture resistance	Omit inital conditioning	1021
Electrical	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ	4016 4022
SUBGROUP 3:		
Shock	1500G's, 0.5ms, 5 blows in each orientation X1, Y1, Z1	2016
Vibration, var. freq.		2056
Electrical	Reverse Current (IR) @ rated VR Breakdown voltage (BV) @ IZ	4016 4022
SUBGROUP 4:		
Salt atmosphere		1041
SUBGROUP 5:		
Operating Life	@ rated VR, TA = +125C for 1000 hours	1026
Electrical	Reverse Current (IR) @ rated VR D-IR = 50% or 1µA, whichever is > Breakdown voltage (BV) @ IZ D-BV = +-5% from initial	4016 4022

NOTE: For bidirectional devices test both polarities-split hours on Operating Life to 50% each polarity.

Attributes Data Supplied
Sampling per MIL-S-19500
Module - H3 (Group C)

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