EITEL-McCULLOUGH, INC.
SAN CARLOS, CALIFORNIA

# EM 108

## TRAVELING WAVE TUBE

The EM108 is an octave bandwidth pulse PPM focused TWT capable of delivering 1.0 kw of power from 2.0–4.0 Gc. This tube is of metal-ceramic construction designed for operation in severe environments. This tube contains a grid for modulating purposes.

## ELECTRICAL SPECIFICATIONS

| Absolute Ratings | Maximum |
|---|---|
| Filament Voltage | 7.0 Volts |
| Cathode Voltage | −8000 vdc |
| Peak Cathode Current | 2.0 adc |
| Pulse Grid Voltage | +400 to −150 vdc |
| Duty Cycle | 2% |

| Operating and Performance Data | |
|---|---|
| Filament Voltage | 6.3 Volts |
| Filament Current | 3.0 Amperes |
| Cathode Voltage | −7500 Vdc |
| Peak Cathode Current | 1.3 Adc |
| Grid Voltage (Beam off) | −90 Vdc |
| Grid Voltage (Beam on) | +200 Vdc |
| Duty Cycle | 2% |
| Frequency Range | 2.0–4.0 Gc |
| Small Signal Gain—Minimum | 36 db |
| Peak Saturated Power Out—Minimum | 1.0 kw |
| Saturated Gain—Minimum | 30 db |
| Grid Capacitance (to all other elements) | 15 picofds. |

## ENVIRONMENTAL SPECIFICATIONS

Complies with MIL-5400 Class II Equipment

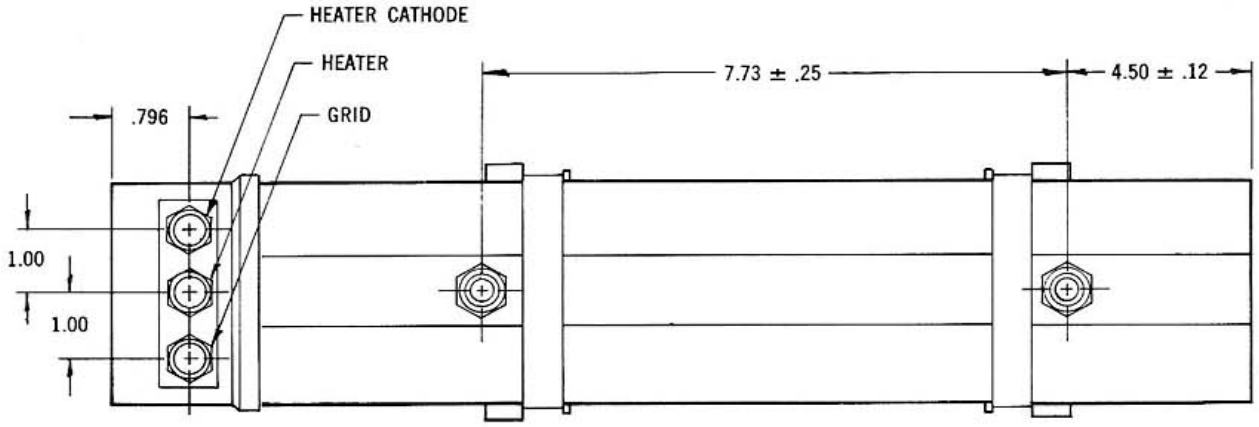
| | |
|---|---|
| Temperature | −65°C to +125°C |

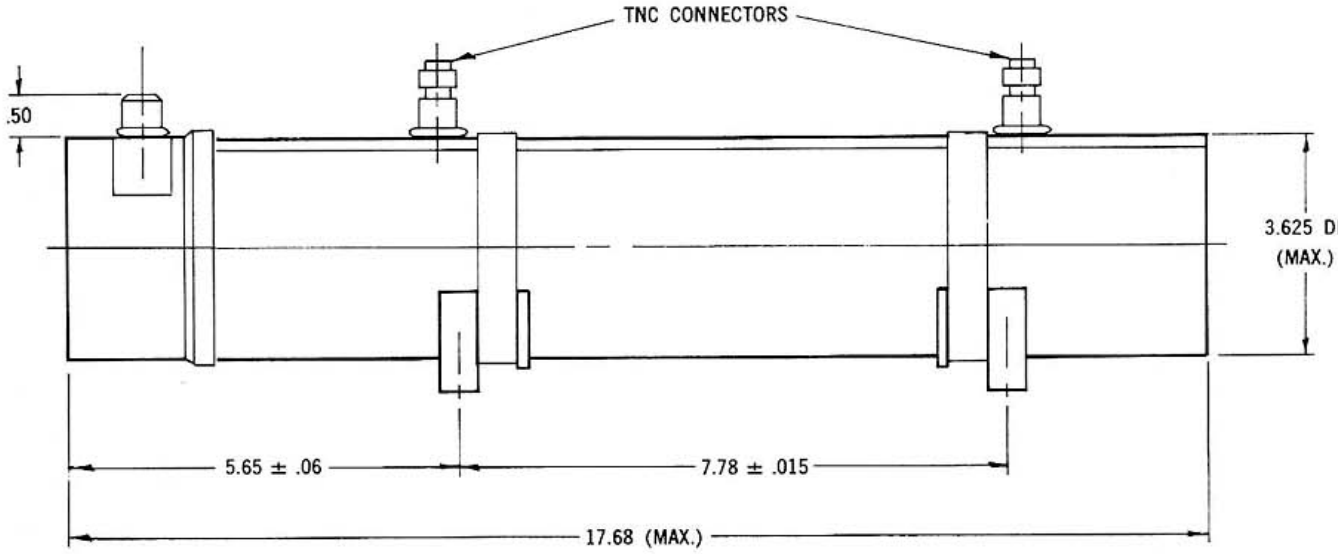
## MECHANICAL SPECIFICATIONS

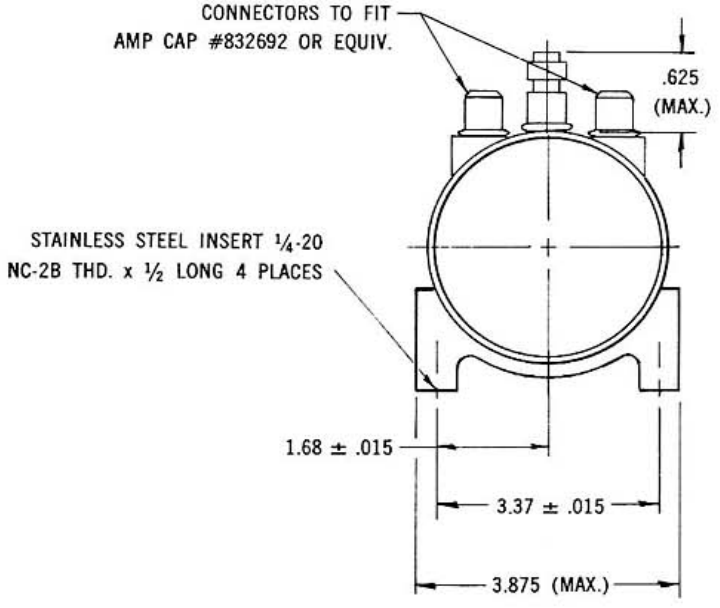
| | |
|---|---|
| Operating Position | Any |
| Input Coupling, rf | TNC |
| Output Coupling, rf | TNC |
| Focusing | PPM |
| Cooling | 75 CFM forced air |
| Dimensions | See outline drawing |
| Weight | 9 lbs. |
| Supply Connections | Cathode—yellow<br>Filament—brown<br>Grid—green |

NOTE: Electrode Voltages are with respect to cathode; tube shell at ground potential.

(EFFECTIVE 3-15-64) 


HEATER CATHODE
HEATER
GRID
.796
7.73 ± .25
4.50 ± .12
1.00
1.00


TNC CONNECTORS
.50
3.625 DIA
(MAX.)
5.65 ± .06
7.78 ± .015
17.68 (MAX.)


CONNECTORS TO FIT
AMP CAP #832692 OR EQUIV.
.625
(MAX.)
STAINLESS STEEL INSERT ¼-20
NC-2B THD. x ½ LONG 4 PLACES
1.68 ± .015
3.37 ± .015
3.875 (MAX.)