

**BS390****S-BAND  
TR TUBE****Service Type CV9442**

The data should be read in conjunction with the Duplexer Device Preamble.

**DESCRIPTION**

Broad-band single primer TR tube.

**CHARACTERISTICS**

|                                                         |                        |          |
|---------------------------------------------------------|------------------------|----------|
| Frequency range . . . . .                               | 2925 to 3075           | MHz      |
| V.S.W.R. (see note 1) . . . . .                         | 1.33:1                 | max      |
| Maximum leakage:                                        |                        |          |
| spike energy (see note 2) . . . . .                     | 25                     | nJ/pulse |
| total power (see note 2) . . . . .                      | 100                    | mW       |
| low power . . . . .                                     | 500                    | mW       |
| Recovery period to -3db (see note 2) . . . . .          | 25                     | μs max   |
| Insertion loss (see note 3) . . . . .                   | 1.0                    | db max   |
| Arc loss (see note 2) . . . . .                         | 0.8                    | db max   |
| Position of short circuit (see notes 2 and 4) . . . . . | 0.062 inch (1.6mm) nom |          |

**MAXIMUM AND MINIMUM RATINGS**

|                                                            | Min | Max  |                    |
|------------------------------------------------------------|-----|------|--------------------|
| Transmitter power (peak) . . . . .                         | —   | 1250 | kW                 |
| Primer supply voltage (negative)<br>(see note 5) . . . . . | 900 | 1100 | V                  |
| Primer current . . . . .                                   | 70  | 150  | μA                 |
| Waveguide pressure . . . . .                               | —   | 300  | kN/m <sup>2</sup>  |
|                                                            | —   | 44   | lb/in <sup>2</sup> |
| Ambient temperature (non-operating) . . . . .              | -40 | +100 | °C                 |

**GENERAL**

|                              |                                                                 |
|------------------------------|-----------------------------------------------------------------|
| Overall dimensions . . . . . | 4.470 x 4.760 x 3.880 inches nom<br>113.5 x 120.9 x 98.55mm nom |
| Waveguide size . . . . .     | no. 10 (2.840 x 1.340 inches internal)                          |
| Coupler . . . . .            | NATO S.N. 5985-99-083-0058                                      |
| Finish . . . . .             | flange faces tin or silver plated                               |
| Mounting position . . . . .  | any                                                             |
| Net weight . . . . .         | 4 1/4 pounds (1.9kg) approx                                     |

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## NOTES

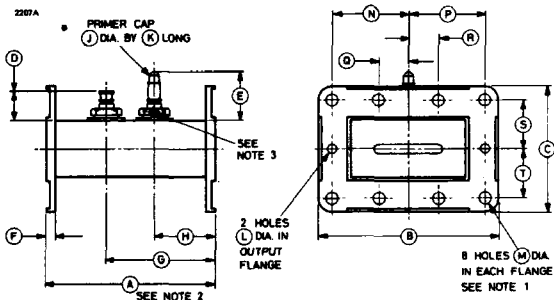
1. Measured at a power level below 10mW over the frequency range on a matched T junction.
2. Measured at 1.0MW peak power 1.0 $\mu$ s pulse length and 500p.p.s.
3. Measured at a power level below 10mW at the centre of the frequency range.
4. Distance of the effective r.f. short circuit behind front flange.
5. The primer supply voltage must be applied at least 5 seconds before the tube is required to operate. The primer current must be limited by a series resistance of 5.5M $\Omega$ , of which at least 0.5M $\Omega$  must be adjacent to the primer terminal.

## Outline Dimensions (All dimensions without limits are nominal)

| Ref | Inches            | Millimetres      | Ref | Inches                   | Millimetres              |
|-----|-------------------|------------------|-----|--------------------------|--------------------------|
| A   | 4.470             | 113.5            | L   | 0.250 + 0.002<br>- 0.000 | 6.350 + 0.051<br>- 0.000 |
| B   | 4.760 $\pm$ 0.010 | 120.9 $\pm$ 0.25 | M   | 0.260 $\pm$ 0.004        | 6.6 $\pm$ 0.1            |
| C   | 3.260 $\pm$ 0.010 | 82.80 $\pm$ 0.25 | N   | 2.031                    | 51.59                    |
| D   | 0.875 max         | 22.23 max        | P   | 2.031                    | 51.59                    |
| E   | 1.250 $\pm$ 0.125 | 31.75 $\pm$ 3.18 | Q   | 0.750                    | 19.05                    |
| F   | 0.250 min         | 6.35 min         | R   | 0.750                    | 19.05                    |
| G   | 3.062 $\pm$ 0.062 | 77.77 $\pm$ 1.57 | S   | 1.281                    | 32.54                    |
| H   | 1.500 $\pm$ 0.062 | 38.10 $\pm$ 1.57 | T   | 1.281                    | 32.54                    |
| J   | 0.250             | 6.35             |     |                          |                          |
| K   | 0.250             | 6.35             |     |                          |                          |

Millimetre dimensions have been derived from inches except dimension M.

## OUTLINE



### Outline Notes

1. The corresponding holes of both flanges are in alignment within 0.020 inch (0.51mm).
2. The two flange faces are flat and parallel within 0.005 inch (0.13mm). The flanges mate with coupler NATO S.N. 5985-99-083-0058.
3. Hole each side, 3.8mm diameter, to accept primer cap spring.