



BS502

X-BAND MONITOR DIODE

Service Type CV6005

The data should be read in conjunction with the Monitor Diode Preamble.

DESCRIPTION

The BS502 is a monitor diode operating in the frequency range 8.5 to 10GHz. It is used with monitor diode mount type BS512 and power supply and indicator unit type BS600.

GENERAL DATA

Mechanical

Overall dimensions		see Outline
Mounting position		see note 1
Ambient temperature	70	°C max

Electrical

Frequency range (see note 2)	8.5 to 10	GHz
V.S.W.R. (see note 2)	1.3:1	max
Heater voltage (pre-heat)	6.3 ± 0.5	V
Heater voltage (operating)		see note 3
Heater current at 6.3V	1.2 ± 0.1	A
Load resistance	$68 \pm 1\%$	Ω
Power sensitivity (see note 4)	14.1 to 17.3	kW

MAXIMUM RATINGS

Input power (peak)	20	kW
Input power (mean)	18	W
Pulse length	2	μ s

NOTES

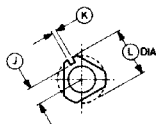
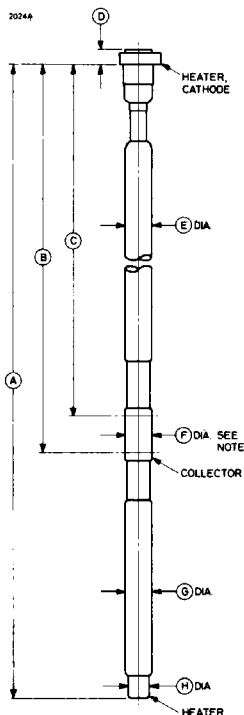
1. The diode and mount may be mounted in any position provided there is free convection of the surrounding air.
2. In a standard mount type BS512. By adjustment of the position of the matching piston in the mount it is possible to obtain a v.s.w.r. of less than 1.3:1 at any frequency in the range.
3. The maximum diode life will be obtained if the heater voltage is reduced when the diode is operating with r.f. power input. The reduced voltage should be 10% to 20% above the value at which the amplitude of the diode output voltage begins to decrease.

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4. The diode is tested in a standard mount at a pulse repetition rate of 1000p.p.s. and pulse length of $1\mu\text{s} \pm 1\%$. Sensitivity is measured by setting the pulse output to $100\text{V} \pm 1\text{V}$ across a $68\Omega \pm 1\%$ load resistance.

OUTLINE

2024A



VIEW ON TOP

Ref	Inches	Millimetres
A	10.700 ± 0.150	271.8 ± 3.8
B	6.800 min	172.7 min
C	6.375 max	161.9 max
D	0.250 max	6.35 max
E	0.187 min	4.75 min
F	0.428 max	10.87 max
G	$0.435^{+0.001}_{-0.004}$	$11.049^{+0.025}_{-0.102}$
H	0.428 max	10.87 max
I	0.364	9.25
J	0.280 max	7.11 max
K	0.063 ± 0.003	1.600 ± 0.076
L	0.750 ± 0.005	19.05 ± 0.13

Millimetre dimensions have been derived from inches.

Note Diameter F will be maintained between dimensions B and C.