

JETEC TYPE DESIGNATION REGISTRATION FORM SHUTTER

AND TR TUBES

Manufacturer's Designation: BL-311
JETEC Designation: 6594
Manufacturer: Bomac Laboratories, Inc.
Beverly, Massachusetts

December 21, 1956

GENERAL CHARACTERISTICS

The 6594 is a combined broad-band TR tube and shutter for use in C-band. The shutter mechanism, when closed, insures protection for the receiver crystal from nearby transmitters when the radar set is not in use. When the shutters are open, the TR tube functions normally and provides decoupling of the receiver from a common transmitting and receiving antenna during a period of transmission. It is an integral cavity type. Its operational band is from 5395 to 5905 megacycles per second.

ELECTRICAL DATA-TYPICAL VALUES

TR Tube (With shutters open)

Operational Band

VSWR 1.9 max.

5395 to 5905 Mc/s

VSWR 1.4 max.

5450 to 5825 Mc/s

Ignitor Ignition Time (max.)

5 sec.

Ignitor Voltage Drop. at $I_i=100 \mu\text{Adc}$

200 to 400 Vdc

Spike Leakage Energy (mx.)

0.3 ergs

$F=5650 \text{ Mc}$; $p_o=70 \text{ kw}$.

$tp_1=1.0 \mu\text{s}$; $tp_2=0.5 \mu\text{s}$.

$prf=1000 \text{ pps}$; $I_i=100 \mu\text{Adc}$

Flat Leakage Power (max)

70 mw

(See Spike Leakage for test conditions)

Insertion Loss (max.) at $F=5650 \text{ Mc}$ and $I_i=0$

0.8 db.

Ignitor Interaction (max.) at $I_i=100 \mu\text{Adc}$

0.2 db.

Recovery Time (max.) at 300 kw peak, 3db down

10. μs

Position of Short.

0.070 to 0.100 in.

(Measured from the face of the input flange
of the tube. Short is further from the magnetron)

Shutter Tube

Attenuation (shutters closed) 5395 to 5905 Mc.

40 db (min.)

Shutter Circuit Voltage

28 Vdc

Shutter Circuit Pull-In Current (min.)

110 mAdc

Shutter Circuit Holding Current (min.)

60 mAdc

Shutter and TR Tubes (Cont'd)

MECHANICAL DATA- GENERAL

Mounting Position	Any
Weight, approximately	1-1/2 lbs.

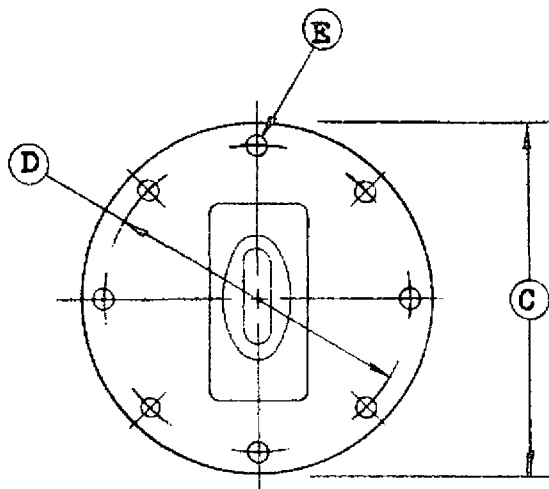
ABSOLUTE MAXIMUM RATINGS

Transmitter Peak Power (TR Tube) (Note 1)	300 kw
Transmitter Average Power	300 W
Ignitor Current	200 μ Adc
Shutter Holding Current	160 mAdc

OUTLINE DRAWING

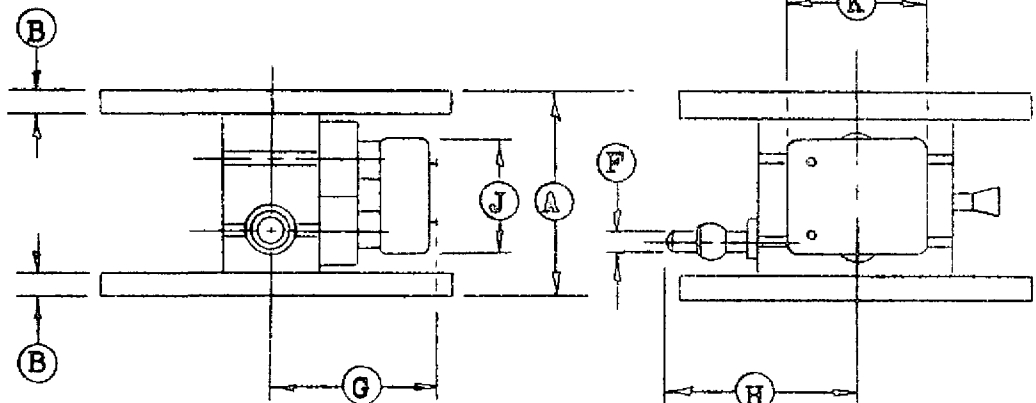
As per attached drawing dated 12-5-56

Note 1: The shutters are not intended for application involving switching of peak power greater than one kilowatt . Therefore, the rating applies when the shutters are either open or closed.

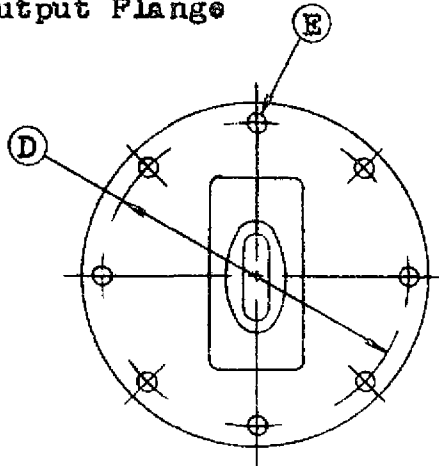


Note:-
Exhaust tube not to
extend beyond flange.

Input Flange



Output Flange



Ref.	Dimension
A	2.110 $\pm$.015
B	0.250 $\pm$.015
C	3.625 $\pm$.015 Dia.
D*	3.250 $\pm$.005 Dia.
E	0.221 Drill
	8 Holes Ea. Flg.
F*	0.250 $\pm$.005 Dia.
G	1.875 Max.
H	2.250 Max.
J	1.250 Max.
K	1.750 Max.

SPECIFICATION SHEET

Outline

6594/BL-311

BOMAC LABORATORIES INC.
SALEM ROAD
BEVERLY, MASSACHUSETTS

12-5-56 clr