JETEC TYPE DESIGNATION REGISTRATION FORM

SHUTTER AND TR TUBES

Manufacturer's Designation: BL-317 December 18, 1956
JETEC Designation: 6596
Manufacturer: Bomac Laboratories, Inc.
Beverly, Massachusetts

GENERAL CHARACTERISTICS

The 6596 is a combined shutter and broad-band dual TR tube designed to operate with suitable short-slot hybrid junctions to provide a balanced duplexer using RG-52/u size waveguide. The shutter mechanism, when closed, insures protection for the receiver crystal from nearby transmitters when the radar set is not in use. When the shutter is open, the TR tube functions in a normal manner. It is an integral cavity type with fixed tuned gaps. Its operational band is from 8490 to 9578 megacycles per second.

ELECTRICAL DATA-TYPICAL VALUES

TR Tube (With shutter open)

Operational Band	
VSWR 1.4 max.	8490 to 9578 Mc/s
VSWR 1.2 max.	8565 to 9487 Mc/s
Ignitor Ignition Time (max.)	5 sec.
Ignitor Voltage Drop. at Ii=100 μAdc	200 to 375 Vdc
Spike Leakage Energy (max.)	0.1 erg.
F=9000 Mc; po=40 kw; tp1=1.0 μs; tp2=0.5 μs; prr=1000 pps; Ii=100 μAdc on each	
Flat Leakage Power (See Spike Leakage Energy for test conditions)	20 mw.
Duplexer Loss. (max.) at Ii=100 μAdc	
From 8490 to 9578 Mc/s	1.2 db
From 8565 to 9487 Mc/s	1.0 db
Isolation (min) (Magnetron to receiver)	
From 8490 to 9578 Mc/s	15 db
From 8565 to 9487 Mc/s	18 db
At 9000 Mc/s	20 db
Recovery Time (mx.) at 200 kw; 3db down	7.0 μs
High Level VSWR (max.) F=9000 Mc; po=40 kw	1.2

Shutter Tube

Duplexer Loss (min) with shutters closed (From 8490 to 9578 Mc/s)	60 db.
Shutter Circuit Voltage (nom.)	28 Vdc

from JETEC release #1859, March 4, 1957

Shutter Tube (Cont.)

Shutter Circuit Pull-In Current (min.)	220 mAdc
Shutter Circuit Holding Current (min.)	110 mAdc

MECHANICAL DATE-GENERAL

Mounting Position	Any
Weight approximately	10 oz.

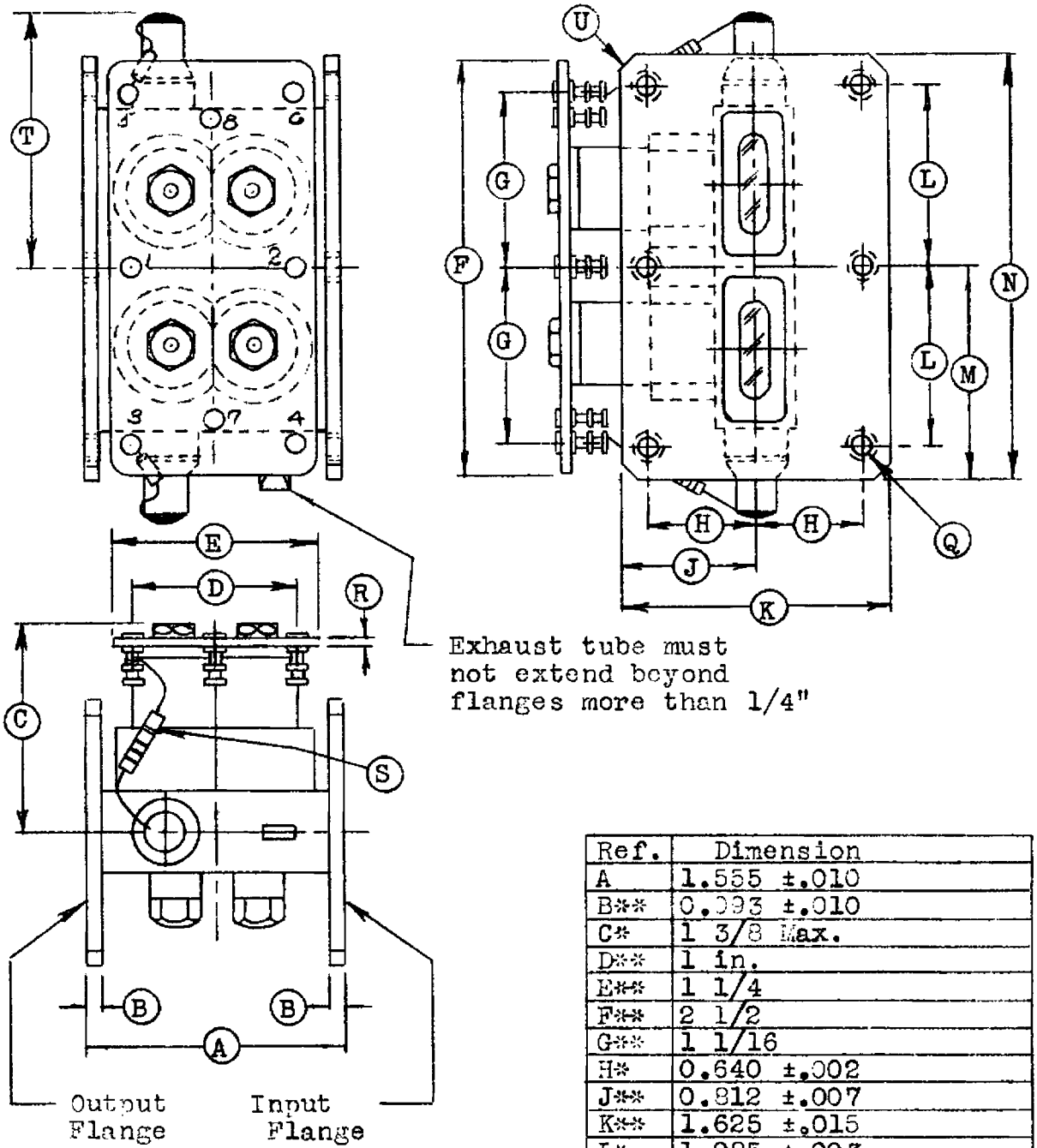
ABSOLUTE MAXIMUM RATINGS

Transmitter Peak Power (TR Tube) (Note 1)	250 kw
Transmitter Average Power	250 W
Ignitor Current (each electrode)	200 μAdc
Shutter Circuit Holding Current	320 mAdc

OUTLINE DRAWING

As per attached drawing dated 1/5/55.

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



Ref.	Dimension
A	1.555 ±.010
B**	0.393 ±.010
C*	1 3/8 Max.
D**	1 in.
E**	1 1/4
F**	2 1/2
G**	1 1/16
H*	0.640 ±.002
J**	0.812 ±.007
K**	1.625 ±.015
L*	1.085 ±.003
M**	1.2875 ±.007
N**	2.575 ±.015
Q	#8-32NC 6 Holes Each Flange
R**	1/16
S	5.1 Meg 1/2 Watt ±5% Resistor JAN R-11
T*	1.500 Max.
U**	1/8 Rad.

Terminal Connections	
1+2	28 VDC
3+5	Ignitor Voltage

SPECIFICATION SHEET

Outline

6596/BL-317

BOMAC LABORATORIES INC
SALEM ROAD
BEVERLY, MASSACHUSETTS

1-5-55 clr

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