

JETEC TYPE DESIGNATION REGISTRATION FORM

TR and SHUTTER TUBE WITH ATTACHED HYBRIDS

March 6, 1957

Manufacturer's Designation: BL-509
JETEC Designation: 6604
Manufacturer: Bomac Laboratories, Inc.
Beverly, Massachusetts

GENERAL CHARACTERISTICS

The 6604 is an integral shutter and dual broad-band TR tube with attached short slot hybrids designed to provide a balanced duplexer with RG-52/U size waveguide. The shutter mechanism, when closed, insures protection of the receiver crystal from nearby transmitters when the radar is not in use. When the shutter is open, the gas switching tube functions normally. It is an integral cavity type with fixed tuned gaps. Its operational band is from 8490 to 9578 megacycles.

ELECTRICAL DATA - TYPICAL VALUES

TR Tube (With Shutter Open)

Operational Band	
VSWR 1.4 maximum	8490 to 9578 Mc/s
VSWR 1.2 maximum	8565 to 9478 Mc/s
Ignitor Ignition Time (max.) (each electrode)	5.0 sec.
Ignitor Voltage drop (each electrode) $I_i = 100 \mu\text{A dc}$	200 - 375 Vdc
Spike Leakage Energy (max.)	0.1 ergs
F=9000 Mc; $p_o = 40\text{kw}$; $tp_1 = 1.0 \mu\text{s}$;	
$tp_2 = 0.5 \mu\text{s}$; $pr = 1000\text{pps}$;	
$I_i = 100 \mu\text{A dc}$ on each electrode	
Flat Leakage Power (max.)	20 mw.
(See Spike Leakage for test conditions)	
Duplexer Loss (max.)	
from 8490 to 9578 Mc and $I_i = 100 \mu\text{A dc}$	1.2 db
from 8565 to 9487 Mc and $I_i = 100 \mu\text{A dc}$	1.0 db
Isolation (min.)	
from 8490 to 9578 Mc	15 db
from 8565 to 9487 Mc	18 db
at 9000 Mc	20 db

ELECTRICAL DATA - TYPICAL VALUES (cont.)

Recovery Time (max.) at 200 kw peak 3db down	7.0 μ s
High Level VSWR (max.)	1.2
F=9000Mc; po=40kw; tp1=1.0 μ s	
pr=1000pps; Ii=100 μ Adc on each electrode	

SHUTTER TUBE

Attenuation 8490 to 9578Mc (shutter closed)	40 db min.
Shutter Circuit Voltage (nom.)	28 Vdc.
Shutter Circuit Pull-In Current (min.)	220 μ Adc
Shutter Circuit Holding Current (min.)	110 μ Adc

MECHANICAL DATA-GENERAL

Mounting Position	Any
Number of Ignitors	Two
Weight, approximately	1.25 lbs.

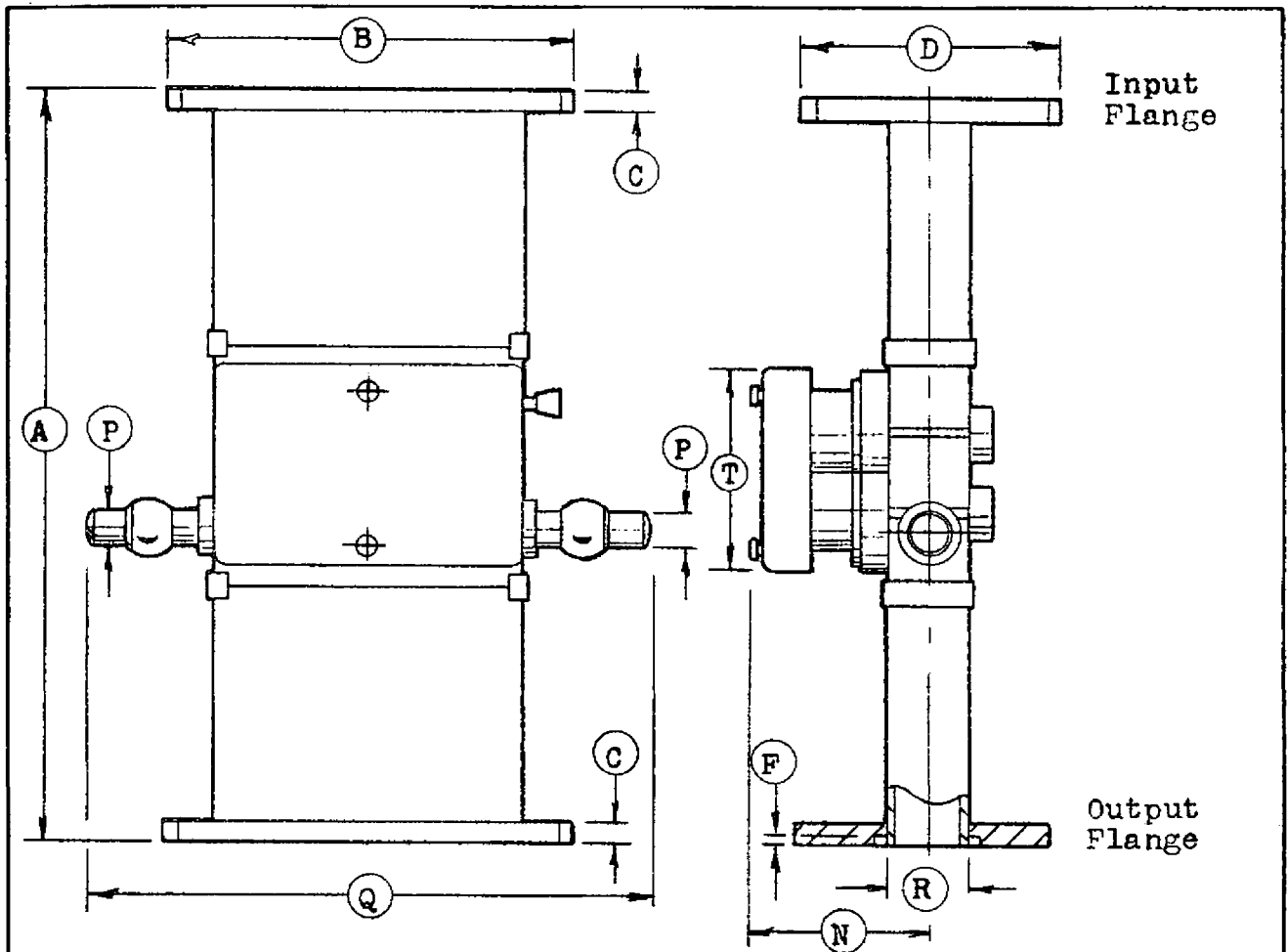
ABSOLUTE MAXIMUM RATINGS

Transmitter Peak Power (Note 1)	250 kw
Transmitter Average Power	250 W
Ignitor Current (each electrode)	200 μ Adc
Shutter Circuit Holding Current	320 μ Adc

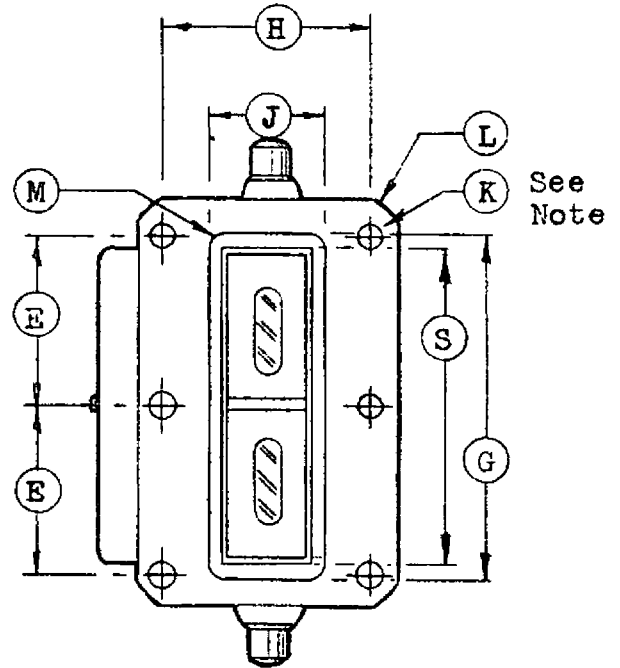
Note 1: The shutter is not intended for applications involving the switching of peak power greater than one kilowatt, therefore, this rating applies only when the shutter is open or closed.

OUTLINE DRAWING

As per attached drawing dated 3-6-57.



Ref.	Dimension
A	4.974 ±.015
B**	2.575 ±.015
C**	0.220 ±.010
D**	1.625 ±.015
E*	1.085 ±.003
F	0.070 ±.001 Typ.
G	2.204 ±.005
H*	1.280 ±.004
J	0.754 ±.005
K	#8-32 NC
	#18(.1695)
	6 Holes
L**	1 1/16 Rad.
M	3/64 Rad.
N*	1 7/8 Max.
P**	0.250 Dia.
Q*	4.000 Max.
R**	0.500 ±.005
S**	1.950 ±.005
T**	1.500 Max.



Note:-

Input flange has tapped holes, Dimensions same as output.
Output flange has clearance holes.

SPECIFICATION SHEET		BOMAC LABORATORIES INC. SALEM ROAD BEVERLY, MASSACHUSETTS
	Outline	3-6-57 clr
6604/BL-509		