Manufacturer's Designation: BL 613  April 23, 1957
JETEC Designation: 6905
Manufacturer: Bomac Laboratories, Inc.
Beverly, Massachusetts

GENERAL CHARACTERISTICS

The 6905 is a dual broad-band TR tube designed to operate with suitable short-slot hybrid junctions to provide a balanced duplexer using RG-44/U size waveguide. It is an integral cavity type with an operational band from 5400 to 5900 megacycles.

ELECTRICAL DATA - TYPICAL VALUES

Operational Band
VSWR 1.3 maximum 5400 to 5900 Mc/sec.
VSWR 1.2 maximum 5450 to 5850 Mc/sec.
Ignitor Ignition Time (max.) each electrode 5 sec.
Ignitor Voltage Drop at $\text{H}=100 \mu\text{A}$dc (each electrode) 200 - 400 Volts

Spike Leakage Energy (max.) 0.1 ergs
$F=5650; P_o=70 \text{ kw}; t_p=1.0 \mu\text{sec};$
$tp_2=0.5 \mu\text{sec}; P_{\text{pp}}=1000 \text{ pps}$
$\text{H}=100 \mu\text{A}$dc on each electrode

Flat Leakage Power (max.) 10 mw
(see Spike Leakage for test conditions)

Duplexer Loss (max.) at $\text{H}=100 \mu\text{A}$dc (each electrode)
from 5400 to 5900 Mc. 1.2 db
from 5450 to 5850 Mc. 1.0 db

Isolation (min.)
from 5400 to 5900 Mc 10 db
from 5450 to 5850 Mc 10 db
at 5650 Mc 12 db

Recovery Time (max.) at 3000 kw peak 3 db down 10 $\mu$s

High Level VSWR (max.) 1.2
$F=5650 \text{ Mc}, P_o=300 \text{ kw}; t_p=1.0 \mu\text{sec}$
$p_{\text{pp}}=1000 \text{ pps}; \text{H}=100 \mu\text{A}$dc (each electrode)

Phase Shift
$F=5450 \text{ Mc.}$  $\varphi=-32$ to $-42$ deg.
$F=5650 \text{ Mc.}$  $\varphi=+11$ to $+21$ deg.
$F=5825 \text{ Mc.}$  $\varphi=+55$ to $+65$ deg.

from JETEC release #1949, June 17, 1957
MECHANICAL DATA - GENERAL

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

ABSOLUTE MAXIMUM RATINGS

Transmitter Peak Power     3000 kw
Transmitter Average Power  2000 W
Ignitor current (each electrode)  200 µA/dc

OUTLINE DRAWING

Outline as per attached drawing dated 4-4-57
Mating Flange as per attached drawing dated 2-1-55
Exhaust tube not to extend beyond flanges

Ref. | Dimension
--- | ---
A** | 2 1/32
B** | 3/16
C | 1.945 ± .010
D** | 5 1/32
E** | 0.250 Dia. Nom.
F* | 1 13/16 Max.
G* | 1.658 ± .004
H* | 1.329 ± .004
J* | 0.500 ± .004
K* | 0.329 ± .004
L | #10-32NF 12 Holes Each Flange
M* | 0.829 ± .004
N* | 1.829 ± .004
P* | 2.329 ± .004
Q* | 2.829 ± .004
R* | 3.829 ± .004
S* | 4.658 ± .004
T** | 3/16 x 45° Chamfer

SPECIFICATION SHEET

Outline

6905/BL-613

BOMAC LABORATORIES INC.
SALEM ROAD
BEVERLY, MASSACHUSETTS

PRINTED BY SPALDING WEB CO., BOSTON, MASS., RE-ORDER NO. 1-14
Ref. | Dimension | Ref. | Dimension
--- | --- | --- | ---
A | 4.658 ± 0.002 | L | 4.000 ± 0.005
B | 3.829 ± 0.002 | M | 4.375 ± 0.005
C | 2.829 ± 0.002 | N | 5 1/32
D | 2.329 ± 0.003 | P | 3/32 Rad.
E | 1.829 ± 0.002 | Q | 3/16 x 45 Chamfer
F | 0.829 ± 0.002 | R | 1.000 ± 0.005
G | 0.500 ± 0.003 | S | 1.375 ± 0.005
H | 1.658 ± 0.002 | T | 2 1/32
J | 0.329 ± 0.003 | U | 0.350 Min.
K | 13/64 (.203) Dr. | V | 0.110 ± 0.002
12 Holes

Note: Outline used for following tubes
6640/BL-60, 6641/BL-86, BL-336
BL-352, 6905/BL-613, BL-644

GS-2E-1.10.20.01

SPECIFICATION SHEET
Mating Flange
See Note

BOMAC LABORATORIES INC.
SALEM ROAD
BEVERLY, MASSACHUSETTS

2-1-55 clr