Manufacturers Designation: BL-60
JETEC Designation: 6640
Manufacturer: Bomac Laboratories, Inc.
Beverly, Massachusetts

GENERAL CHARACTERISTICS

The 6640 is a dual broad-band gas switching tube designed to operate with suitable short-slot hybrid junctions to provide a balanced duplexer using RG49/U size waveguide. It is an integral cavity type. Its operational band is from 5400 to 5900 megacycles per second.

ELECTRICAL DATA-TYPICAL VALUES

Operational Band

\[
\begin{align*}
\text{VSWR} & \leq 1.3 \text{ maximum} & 5400 \text{ to } 5900 \text{ Mc/sec} \\
\text{VSWR} & \leq 1.2 \text{ maximum} & 5450 \text{ to } 5850 \text{ Mc/sec} \\
\end{align*}
\]

Ignitor Ignition Time (max.)
5 sec.

Ignitor Voltage Drop at \( I_i=100\mu\text{ADC} \)
200-400 Vdc.

(each electrode)

Spike Leakage Energy (max.)
0.1 ergs

\[ F=5650 \text{ Mc}; \ po=70 \text{ kw}; \ tp1=1.0\mu\text{s}; \]
\[ tp2=0.5\mu\text{s}; \ prr=1000 \text{ pps}; \]
\[ I_i=100\mu\text{ADC on each electrode} \]

Flat Leakage Power (max.)
10 mw

(See Spike Leakage for test conditions)

Duplexer Loss (max.) \( I_i=100\mu\text{ADC on each electrode} \)
\[
\begin{align*}
\text{from } 5400 \text{ to } 5900 \text{ Mc.} & \quad 1.2 \text{ db} \\
\text{from } 5450 \text{ to } 5850 \text{ Mc.} & \quad 1.0 \text{ db} \\
\end{align*}
\]

Isolation (min.)
\[
\begin{align*}
\text{from } 5400 \text{ to } 5900 \text{ Mc.} & \quad 15 \text{ db} \\
\text{from } 5450 \text{ to } 5850 \text{ Mc.} & \quad 17 \text{ db} \\
\text{at } 5650 \text{ Mc.} & \quad 20 \text{ db} \\
\end{align*}
\]

Recovery Time (max.) at 625 kw peak 3 db down
12 \( \mu\text{sec} \)

High Level VSWR (max.)
1.2

\[
\begin{align*}
F=5650 \text{ Mc}; \ po=300 \text{ kw}; \ tp=1.0\mu\text{s}; \\
prr=1000 \text{ pps}; \ I_i=100\mu\text{ADC on each electrode} \\
\end{align*}
\]

from JETEC release #1919, May 6, 1957
MECHANICAL DATA-GENERAL

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

ABSOLUTE MAXIMUM RATINGS

Transmitter Peak Power 700 kw
Transmitter Average Power 700 W
Ignitor Current (each electrode) 200μA dc

OUTLINE DRAWINGS

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

**Ref.** | **Dimension**
---|---
A** | 2.132
B** | 3.16
C** | 1.345 ± 0.010
D** | 5.132
E** | 0.250 Dia. Nom.
F** | 1.1316 Max.
G** | 1.658 ± 0.004
H** | 1.325 ± 0.004
J** | 0.500 ± 0.004
K** | 0.329 ± 0.004
L** | #10-32 NF 12 holes Ea. Flg.
M** | 0.829 ± 0.004
N** | 1.329 ± 0.004
P** | 2.329 ± 0.004
Q** | 2.829 ± 0.004
R** | 3.829 ± 0.004
S** | 4.658 ± 0.004
T** | 3/16 x 45° Chamfer
U | 2.345 ± 0.015

**Note:**

Dimension C applies to 6640/BL-60 only.

Dimension U applies to 6641/BL-86 and BL-644 only.

**SPECIFICATION SHEET**

<table>
<thead>
<tr>
<th>Outline</th>
<th>6640/BL-60, 6641/BL-86, BL-644</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOMAC LABORATORIES INC.</td>
<td>BEVERLY, MASSACHUSETTS</td>
</tr>
<tr>
<td>4-4-57</td>
<td>clr</td>
</tr>
</tbody>
</table>
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 Plenge

See Note

2-1-55 clr