Toshiba 6BR3, 12BR3, 17BR3, and 25BR3 are 9 pin miniature heater cathode type diode designed for use as damping diode in horizontal deflection circuit of television receivers.

As the cathode is connected to top cap and is capable high output current, they are especially convenient for design of television receivers.

They also withstand high pulse voltage between the heater and cathode and high inverse pulse voltage between the plate and cathode.

These characteristics make the tube especially suitable horizontal circuit in large deflection type television receivers.

Except for heater ratings, the 12BR3, 17BR3 and 25BR3 are identical to the 6BR3.

The 12BR3, 17BR3 and 25BR3 are controlled heater warm-up characteristic which makes them suited for use in television receivers that employ series connected heater.

**GENERAL DATA**

**Electrical:**

<table>
<thead>
<tr>
<th></th>
<th>6BR3</th>
<th>12BR3</th>
<th>17BR3</th>
<th>25BR3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heater, for unipotential cathode:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Voltage (AC and DC)</strong></td>
<td>6.3</td>
<td>12.6</td>
<td>16.8</td>
<td>25.0</td>
</tr>
<tr>
<td><strong>Current</strong></td>
<td>1.2</td>
<td>0.60</td>
<td>0.45</td>
<td>0.30</td>
</tr>
<tr>
<td><strong>Heater warm up time</strong></td>
<td>Approx. 11</td>
<td>11</td>
<td>11</td>
<td>Seconds</td>
</tr>
</tbody>
</table>

**Direct Interelectrode Capacitances (without external shield):**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heater to Cathode</strong></td>
<td></td>
<td></td>
<td>3.0</td>
<td>µF</td>
</tr>
<tr>
<td><strong>Cathode to Plate and Heater</strong></td>
<td></td>
<td></td>
<td>10.5</td>
<td>µF</td>
</tr>
<tr>
<td><strong>Plate to Cathode and Heater</strong></td>
<td></td>
<td></td>
<td>8.5</td>
<td>µF</td>
</tr>
</tbody>
</table>

Printed in Japan

From JEDEC release #3940, Oct. 22, 1962
Mechanical:

Operating Position ................................................................. Any
Maximum Overall Length ........................................................ 3 3/4"
Maximum Sealed Height ............................................................ 3 1/4"
Maximum Diameter ................................................................. 3/4"
Bulb .............................................................................. T-6 1/2
Base ............................................................................... E9.1
Top Base ........................................................................ C1-3

Maximum Ratings (Design Maximum Values):

TV Damper service for operating in a 525 line, 30 frame system.
Peak Inverse Plate Voltage* ....................................................... 5500 volts Max.
Peak Plate Current .............................................................. 1200 ma Max.
DC Plate Current ............................................................... 200 ma Max.
Plate Dissipation ................................................................. 6.5 Watts Max.
Peak Heater to Cathode Voltage
Heater Negative with Respect to Cathode** .............................. 5500 volts Max.
Heater Positive with Respect to Cathode*** ................................ 300 volts Max.
Bulb Temperature (at Hottest Point) ...................................... 180 °C Max.

* The duration of the voltage pulse should not exceed 15% of one horizontal scanning cycle.
In 525-Line, 30-Frame system, 15% of one horizontal scanning cycle is 10 microseconds.

** The DC component must not exceed 900 volts.

*** The DC component must not exceed 100 volts.

Average Characteristics:

Tube Voltage Drop 1b=250 mA DC ............................................. 19 volts
**TOKYO SHIBAURA ELECTRIC CO., LTD.**

**KAWASAKI JAPAN**

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**6BR3 12BR3 17BR3 25BR3**
**DIMENSIONAL OUTLINE**

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**6BR3 12BR3 17BR3 25BR3**
**SOCKET CONNECTIONS**
**Bottom View**

- Pin 1: internal Connection
- Pin 2: Same as Pin 1
- Pin 3: Same as Pin 1
- Pin 4: Heater
- Pin 5: Heater
- Pin 6: Same as Pin 1
- Pin 7: Same as Pin 1
- Pin 8: Same as Pin 1
- Pin 9: Plate

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All inquiries as to the data should be addressed to Tokyo Shibaura Electric Co., Ltd., Lamp and Tube Manufacturing and Sales Division, 72 Horikawacho, Kawasaki, Kanagawa-ken, Japan.