Toshiba 3BJP4 is a 3 inch, round face, non-aluminized, electrostatic focus and magnetic deflection view-finder cathode-ray tube, especially suitable for transistorized camera use.

This tube features half-heater-power, high light out put, high resolution and adaptable with conventional 70 degrees deflection yoke.

General:

Heater for Unipotential Cathode:

Voltage (AC or DC) ................................................................. 6.3 volts
Current .................................................................................. 0.3 amp

Direct Inter electrode Capacitances; Approximate

Grid No. 1 to all other electrodes .............................................. 6 μf
Cathode to all other electrodes .................................................. 5 μf

from JEDEC release #2962, Sept. 19, 1960
Phosphor .......................................................... P 4
Fluorescent color .................................................. white
Persistence ....................................................... medium
Focusing Method .................................................. Electrostatic
Deflection Method ................................................ Electromagnetic
Deflection Angle (Approximate) .................................. 40 degrees
Electron Gun ....................................................... Requires external single-field iontrap magnet
Overall Length ................................................... 9 3/4" ± 1/8"
Greatest Diameter ................................................ 3" ± 1/8"
Minimum Useful Screen Diameter ................................ 2 3/4"
Basing .......................................................... 12 8D
Base .......................................................... JEDEC No. 8 12-43

Maximum Ratings (Design-center Values):

Ultor Voltage ....................................................... 3000 max. volts DC
Ultor Input ....................................................... 6 max. watts
Grid No. 4 (Focusing electrode) Voltage ......................... 1500 max. volts DC
Grid No. 2 Voltage .............................................. 410 max. volts DC
Grid No. 1 Voltage
  Negative-bias value ........................................... 125 max. volts DC
  Positive-bias value .......................................... 0 max. volts DC
  Positive-peak value ........................................ 2 max. volts
Heater to Cathode Voltage
  Heater positive with respect to cathode ..................... 125 max. volts
  Heater negative with respect to cathode ................... 125 max. volts
  Peak value during a warm-up period not exceed 15 second; heater negative ...... 410 max. volts

Characteristics Range Values for Equipment Design:

For any ultor voltage (E_{C5}) between 2500 and 3000 volts
Grid No. 4 voltage for focus with ultor current of 200 μA .................. 30 to 48% of E_{C5} volts
Grid No. 1 voltage for visual extinction
  of undeflected focused spot when circuit design utilizes
  grid No. 2 voltage (E_{C2}) at fixed value .................... 11 to 26% of E_{C2} volts
Grid No. 4 current for any operating condition .................... 15 to 10 μAmp
Examples of Use of Design Ranges:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Max</th>
<th>DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultron voltage</td>
<td>2500</td>
<td>3000</td>
<td>DC</td>
</tr>
<tr>
<td>Grid No. 4 voltage (Focusing electrode) (Note 1)</td>
<td>750~1200</td>
<td>900~1500</td>
<td>DC</td>
</tr>
<tr>
<td>Grid No. 2 voltage</td>
<td>200</td>
<td>300</td>
<td>DC</td>
</tr>
<tr>
<td>Grid No. 1 voltage (Note 2)</td>
<td>-22~51</td>
<td>-33~77</td>
<td>volts</td>
</tr>
<tr>
<td>Field strength of iontrap magnet</td>
<td>12</td>
<td>14</td>
<td>gauss</td>
</tr>
</tbody>
</table>

Maximum Circuit Values:

- Grid No. 1 circuit resistance: 1.5 max. megohm

NOTES:
1. With the combined grid No. 1 bias and signal voltage adjusted to give an anode current of 200 µA in 2.08” x 1.6” picture size.
2. Visual extinction of undeflected focused spot.
3BJP4 AVERAGE CHARACTERISTICS

HEATER VOLTS = 6.3
RASTER SIZE = 2.08 x 1.6" 
GRID NO.4 VOLTS ADJUSTED TO GIVE FOCUS

- Ec5 = 2500 VOLTS ; Ec2 = 200 VOLTS
- Ec5 = 3000 VOLTS ; Ec2 = 300 VOLTS

ULTR OR MICROAMPERES

BRIGHTNESS

ULTR CURRENT

VIDEO SIGNAL VOLTS FROM CUTOFF

BRIGHTNESS FOOT-LAMBERTS
Note: Reference line is determined by position where hinged gauge 1.500" + 0.01" - 0.005" and 2" long will rest on bulb cone.

PIN CONNECTIONS
PIN 1 - Heater
PIN 2 - Grid No. 1
PIN 3 - Cathode
PIN 4 - Grid No. 4
PIN 5 - NC
PIN 6 - NC
PIN 7 - NC
PIN 8 - Ulter (Grid No. 3, Grid No. 5)
PIN 9 - NC
PIN 10 - Grid No. 2
PIN 11 - NC
PIN 12 - Heater
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.