FEATURES

- 8 x 8 multianode, Anode size: 2 mm x 2 mm / Anode
- Effective area: 18.1 mm x 18.1 mm
- High speed response
- Low cross-talk: 2 % Typ.
- High cathode sensitivity
- Two configurations are available for -HV input (see figure 8)
  - H7546A: Cable input type
  - H7546B: Hard pin input type

APPLICATIONS

- High energy physics
- Flow cytometer
- DNA sequencer
- 2D radiation imaging

Figure 1: Typical spectral response
MATRiX MULTiANODE
PHOTOMUTiPLIER TUBE ASSEMBLY H7546A, H7546B

<table>
<thead>
<tr>
<th>Type No.</th>
<th>Spectral response</th>
<th>Photocathode material</th>
<th>Maximum ratings</th>
<th>Cathode characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Range (nm)</td>
<td>Peak wavelength (nm)</td>
<td>Window material</td>
<td>Supply voltage between anode and cathode (V)</td>
</tr>
<tr>
<td>H7546A/B</td>
<td>300 to 650</td>
<td>420</td>
<td>BA</td>
<td>1000</td>
</tr>
<tr>
<td>H7546A/B-100</td>
<td>300 to 650</td>
<td>400</td>
<td>SBA</td>
<td>1000</td>
</tr>
<tr>
<td>H7546A/B-200</td>
<td>300 to 650</td>
<td>400</td>
<td>UBA</td>
<td>1000</td>
</tr>
<tr>
<td>H7546A/B-300</td>
<td>300 to 700</td>
<td>420</td>
<td>EGBA</td>
<td>1000</td>
</tr>
<tr>
<td>H7546A/B-20</td>
<td>300 to 920</td>
<td>530</td>
<td>ERMA</td>
<td>1000</td>
</tr>
</tbody>
</table>

NOTE:
B: K: Borosilicate glass
C: MC: Metal channel
D: The maximum average anode current is defined as 5% of divider current when maximum high voltage is applied.

Figure 2: Typical gain

Figure 3: Time response (Example)

Figure 4: Single photoelectron PHD per channel (Example)

Figure 5: Anode cross-talk (Example)
Supply voltage: -800 V, K: Cathode, Dy: Dynode, P: Anode

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

<table>
<thead>
<tr>
<th>Electrodes</th>
<th>K</th>
<th>Dy1</th>
<th>Dy2</th>
<th>Dy3</th>
<th>Dy4</th>
<th>Dy5</th>
<th>...</th>
<th>Dy9</th>
<th>Dy10</th>
<th>Dy11</th>
<th>Dy12</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ratio</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>...</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Supply voltage: -800 V

Figure 6: Anode matrix and guide mark (Unit: mm)

GUIDEMARK
The guide marks are holes of 0.3 mm in diameter on the electrode plate. They can be seen from the top of the H7546 series through its photocathode. They can be used for positioning when scintillating or optical fibers are coupled to the H7546 series.

Figure 7: Suitable sockets (Unit:mm)

SD-108-T-22 × 4 pcs (for anode output pins)

SS-101-T-22 × 2 pcs (for GND, DY12 pin)

ASP-24307-02* (for GND, -HV pin) * H7546B Only

Anode pattern
Figure 8: Dimensional outline and basing diagram (Unit: mm)

H7546A SERIES

H7546B SERIES

Figure 9: Internal Circuit (H7546A, H7546B)

WARNING ~ High Voltage ~

The product is operated at high voltage potential. Further, the metal housing of the product is connected to the photocathode (potential) so that it becomes a high voltage potential when the product is operated at a negative high voltage (anode grounded). Accordingly, extreme safety precautions must be taken for the electrical shock hazard to the operator or the damage to the other instruments.

* PATENT: USA: 5410211 and other(9), GBR: 551767 and other(9), DEU: 69209809 and other(9), FRA: 551767 and other(9), JPN: 3078905 and other(9)

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