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HAMAMATSU

# PHOTOMULTIPLIER TUBE
# R106

## FEATURES

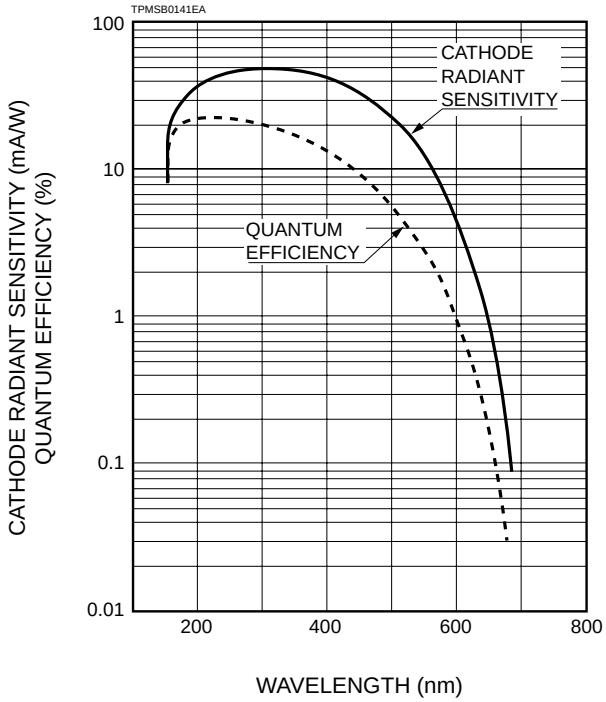
- **28mm (1-1/8 Inch) Diameter Side-on**
- **160 to 650nm Spectral Response**
- **Variant of R212 with Synthetic Silica Window**



## GENERAL

| Parameter | | Description/value | Unit |
|---|---|---|---|
| Spectral Response | | 160 to 650 | nm |
| Wavelength of Maximum Response | | 340 | nm |
| Photo-cathode | Material | Sb-Cs | — |
| | Minimum Useful Size | 8 × 24 | mm |
| Window Material | | Fused silica | — |
| Dynode | Structure | Circular-cage | — |
| | Number of Stages | 9 | — |
| Direct Interelectrode Capacitances | Anode to Last Dynode | 4 | pF |
| | Anode to All Other Electrodes | 6 | pF |
| Base | | JEDEC No. B11-88 | — |
| Suitable Socket | | E678-11A | — |

Figure 1: Typical Spectral Response




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# PHOTOMULTIPLIER TUBE R106

## MAXIMUM RATINGS (Absolute Maximum Values)

| Parameter | | Value | Unit |
|---|---|---|---|
| Supply Voltage | Between Anode and Cathode | 1250 | Vdc |
| | Between Anode and Last Dynode | 250 | Vdc |
| Average Anode Current | | 0.1 | mA |
| Ambient Temperature | | -80 to +50 | °C |

## CHARACTERISTICS (at 25°C)

| Parameter | | | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Anode Sensitivity | Luminous (2856K) | | 100 | 400 | — | A/lm |
| | Radiant | at 340nm | — | $3.5 \times 10^5$ | — | A/W |
| | | at 200nm | — | $1.8 \times 10^5$ | — | A/W |
| Cathode Sensitivity | Luminous (2856K) | | 25 | 50 | — | μA/lm |
| | Radiant | at 340nm | — | 48 | — | mA/W |
| | | at 200nm | — | 35 | — | mA/W |
| | Quantum Efficiency | | — | 22 at 210nm | — | % |
| Gain | | | — | $8.0 \times 10^6$ | — | — |
| Anode Dark Current | after 5 seconds | | — | 2 | 10 | nA |
| | after 30 minute | | — | 1 | 10 | nA |
| Time Response | Anode Pulse Rise Time | | — | 2.2 | — | ns |
| | Electron Transit Time | | — | 22 | — | ns |

## VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

| Electrodes | K | Dy1 | Dy2 | Dy3 | Dy4 | Dy5 | Dy6 | Dy7 | Dy8 | Dy9 | P |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ratio | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Supply Voltage: 1000Vdc, K: Cathode, Dy: Dynode, P: Anode

Figure 2: Typical Gain Characteristics

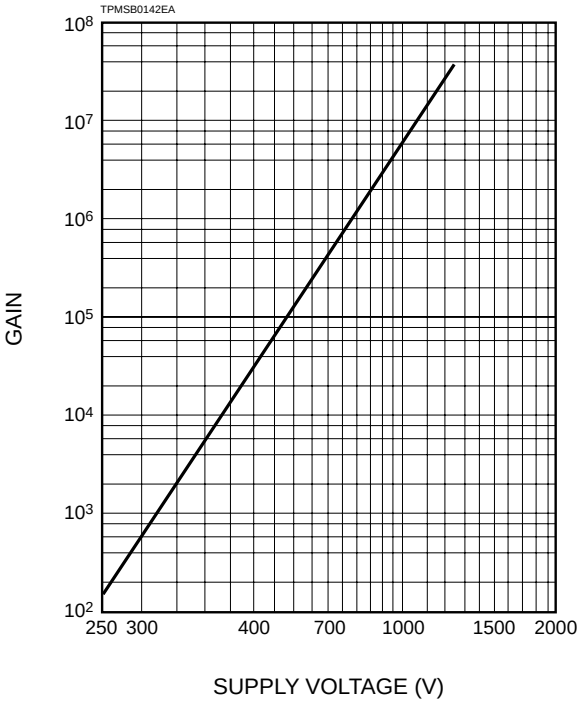
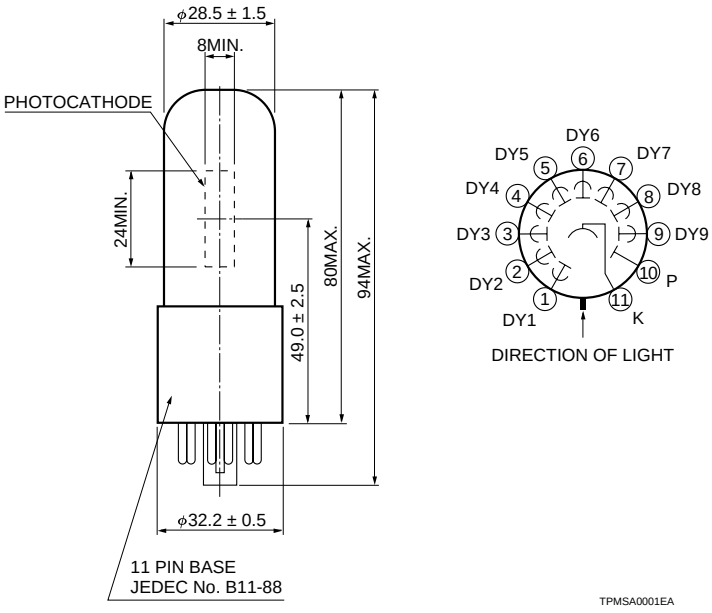
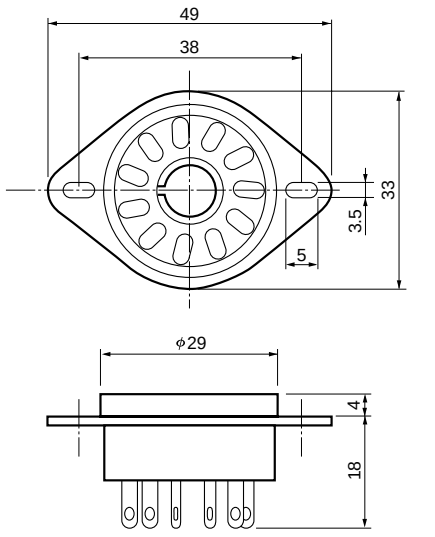



Figure 3: Dimensional Outline and Basing Diagram
(Unit: mm)




**Socket (Option)**
**(E678-11A)**





HAMAMATSU

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