

**For Photon Counting, Low Light Level Detection  
13mm(1/2 Inch) Diameter, Low Noise Bialkali Photocathode  
Borosilicate Glass Window, 10-stage, Head-On Type**

## GENERAL

| Parameter                          |                               | Description/Value  | Unit    |
|------------------------------------|-------------------------------|--------------------|---------|
| Spectral Response                  |                               | 300 to 650         | nm      |
| Wavelength of Maximum Response     |                               | 375                | nm      |
| Photocathode                       | Material                      | Low noise bialkali | –       |
|                                    | Minimum Effective Area        | 10                 | mm dia. |
| Window Material                    |                               | Borosilicate glass | –       |
| Dynode                             | Structure                     | Linear focused     | –       |
|                                    | Number of Stages              | 10                 | –       |
| Direct Interelectrode Capacitances | Anode to Last Dynode          | 1.0                | pF      |
|                                    | Anode to All Other Electrodes | 2.0                | pF      |
| Base                               |                               | 13-pin glass base  | –       |
| Suitable Socket                    |                               | E678-13A(supplied) | –       |

## MAXIMUM RATINGS (Absolute Maximum Values)

| Parameter             |                               | Value      | Unit |
|-----------------------|-------------------------------|------------|------|
| Supply Voltage        | Between Anode and Cathode     | 1500       | Vdc  |
|                       | Between Anode and Last Dynode | 250        | Vdc  |
| Average Anode Current |                               | 0.03       | mA   |
| Ambient Temperature   |                               | -80 to +50 | °C   |

## CHARACTERISTICS (at 25°C)

| Parameter   |                       | Min. | Typ.                  | Max. | Unit     |
|---|-----------------------|------|-----------------------|------|----------|
| Cathode Sensitivity                                   | Luminous (2856K)      | 25   | 40                    | –    | μ A/lm   |
|   | Radiant at 375nm      | –    | 50                    | –    | mA/W     |
|   | Blue (CS-5-58 filter) | 3.5  | 5.5                   | –    | μ A/lm-b |
| Anode Sensitivity                                     | Luminous (2856K)      | 50   | 200                   | –    | A/lm     |
|   | Radiant at 375nm      | –    | 2.5 × 10 <sup>5</sup> | –    | A/W      |
| Gain  |                       | –    | 5.0 × 10 <sup>6</sup> | –    | –        |
| Anode Dark Current (after 30min. storage in darkness) |                       | –    | 0.5                   | 4.0  | nA       |
| Anode Dark Counts                                     |                       | –    | 10                    | 30   | cps      |
| Time Response   | Anode Pulse Rise Time | –    | 2.2                   | –    | ns       |
|   | Electron Transit Time | –    | 22                    | –    | ns       |

**NOTE:** Anode characteristics are measured with the voltage distribution ratio shown below.

## VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

| Electrodes | K | Dy1 | Dy2 | Dy3 | Dy4 | Dy5 | Dy6 | Dy7 | Dy8 | Dy9 | Dy10 | P |
|------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---|
| Ratio      | 2 | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1    | 1 |

Supply Voltage : 1250Vdc,    K : Cathode,    Dy : Dynode,    P : Anode

# PHOTOMULTIPLIER TUBE R2557

Figure 1: Typical Spectral Response

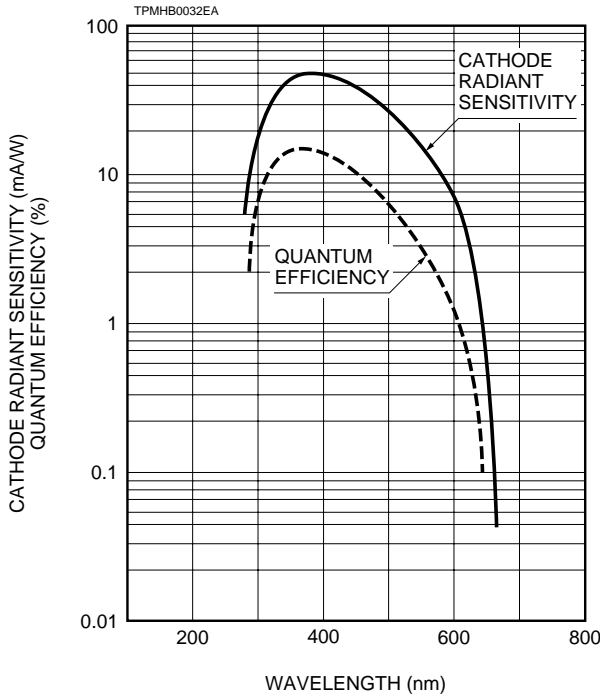


Figure 2: Typical Gain and Anode Dark Current

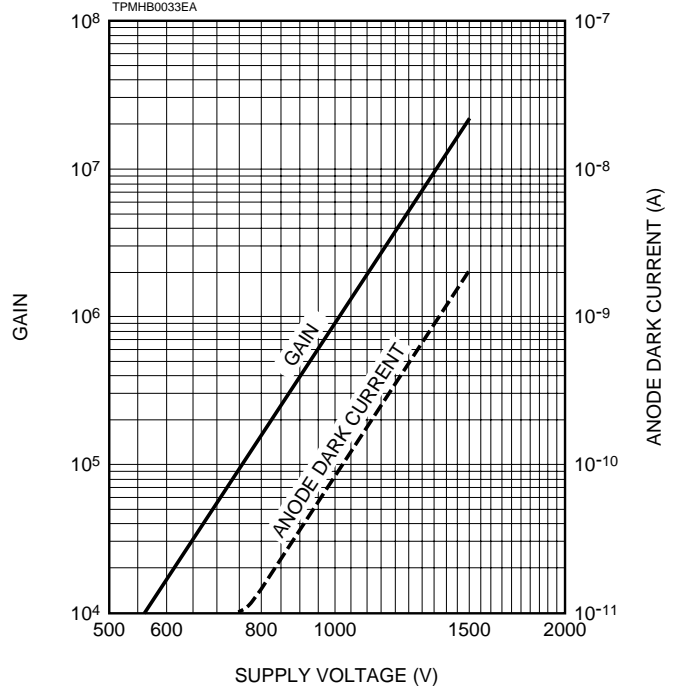
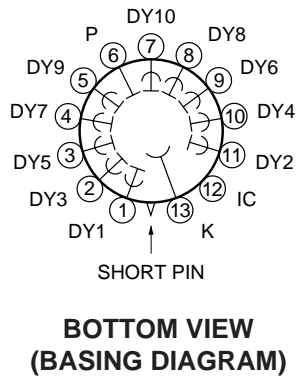
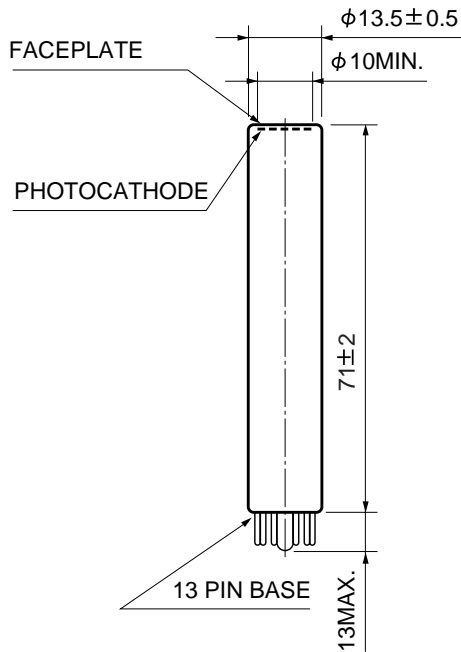
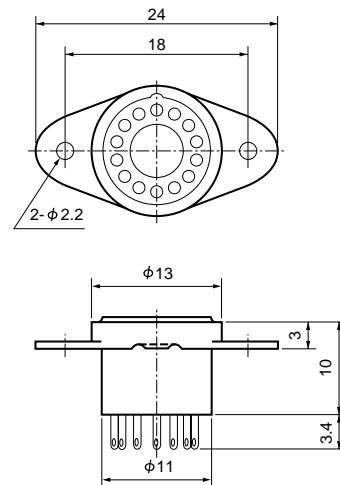


Figure 3: Dimensional Outline and Basing Diagram (Unit : mm)



TPMHA0014EA

Socket  
(E678 - 13A)



TACCA0005EA

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TPMH1016E01  
NOV. 1991