

High-speed Photon Counting and Fluorescence Measurement 51mm(2 Inch) Diameter, 12-stage, Head-on Type R3234-01: Borosilicate Window (300 to 650nm) R3235-01: Synthetic Silica Window (160 to 650nm)

GENERAL

| Parameter | | Description/Value | Unit |
|--------------------------------|------------------------|---------------------------------|---------|
| Spectral Response | R3234-01 | 300 to 650 | nm |
| | R3235-01 | 160 to 650 | nm |
| Wavelength of Maximum Response | | 420 | nm |
| Photocathode | Material | Bialkali | — |
| | Minimum Effective Area | 10 | mm dia. |
| Window Material | R3234-01 | Borosilicate glass | — |
| | R3235-01 | Synthetic silica glass | — |
| Dynode | Structure | Linear focused | — |
| | Number of Stages | 12 | — |
| Base | | 20-pin base (JEDEC No. B20-102) | — |
| Suitable Socket | | E678-20A (supplied) | — |

MAXIMUM RATINGS (Absolute Maximum Values)

| Parameter | | Value | Unit |
|-----------------------|-------------------------------|------------|------|
| Supply Voltage | Between Anode and Cathode | 2500 | Vdc |
| | Between Anode and Last Dynode | 500 | Vdc |
| Average Anode Current | | 0.1 | mA |
| Ambient Temperature | | -30 to +50 | °C |

CHARACTERISTICS (at 25°C)

| Parameter | | Min. | Typ. | Max. | Unit |
|---|----------------------------|------|-----------------------|------|----------|
| Cathode Sensitivity | Luminous (2856K) | 60 | 80 | — | μ A/lm |
| | Radiant at 420nm | — | 72 | — | mA/W |
| | Blue (CS-5-58 filter) | — | 9.0 | — | μ A/lm-b |
| Anode Sensitivity | Luminous (2856K) | 500 | 2000 | — | A/lm |
| | Radiant at 420nm | — | 2.0 × 10 ⁶ | — | A/W |
| Gain | | — | 2.5 × 10 ⁷ | — | — |
| Anode Dark Current (after 30min. storage in darkness) | | — | 1 | 10 | nA |
| Anode Dark Counts | | — | 50 | 150 | cps |
| Time Response | Anode Pulse Rise Time | — | 1.3 | — | ns |
| | Electron Transit Time | — | 28 | — | ns |
| | Transit Time Spread (FWHM) | — | 0.45 | — | ns |

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

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

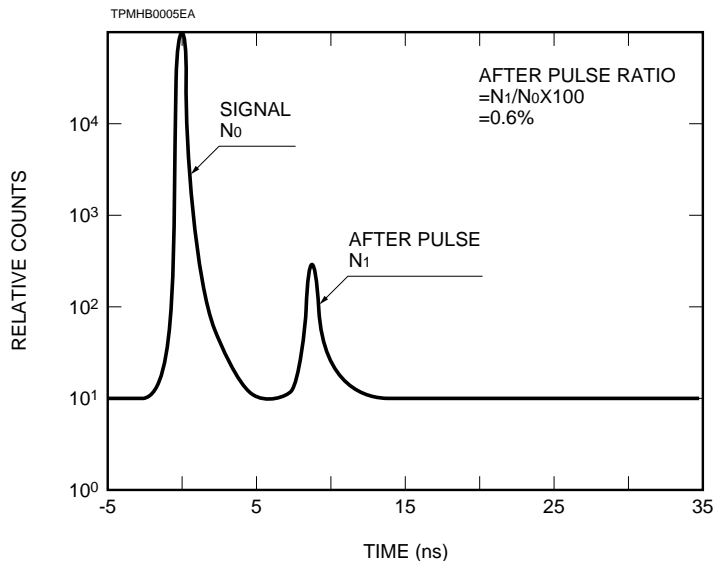
| Electrodes | K | Dy1 | Dy2 | Dy3 | Dy4 | Dy5 | Dy6 | Dy7 | Dy8 | Dy9 | Dy10 | Dy11 | Dy12 | P |
|------------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|---|
| Ratio | 4 | 1.2 | 1.8 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |

Supply Voltage : 2000Vdc, K : Cathode, Dy : Dynode, P : Anode

PHOTOMULTIPLIER TUBES R3234-01, R3235-01

Figure 1: Typical Pulse Generation Characteristics

A) For R3234-01, R3235-01



B) For Conventional Type

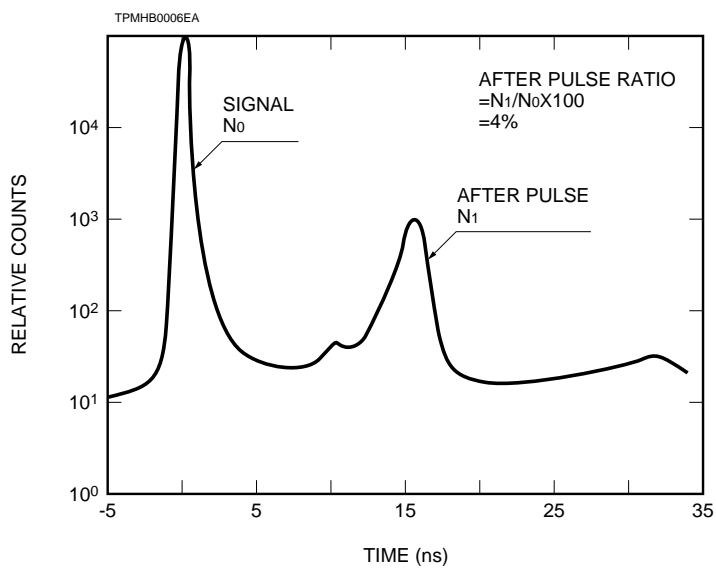


Figure 2: Typical Spectral Response

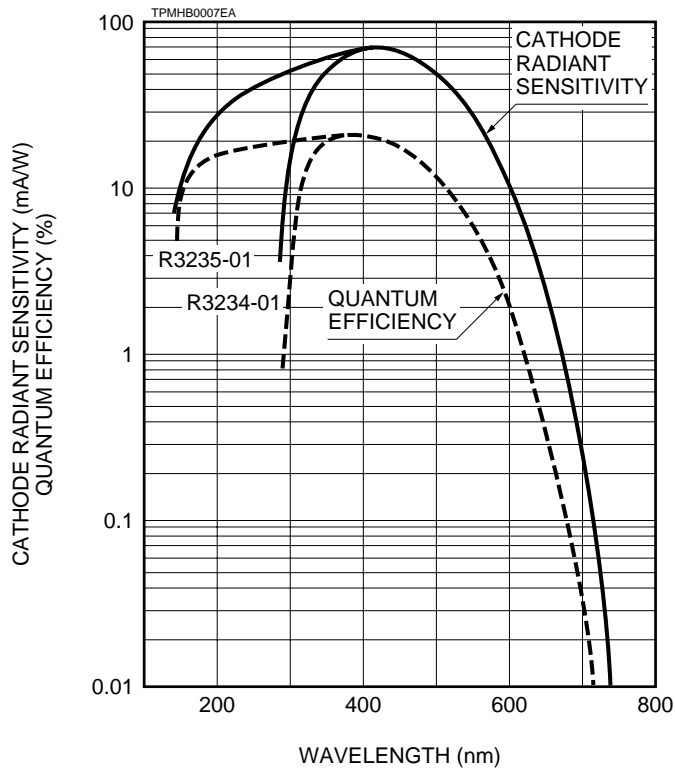
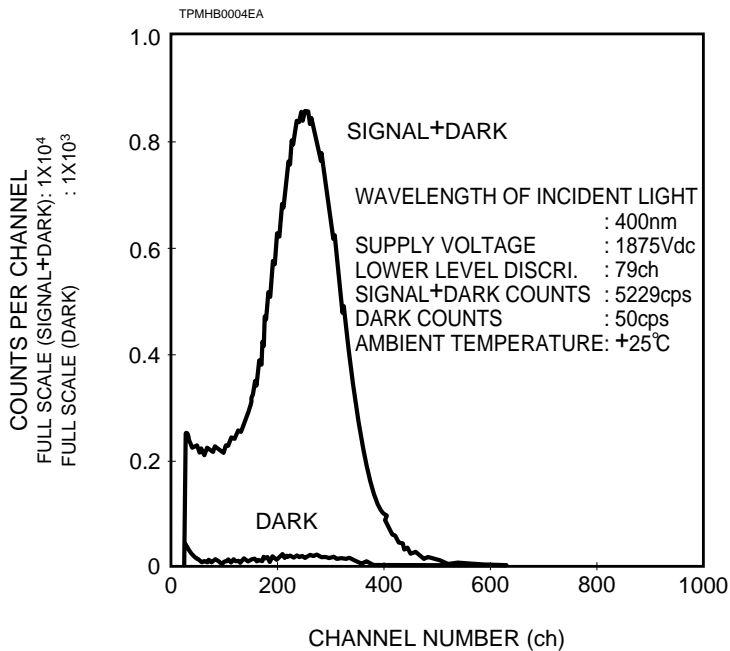
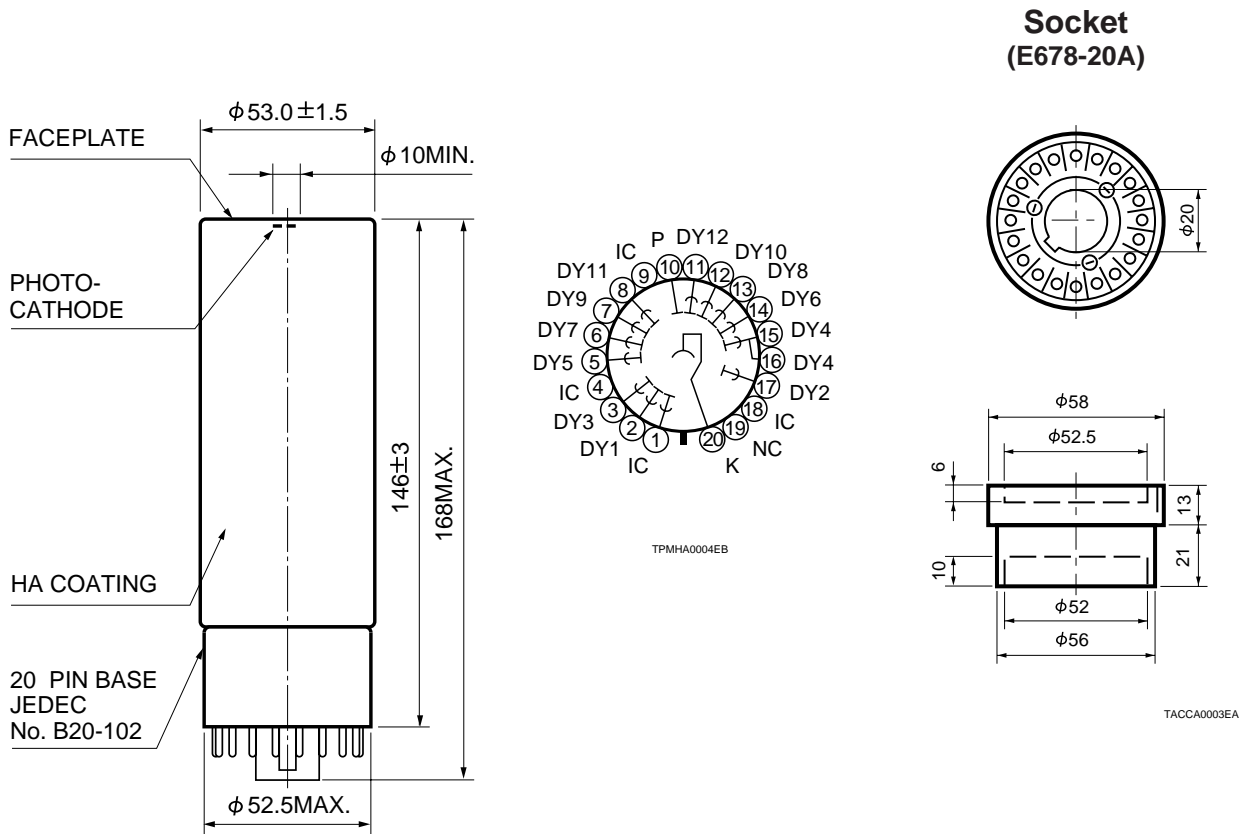


Figure 3: Typical Single Photoelectron Pulse Height Distribution



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Figure 4: Dimensional Outline (Unit : mm)



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TPMH1003E02
DEC. 1999