

**Fast Time Response (Especially Low TTS)
For Positron CT and High Energy Physics
19mm (3/4 Inch) Diameter, 10-stage, Bialkali Photocathode, Head-On**

GENERAL

| Parameter | | Description/Value | Unit |
|--------------------------------|---------------------|--------------------|---------|
| Spectral Response | | 300 to 650 | nm |
| Wavelength of Maximum Response | | 420 | nm |
| Photocathode | Material | Bialkali | — |
| | Minimum Useful Size | 15 | mm dia. |
| Window Material | | Borosilicate glass | — |
| Dynode | Structure | Linear focused | — |
| | Number of Stage | 10 | — |
| Base | | 12-pin glass base | — |

MAXIMUM RATINGS (Absolute Maximum Values)

| Parameter | | Value | Unit |
|-----------------------|-------------------------------|------------|------|
| Supply Voltage | Between Anode and Cathode | 1800 | Vdc |
| | Between Anode and Last Dynode | 350 | Vdc |
| Average Anode Current | | 0.1 | mA |
| Ambient Temperature | | -80 to +50 | °C |

CHARACTERISTICS (at 25°C)

| Parameter | | Min. | Typ. | Max. | Unit |
|---|--|------|-------------------|------|---------|
| Cathode Sensitivity | Luminous (2856K) | 70 | 115 | — | μA/lm |
| | Radiant at 420nm | — | 88 | — | mA/W |
| | Blue (CS-5-58 filter) | — | 11.0 | — | μA/lm-b |
| Anode Sensitivity | Luminous (2856K) | 100 | 200 | — | A/lm |
| Gain | | — | 1.7×10^6 | — | — |
| Anode Dark Current (after 30min. storage in darkness) | | — | 3 | 50 | nA |
| Time Response | Anode Pulse Rise Time | — | 1.8 | — | ns |
| | Electron Transit Time | — | 19 | — | ns |
| | Transit Time Spread (FWHM) | — | 0.76 | — | ns |
| | Coincident Resolving Time/Scintillator | — | 0.6/CsF | — | ns |
| Typical Pulse Height Resolution | | — | 7.8 | — | % |
| Pulse Linearity | ±2% Deviation | — | 4 | — | mA |
| | ±5% Deviation | — | 8 | — | mA |

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 | 1.5 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0.75 |

Supply Voltage: 1500Vdc, K: Cathode, Dy: Dynode, P: Anode

PHOTOMULTIPLIER TUBE R1450

Figure 1: Typical Spectral Response

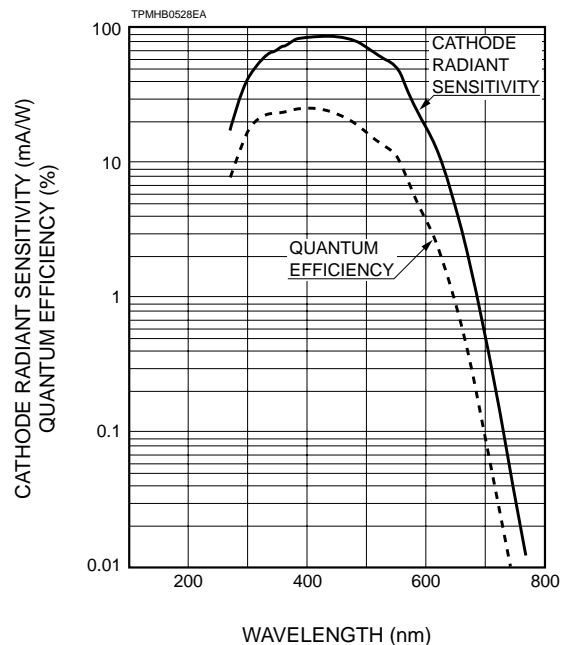


Figure 2: Typical Gain Characteristics

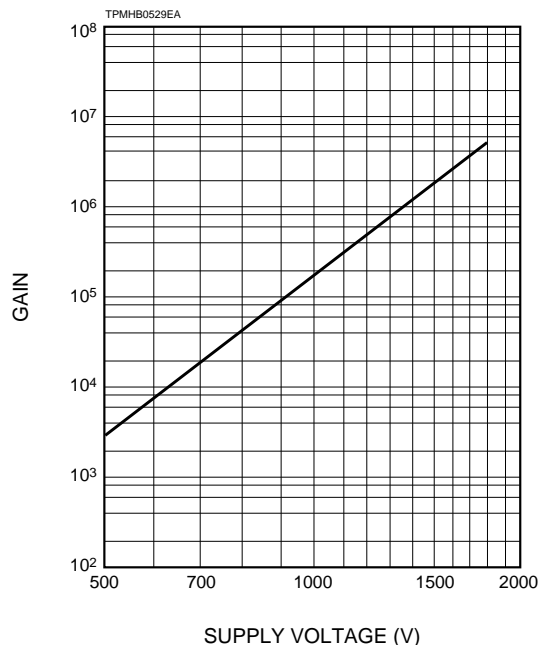


Figure : Typical Output Waveform

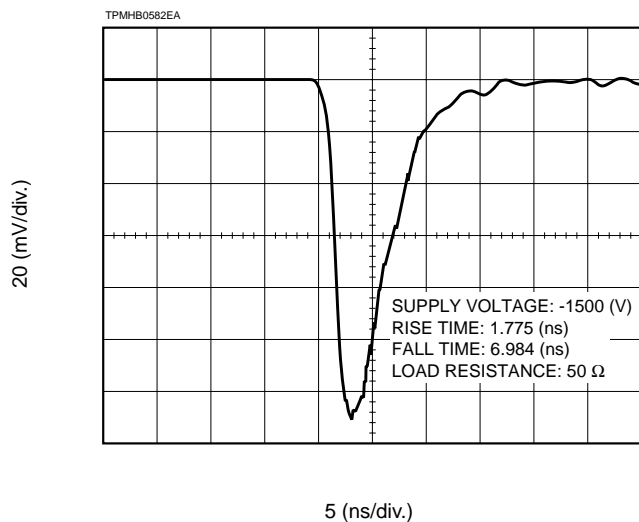


Figure 4: Typical Pulse Height Resolution

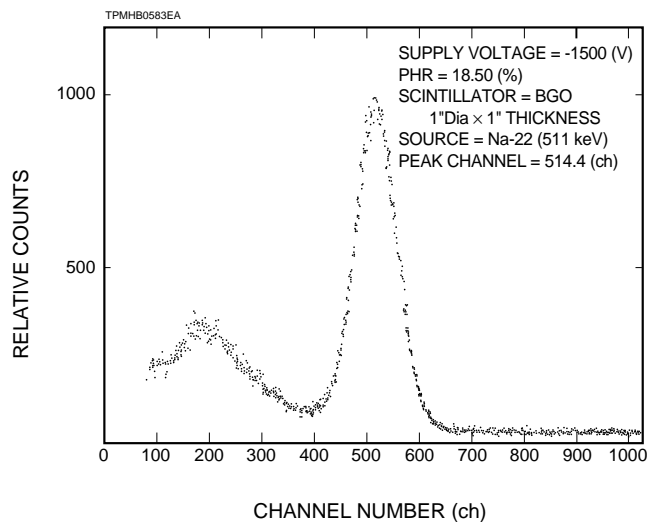


Figure 5: BGO-BGO Timing Spectrum

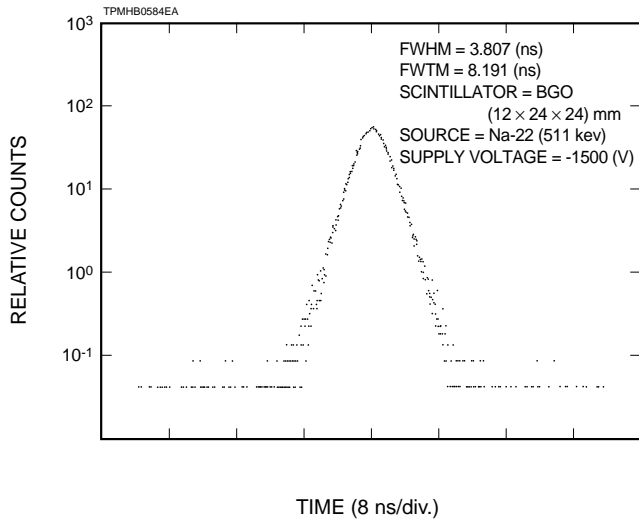
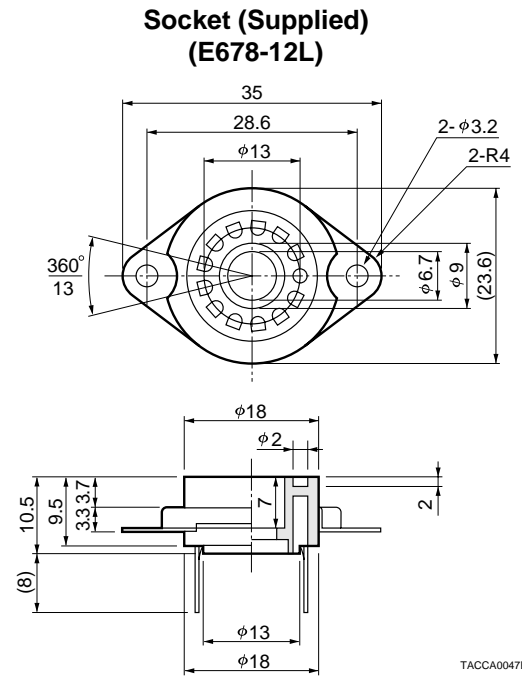
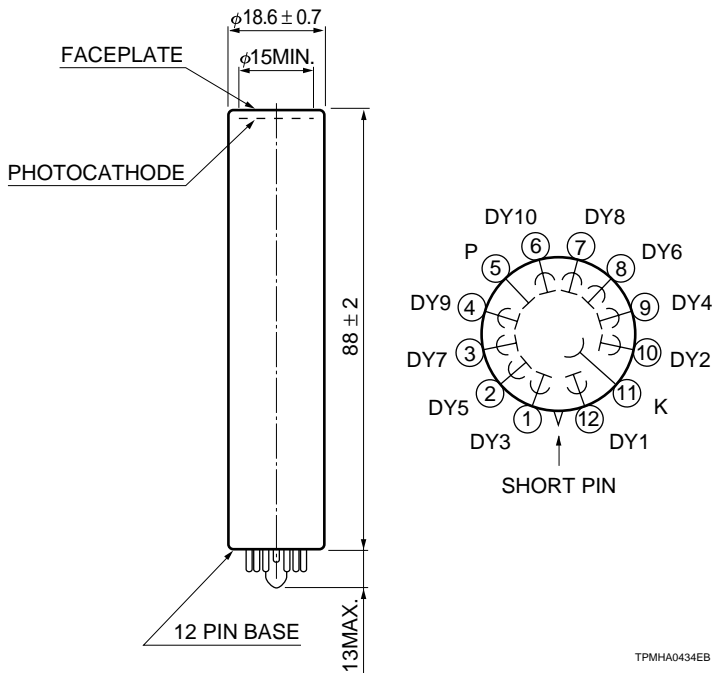
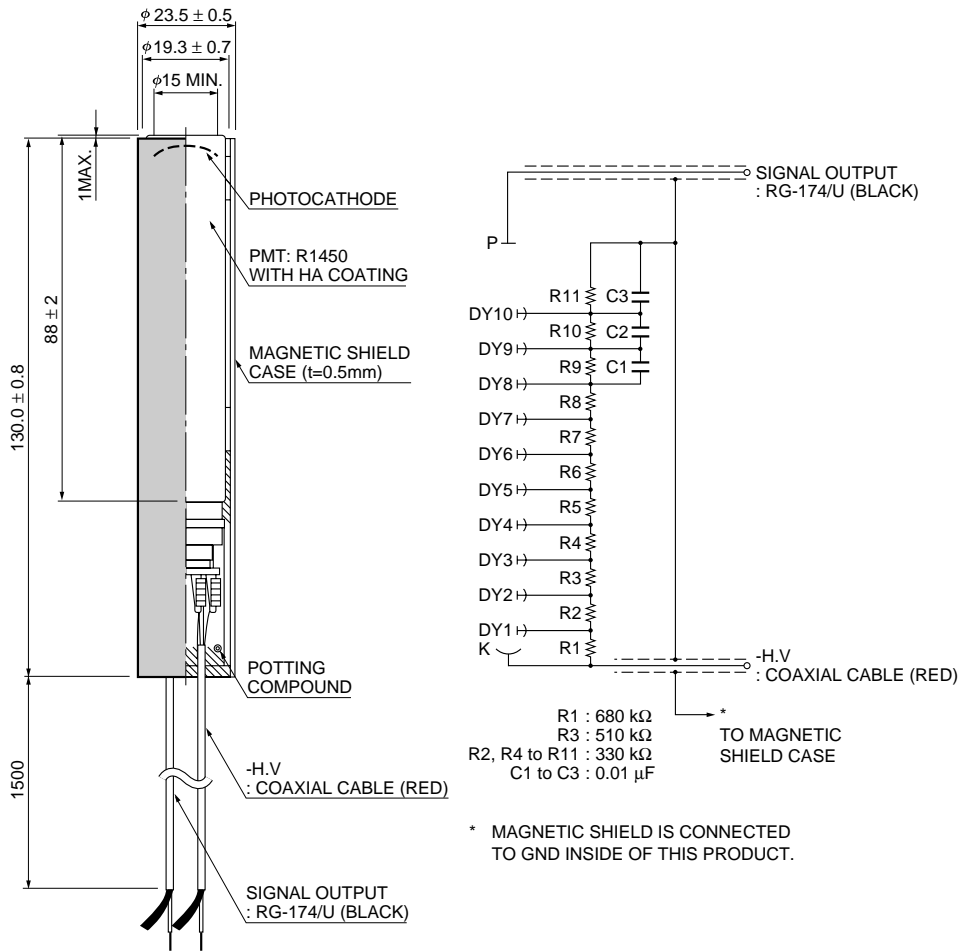


Figure 6: Dimensional Outline and Basing Diagram (Unit: mm)



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Figure 7: Dimensional Outline and Circuit Diagram of Hybrid Assembly H6524



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