HAMAMATSU

PHOTOMULTIPLIER TUBE
R1450

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

Subject to local technical requirements and regulations, availability of products included in this promotional material may vary. Please consult with our sales office.
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Figure 1: Typical Spectral Response

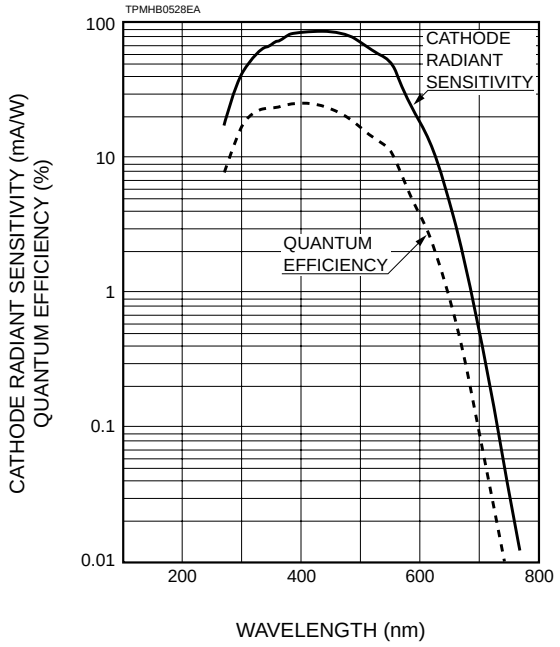


Figure 2: Typical Gain Characteristics

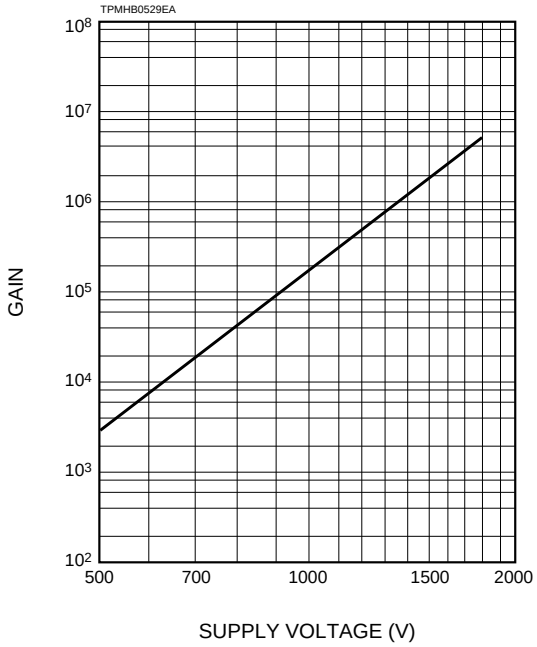


Figure : Typical Output Waveform

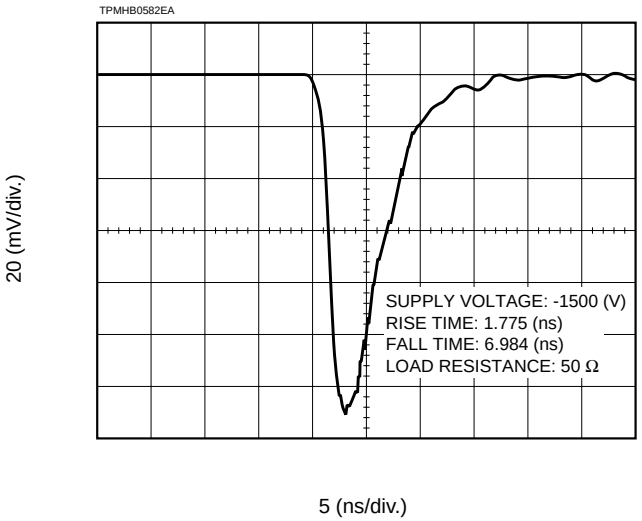


Figure 4: Typical Pulse Height Resolution

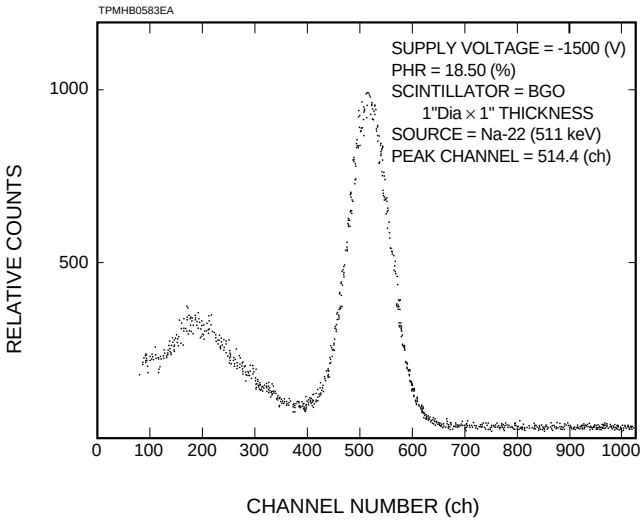


Figure 5: BGO-BGO Timing Spectrum

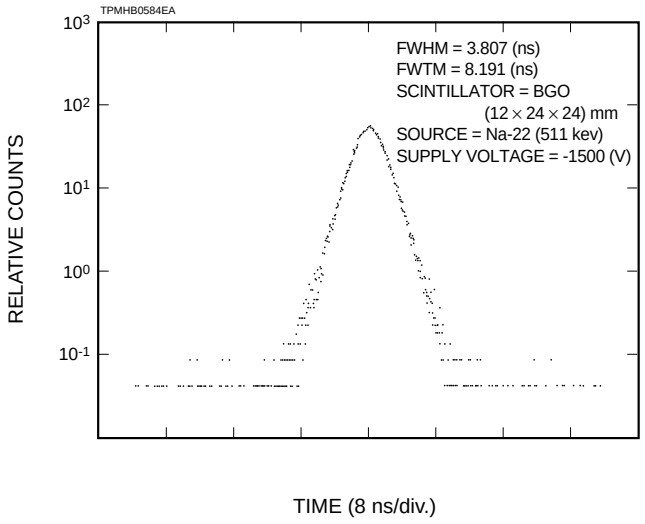
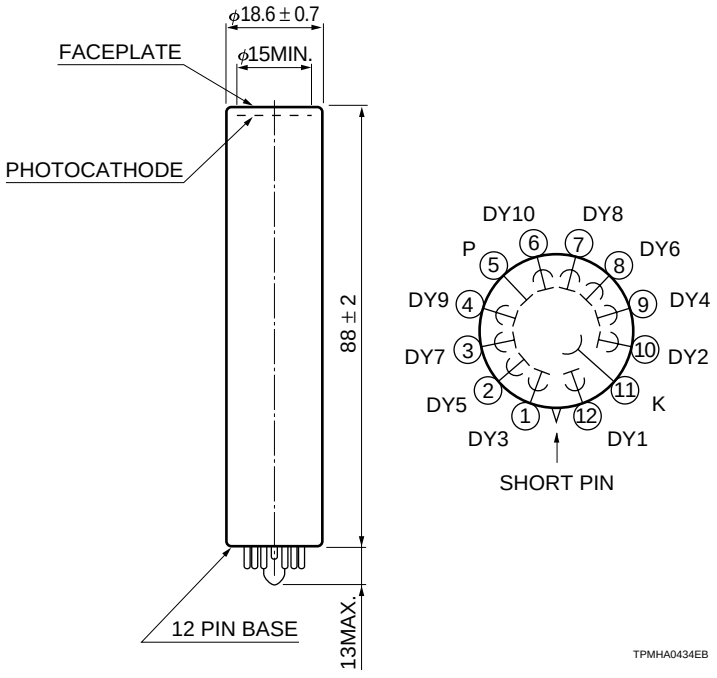


Figure 6: Dimensional Outline and Basing Diagram (Unit: mm)



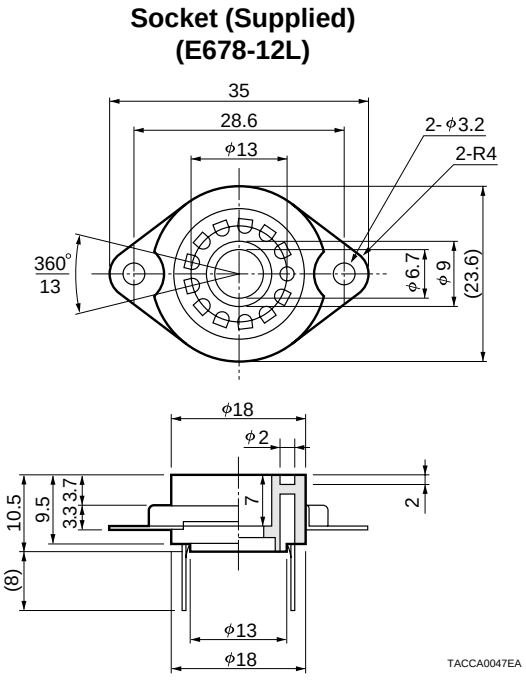
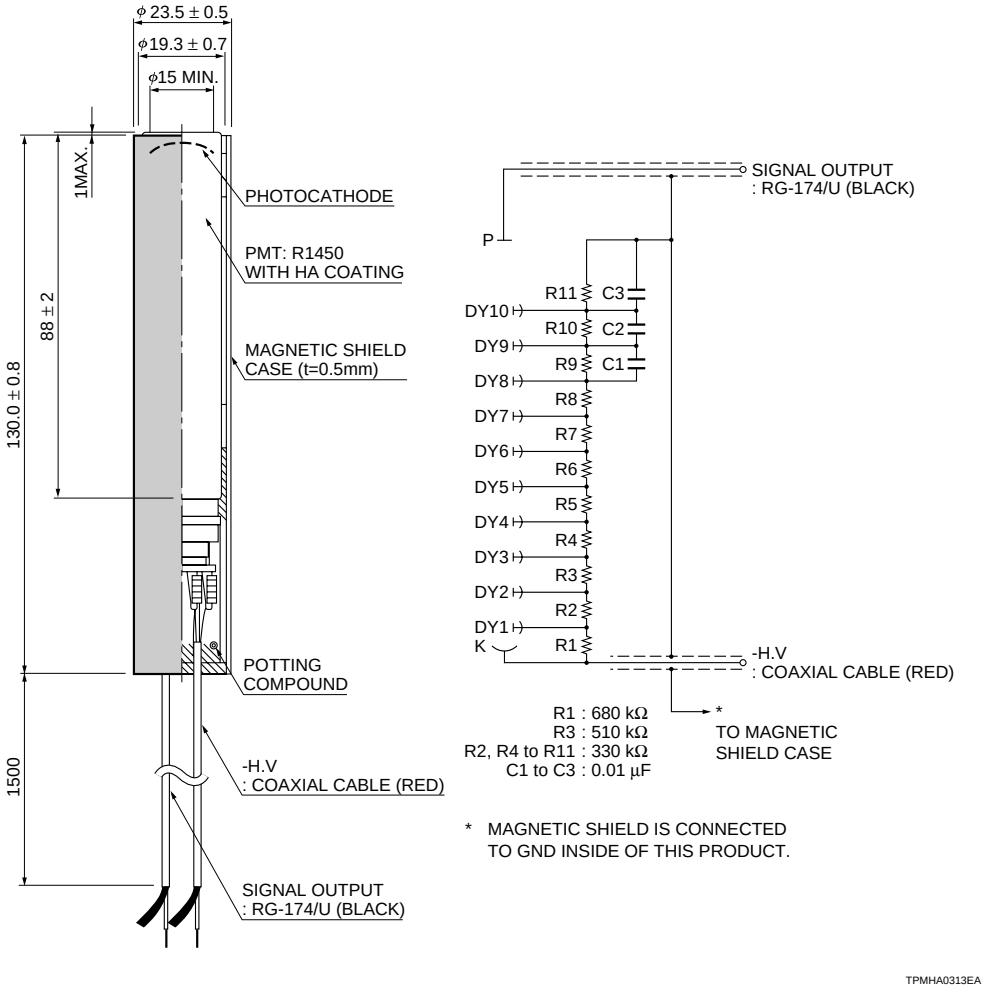


Figure 7: Dimensional Outline and Circuit Diagram of Hybrid Assembly H6524



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