HAMAMATSU

PHOTOMULTIPLIER TUBE
R7723, R7724, R7725

For Scintillation Counting, Fast Time Response
51mm (2 Inch) Diameter, Bialkali Photocathode, Head-on Type

SPECIFICATIONS

GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	—
	Minimum Effective Area	ϕ46	mm
Window Material		Borosilicate glass	—
Dynode	Structure	Linear-focused	—
	Number of Stages	8 (R7723) / 10 (R7724) / 12 (R7725)	—
Base		21-pin glass base	—
Suitable Socket		E678-21C (supplied)	—
Operating Ambient Temperature		-30 to +50	°C
Storage Temperature		-80 to +50	°C

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	2000	V
	Between Anode and Last Dynode	500	V
Average Anode Current		0.2	mA

CHARACTERISTICS (at 25 °C)

Parameter		R7723			R7724			R7725			Unit
		Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	
Cathode Sensitivity	Luminous (2856 K)	60	90	—	60	90	—	60	90	—	μA/lm
	Quantum Efficiency at 420 nm	—	26	—	—	26	—	—	26	—	%
	Blue Sensitivity Index (CS 5-58)	—	10.5	—	—	10.5	—	—	10.5	—	—
Anode Sensitivity	Luminous (2856 K)	10	90	—	30	300	—	100	600	—	A/lm
Gain		—	1.0×10^6	—	—	3.3×10^6	—	—	6.7×10^6	—	—
Anode Dark Current (after 30 min storage in darkness)		—	3	20	—	6	40	—	9	60	nA
Time Response	Anode Pulse Rise Time	—	1.7	—	—	2.1	—	—	2.5	—	ns
	Electron Transit Time	—	23	—	—	29	—	—	35	—	ns
	Transit Time Spread (T.T.S.)	—	1.1	—	—	1.2	—	—	1.3	—	ns
Pulse Linearity	±2 % Deviation	—	80	—	—	60	—	—	40	—	mA
	±5 % Deviation	—	100	—	—	90	—	—	80	—	mA

NOTE: Anode characteristics are measured with voltage distribution ratios shown below:

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

R7723

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	P
Ratio	4	1	2	1	1	1	1	2	1	

R7724

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio	4	1	2	1	1	1	1	1	1	2	1	

R7725

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	4	1	2	1	1	1	1	1	1	1	1	1	2	1

Supply Voltage: 1750 V, K: Cathode, Dy: Dynode, P: Anode

Figure 1: Typical Spectral Response

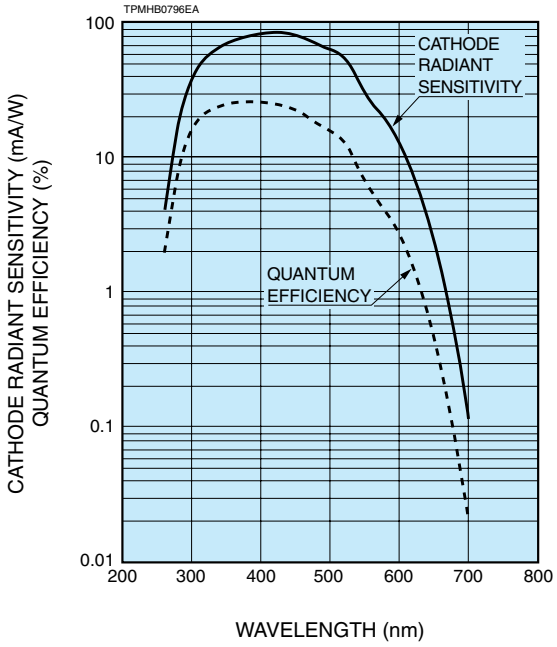


Figure 2: Typical Gain

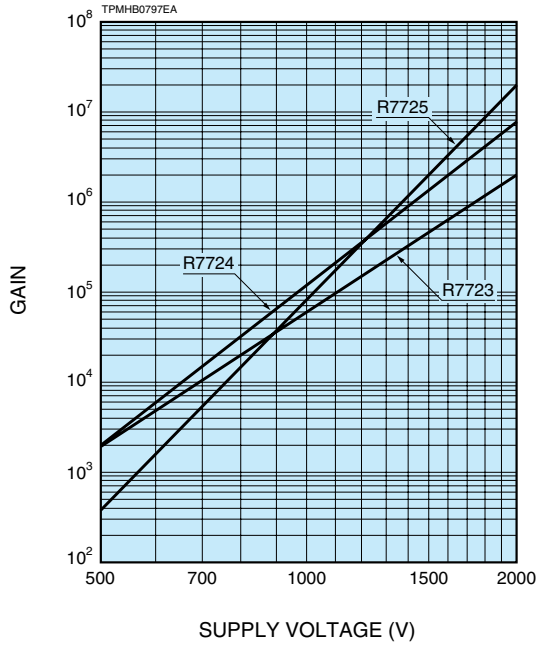
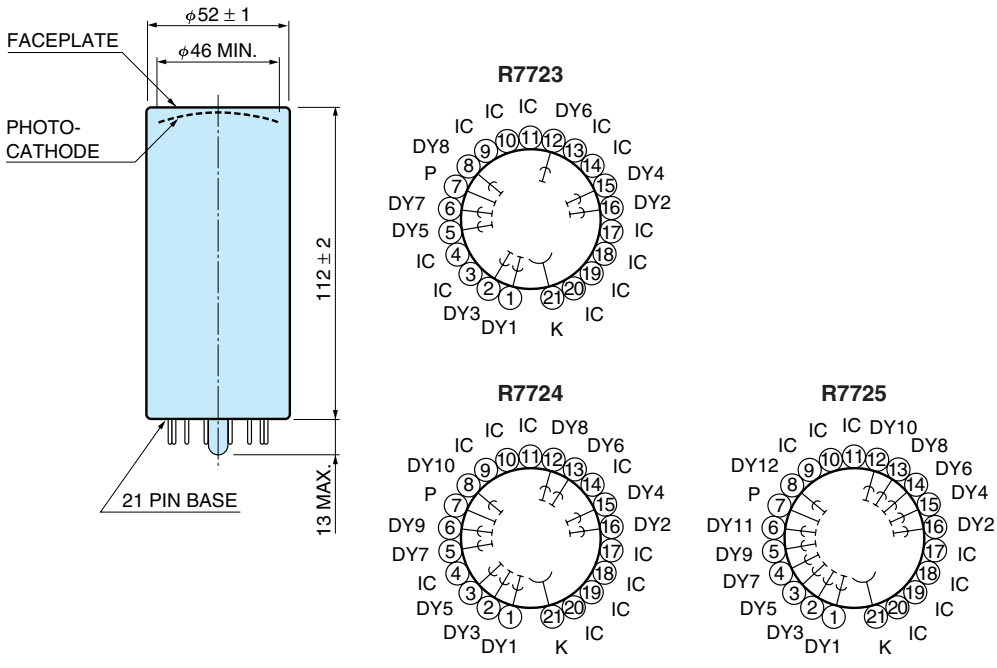


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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TPMH1315E01
AUG. 2009 IP