

For Scintillation Counting and High Energy Physics
51 mm (2 Inch) Diameter, Subnanosecond Time Response ($T_r = 0.7$ ns)
8-Stage, R2083: Borosilicate Window, R3377: Synthetic Silica Window,
Bialkali Photocathode

GENERAL

Parameter		Description / Value	Unit
Spectral Response	R2083	300 to 650	nm
	R3377	160 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	—
	Minimum Effective Area	$\phi 46$	mm
Window Material	R2083	Borosilicate glass	—
	R3377	Synthetic silica glass	—
Dynode	Structure	Linear focused type	—
	Number of Stages	8	—
Operating Ambient Temperature		-30 to +50	°C
Storage Temperature		-30 to +50	°C
Base		19-pin glass base with SMA output connector	—
Suitable Socket		E678-19J (supplied)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	3500	V
	Between Anode and Last Dynode	1000	V
Average Anode Current		0.2	mA

CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	60	80	—	$\mu\text{A}/\text{lm}$
	Radiant at 420 nm	—	80	—	mA/W
	Blue Sensitivity Index (CS 5-58)	R2083	—	10.0	—
R3377		—	9.5	—	—
Anode Sensitivity	Luminous (2856 K)	50	200	—	A/lm
Gain		—	2.5×10^6	—	—
Anode Dark Current (after 30 min storage in darkness)		—	100	800	nA
Time Response	Anode Pulse Rise Time	—	0.7	—	ns
	Electron Transit Time	—	16	—	ns
	Transit Time Spread	—	0.37	—	ns
Pulse Linearity at 2 % Deviation		—	100	—	mA

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Acc	Dy7	Dy8	P
Ratio	1.3	4.8	1.2	1.8	1	1	1	1	0.5	3	2.5	

Supply Voltage: 3000 Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

PHOTOMULTIPLIER TUBES R2083, R3377

Figure 1: Typical Spectral Response

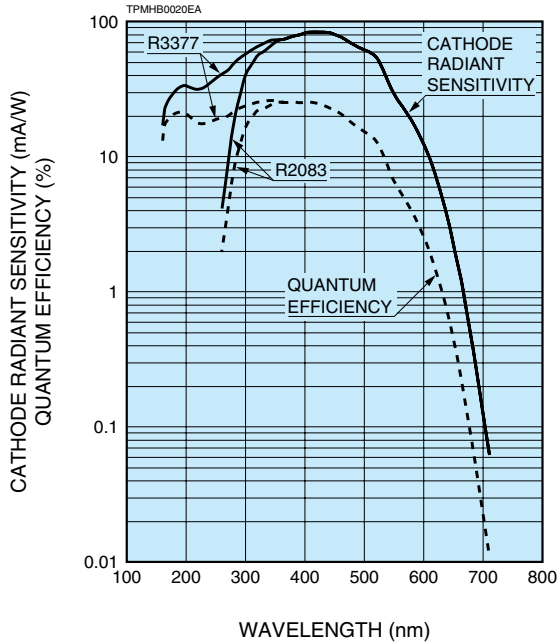


Figure 2: Typical Gain Characteristics

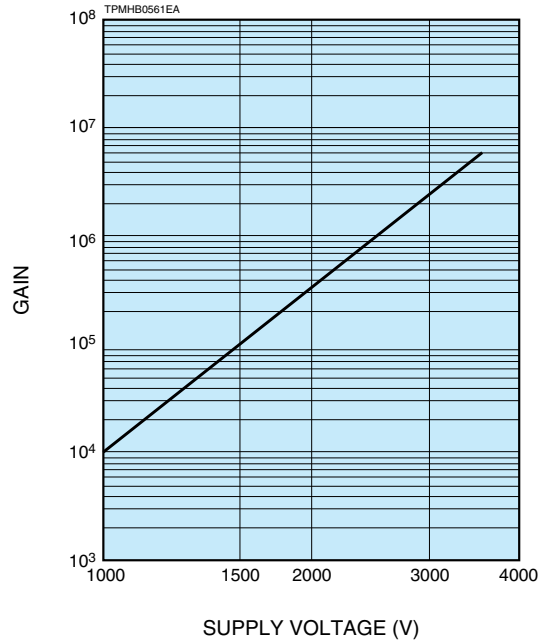
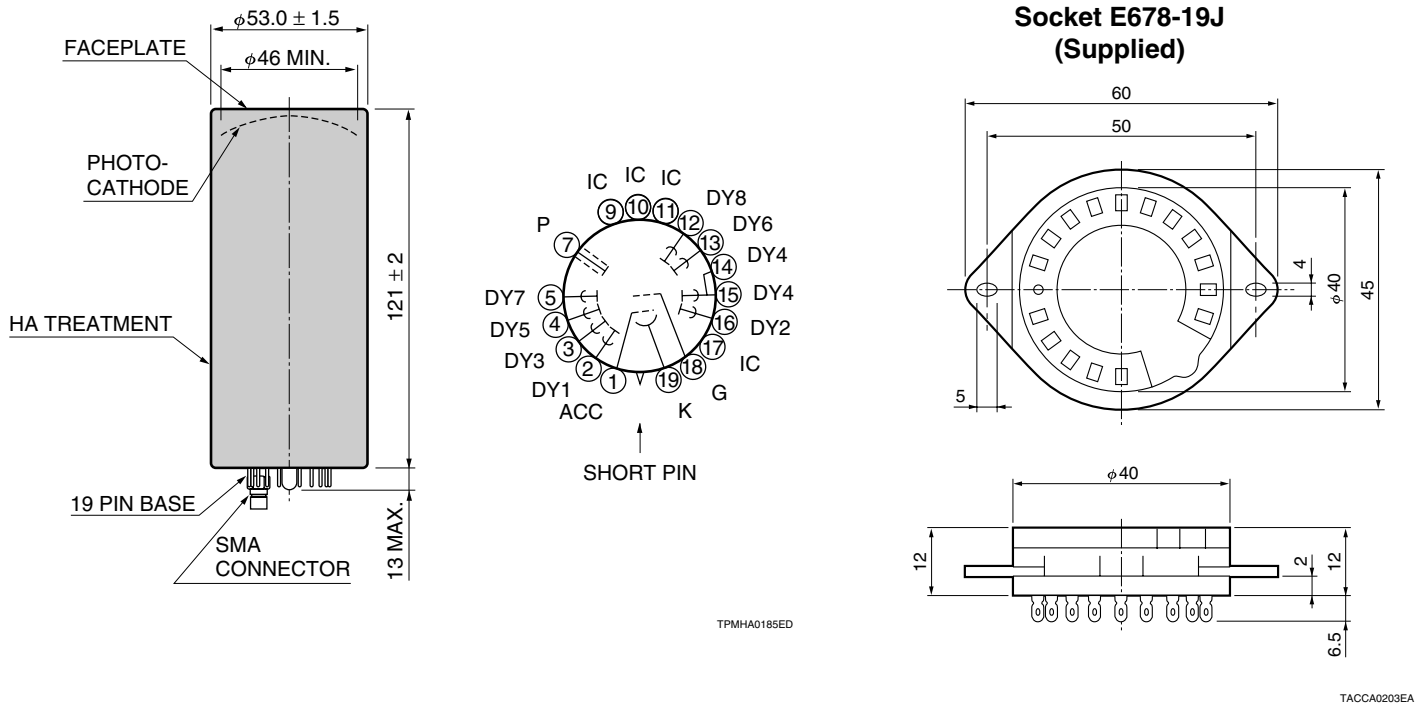


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Electron Tube Division

314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: Hamamatsu Corporation, 360 Foothill Road, P. O. Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH, Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-2658 E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L., 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited, 2 Howard Court, 10 Tewin Road Welwyn Garden City Hertfordshire AL7 1BW, United Kingdom, Telephone: 44-(0)1707-294888, Fax: 44-(0)1707-325777 E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB, Thorshamnsgatan 35 SE-164 40 Kista, Sweden, Telephone: (46)8-509-031-00, Fax: (46)8-509-031-01 E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia: S.R.L., Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39)02-935 81 733, Fax: (39)02-935 81 741 E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd., 1201 Tower B, Jiaming Center, 27 Dongsanhuan Road North, Chaoyang District, Beijing 100020, China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

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