HAMAMATSU

PHOTON IS OUR BUSINESS

PHOTOMULTIPLIER TUBE
R13194

FEATURES

- **High quantum efficiency (at 121.6 nm): 26.0 % (Typ.)**
- **High anode sensitivity (at 121.6 nm): 1.0 × 10^5 A/W (Typ.)**
- **Excellent solar blind spectral response (Anode sensitivity ratio) 121.6 nm / 300 nm: 8500 (Typ.)**

APPLICATIONS

- **AES (Atomic emission spectrophotometer)**
- **VUV-UV spectrophotometer**
- **Observation of UV plasma in vacuum**

SPECIFICATIONS

GENERAL

Parameter		Description / Value	Unit
Spectral response		115 to 195	nm
Wavelength of maximum response		130	nm
Photocathode material		Cs-I	—
Window material		MgF_2	—
Minimum effective area		4 × 9.5	mm
Dynode	Structure	Circular-cage	—
	Number of stage	9	—
	Material	Sb-Cs	—
Weight		7.2	g
Operating ambient temperature		-30 to +50	°C
Suitable socket for base (supplied)		E678-11U	—

MAXIMUM RATINGS (Absolute maximum values)

Parameter		Value	Unit
Supply voltage	Between anode and cathode	1250	V
	Between each succeeding electrode	150	V
Average anode current		0.01	mA

CHARACTERISTICS (at 25 °C)

Parameter		Value	Unit
Cathode sensitivity	Radiant Ⓐ	25.5	mA/W
	Quantum efficiency Ⓐ	26.0	%
Anode radiant sensitivity Ⓐ		1.0×10^5	A/W
Gain		3.9×10^6	—
Anode dark current (after 30 min storage in darkness)		0.05	nA
Anode sensitivity ratio 121.6 nm / 300 nm		8500	—
Time response	Anode pulse rise time	1.4	ns
	Electron transit time	15	ns

NOTE: ⒶAt 121.6 nm

VOLTAGE DISTRIBUTION RATIO

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

Supply voltage: 1000 V, K: Cathode, Dy: Dynode, P: Anode

Figure 1: Typical spectral response

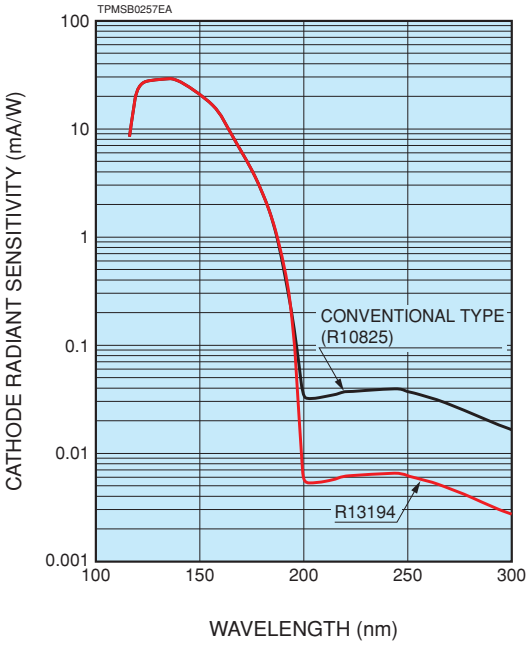


Figure 2: Typical gain characteristics

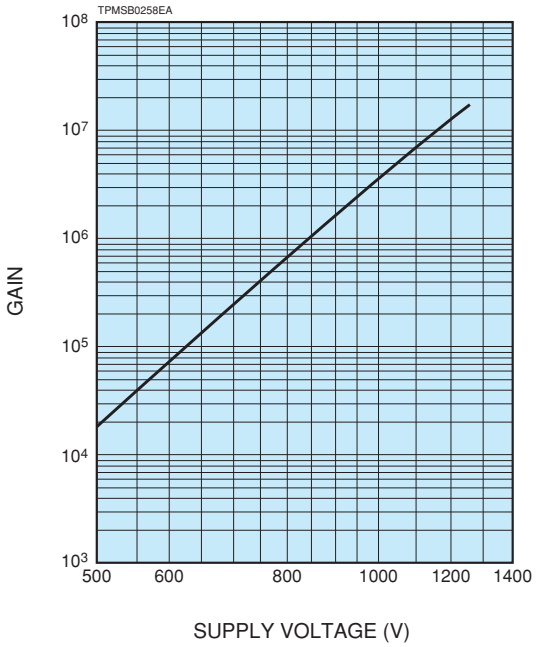
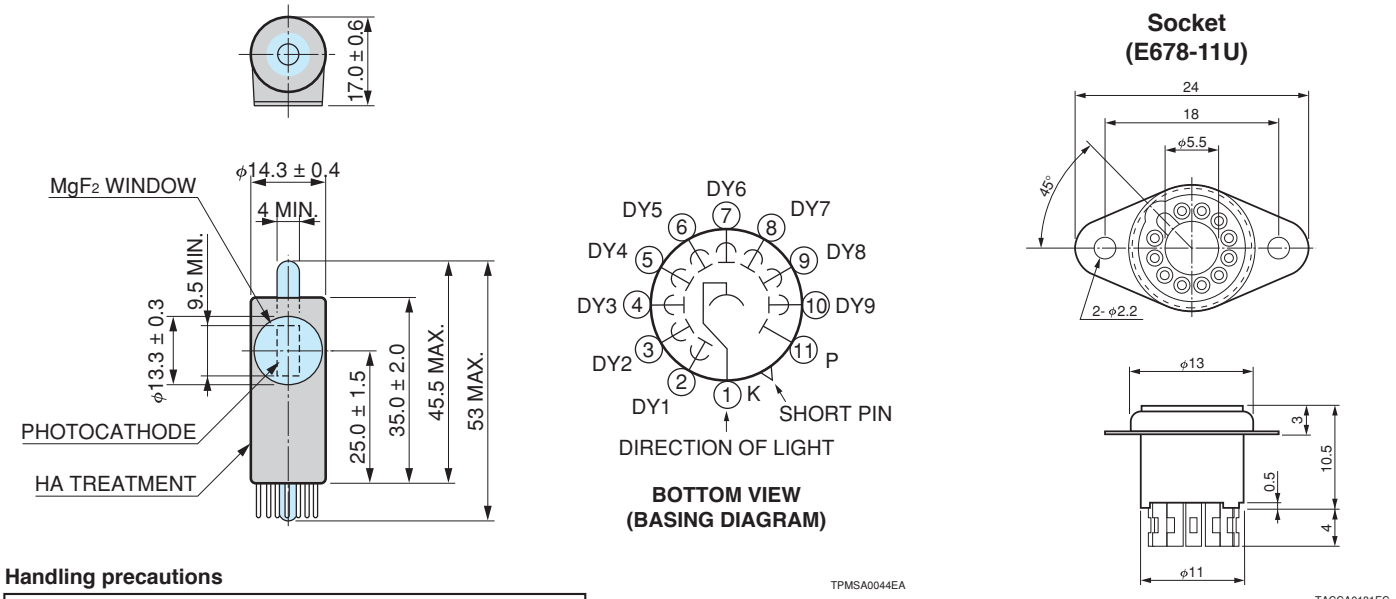


Figure 3: Dimensional outline and basing diagram (Unit: mm)



Handling precautions

- Operate below 10^{-1} Pa condition or atmospheric pressure.

HAMAMATSU PHOTONICS K.K. **www.hamamatsu.com**

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, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218
Germany: HAMAMATSU PHOTONICS DEUTSCHLAND GMBH.: Arzbergerstr. 10, 82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 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, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk
North Europe: HAMAMATSU PHOTONICS NORDEN AB: Torshamnsgatan 35, 16440 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 int. 6 20044 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it
China: HAMAMATSU PHOTONICS (CHINA) CO., LTD.: 1201, Tower B, Jiaming Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn
Taiwan: HAMAMATSU PHOTONICS TAIWAN CO., LTD.: 13F-1, No.101, Section 2, Gongdao 5th Road, East Dist., Hsinchu City, 300046, Taiwan(R.O.C) Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw

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