HAMAMATSU

PHOTON IS OUR BUSINESS

PHOTOMULTIPLIER TUBE
R7378A

FEATURES

- **High UV-VIS sensitivity**
- **Ruggedized, Low profile structure: 200 m/s² vibration**
  43 mm in bulb length

APPLICATIONS

- **For scintillation counting**

SPECIFICATIONS

GENERAL

Parameter		Description	Unit
Spectral response		160 to 650	nm
Peak wavelength		420	nm
Photocathode	Material	Bialkali	—
	Minimum effective area	ϕ22	mm
Window material		Synthetic silica	—
Dynode	Structure	Circular and linear-focused	—
	Number of stages	10	—
Base		14 pin glass base	—
Suitable socket		E678-14C (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	1250	V
	Between anode and last dynode	250	V
Average anode current		0.1	mA

CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode sensitivity	Luminous (2856 K)	60	90	—	μA/lm
	Radiant at 420 nm	—	85	—	mA/W
	Blue sensitivity index (CS 5-58)	9	10.5	—	—
Anode sensitivity	Luminous (2856 K)	50	180	—	A/lm
Gain		—	2.0×10^6	—	—
Anode dark current (after 30 min storage in darkness)		—	3	20	nA
Time response	Anode pulse rise time	—	1.5	—	ns
	Electron transit time	—	17	—	ns
	Transit time spread (T.T.S.)	—	0.9	—	ns
Pulse linearity at ±2 % deviation		—	30	—	mA

NOTE: Anode characteristics are measured with the voltage distribution ratio shown below.

STANDARD VOLTAGE DIVIDER AND SUPPLY VOLTAGE

Electrodes	K	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P
Ratio	3	1	1	1	1	1	1	1	1	1	1	1

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

ENVIRONMENTAL TESTING (Only initial production tubes are tested) [1)]

Shock.....1000 m/s², 11 ms, 3 impact shocks per direction (6 directions)
Vibration.....200 m/s², 50 Hz to 2000 Hz, 1 oct per minute, 3 sweeps per axis (3 axes)

1) To hold the PMT, never apply any pressure on the graded seal portion of the bulb.

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Figure 1: Typical spectral response

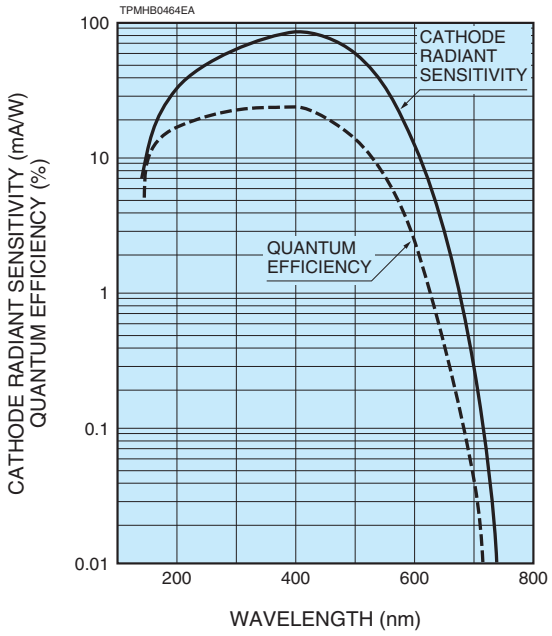


Figure 2: Typical gain and dark current characteristics

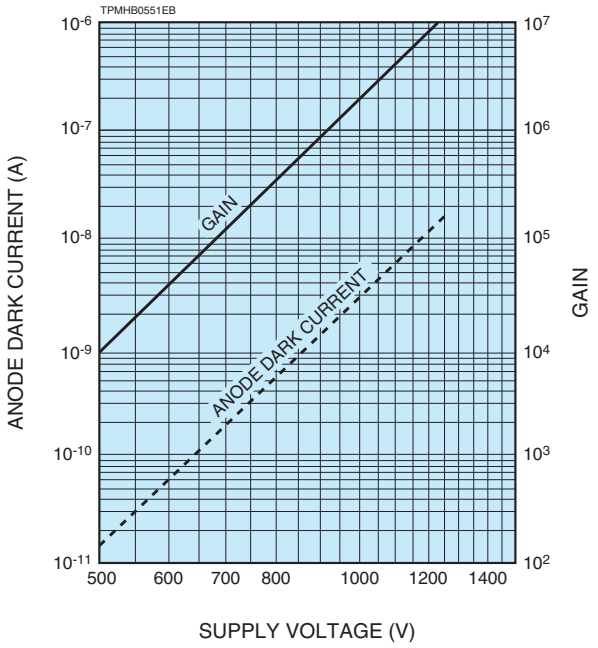
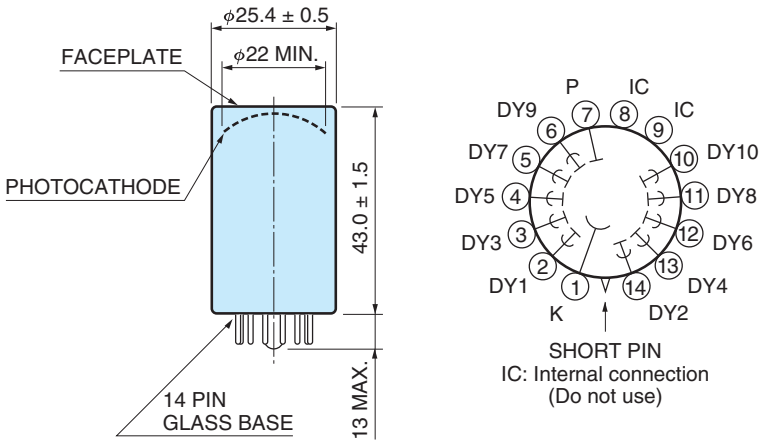


Figure 3: Dimensional outline and basing diagram (Unit: mm)



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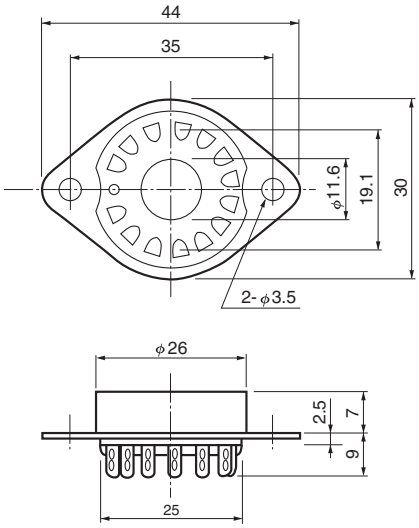
Socket E678-14C
(Supplied)



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*Matching D-type socket assemblies are also available
E2924 DC / Pulse, -HV
E2924-500 DC / Pulse, -HV, with SHV(HV) and BNC(Sig) plugs
E2924-05 Pulse only, +HV

* Hamamatsu also provides C10940 and C4900 series compact high voltage power supplies.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

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