HAMAMATSU

PHOTOMULTIPLIER TUBE R2078

Extremely Improved Solar Blind Photocathode for Aerospace and General Photometric Applications, 25 mm (1 Inch) Diameter, Ruggedized Low Profile Tube, Cs-Te Photocathode, 10-Stage, Head-on

FEATURES

- **High Quantum Efficiency ..... 14 % at 254 nm Typ.**
- **Ruggedized, Low Profile Structure ..... 300 m/s² vibration**
  43 mm in bulb length



SPECIFICATIONS

GENERAL

Parameter		Description / Value	Unit
Spectral Response		160 to 320	nm
Wavelength of Maximum Response		240	nm
Photocathode	Material	Cs-Te	—
	Minimum Effective Area	ϕ21	mm
Window Material		Fused silica	—
Dynode	Structure	Circular cage	—
	Number of Stages	10	—
Base (temporary)		12-pin base JEDEC No. B12-13	—
Operating Ambient Temperature		-40 to +80	°C
Storage Temperature		-40 to +80	°C
Suitable Socket		E678-12A (supplied)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	2000	V
	Between Anode and Last Dynode	300	V
Average Anode Current		0.015	mA

CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Radiant at 254 nm	20	29	—	mA/W
	Radiant at 365 nm	—	3.4×10^{-3}	1.2×10^{-2}	mA/W
	Radiant at 550 nm	—	3.8×10^{-5}	—	mA/W
	Quantum Efficiency at 254 nm	9.8	14.2	—	%
Anode Sensitivity	Radiant at 254 nm	2.0×10^{3}	1.5×10^{4}	—	A/W
Gain		1.0×10^{5}	5.0×10^{5}	—	—
Anode Dark Current (after 30 min storage in darkness)		—	15	100	pA
Dark Counts	PHD at 1×10^{6} Gain Ⓐ	—	10	20	s^{-1}
	Plateau at V0 Ⓑ	—	20	—	s^{-1}
Anode Pulse Rise Time Ⓒ		—	1.5	—	ns

NOTE: Ⓐ The discrimination level is set at one forth the average electron pulse height to measure the background.
Ⓑ Plateau voltage (V0) at the test up in HPK.
Ⓒ The rise time is the time of the output pulse to rise from 10 % to 90 % of peak amplitude when the entire photocathode is illuminated by a delta function light pulse.

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

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

Supply Voltage: 1500 V, 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

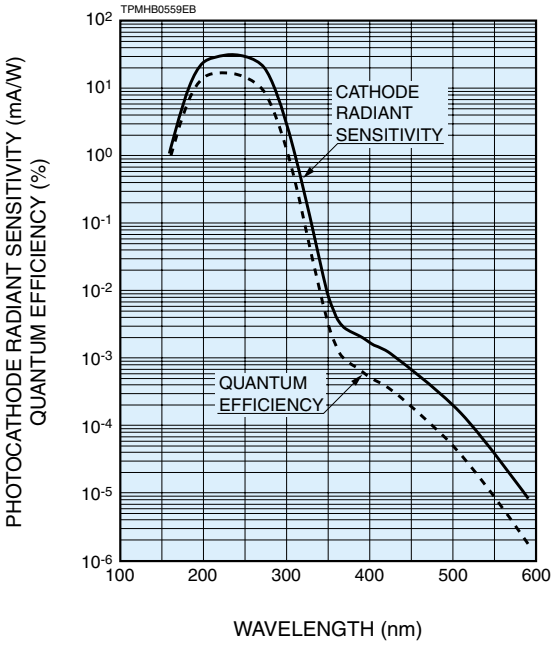


Figure 2: Typical Gain Characteristics

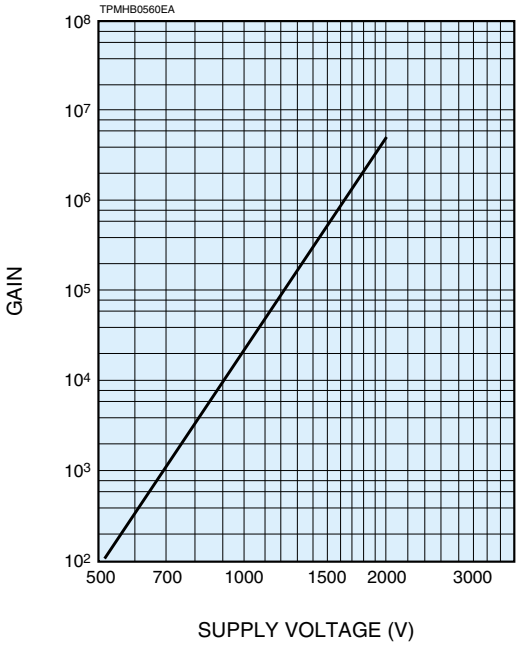
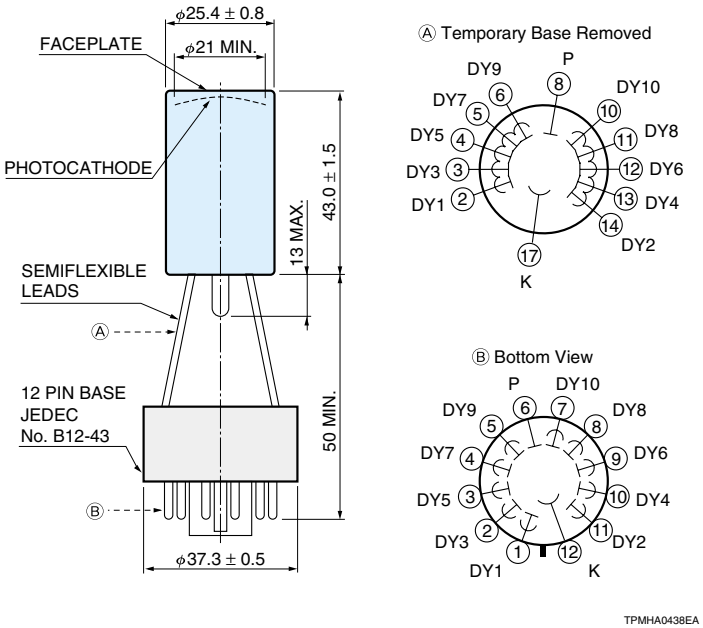
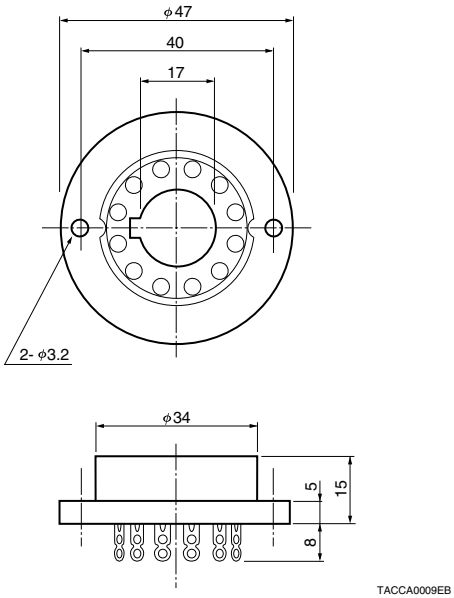


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



Socket (E678-12A)



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