

**For Scintillation Counting, Ruggedized, Compact, 19mm (3/4 Inch) Diameter, Bialkali Photocathode, 10-stage, Head-On Type**

## GENERAL

Parameter		R5611	R5611-01	Unit
Spectral Response		300 to 650		nm
Wavelength of Maximum Response		420		nm
Photocathode	Material	Bialkali		—
	Minimum Effective Area	15		mm dia.
Window Material		Borosilicate glass		—
Dynode	Structure	Circular-cage		—
	Number of Stages	10		—
Suitable Socket		E678-12L (supplied)	E678-12A (supplied)	—

## MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	1250	Vdc
	Between Anode and Last Dynode	250	Vdc
Average Anode Current		0.1	mA
Ambient Temperature		-80 to +50	°C

## CHARACTERISTICS (at 25°C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856K)	60	90	—	$\mu$ A/lm
	Blue (CS-5-58 filter)	—	10.5	—	$\mu$ A/lm-b
	Quantum Efficiency at 390nm	—	26	—	%
Anode Sensitivity	Luminous (2856K)	10	50	—	A/lm
Gain		—	$5.5 \times 10^5$	—	—
Anode Dark Current (after 30min. storage in darkness)		—	3	20	nA
Time Response	Anode Pulse Rise Time	—	1.5	—	ns
	Electron Transit Time	—	17	—	ns

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

## VOLTAGE DISTRIBUTION RATIO 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 : 1000Vdc, K : Cathode, Dy : Dynode, P : Anode

## ENVIRONMENTAL TESTING

Shoch ..... 100g's, 11  $\pm$  1ms, 3 impact shocks per direction (6 directions)

Vibration ..... 20g's, 50 to 2000Hz, 1 oct per minute, 3 sweeps per axis (3 axes)

# PHOTOMULTIPLIER TUBES R5611, R5611-01

Figure 1: Typical Spectral Response

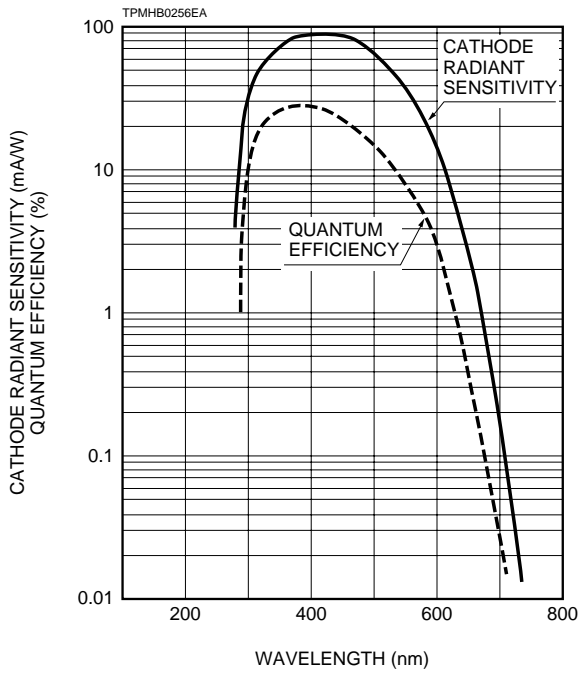


Figure 2: Typical Gain and Dark Current

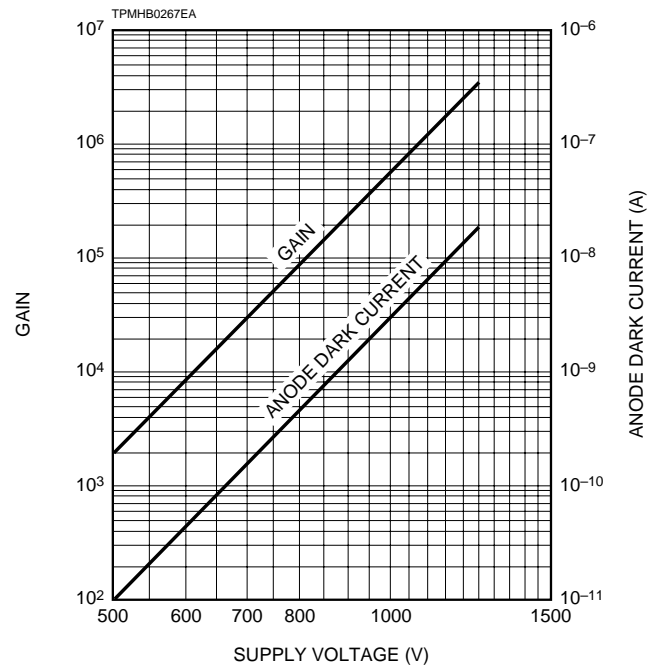


Figure 3: Single Photoelectron Pulse Height Distribution

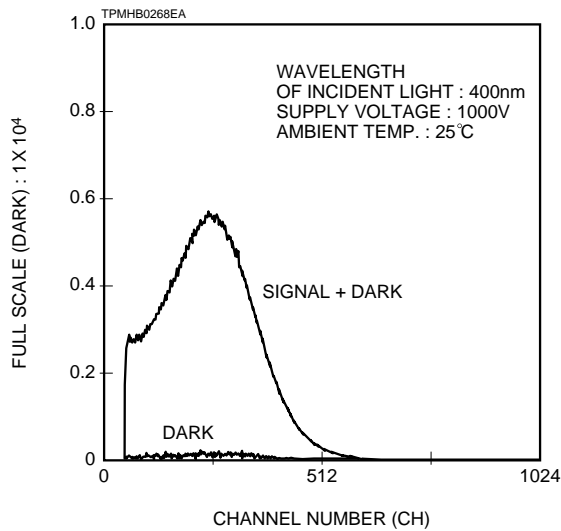


Figure 4: Temperature Coefficient of Anode Sensitivity

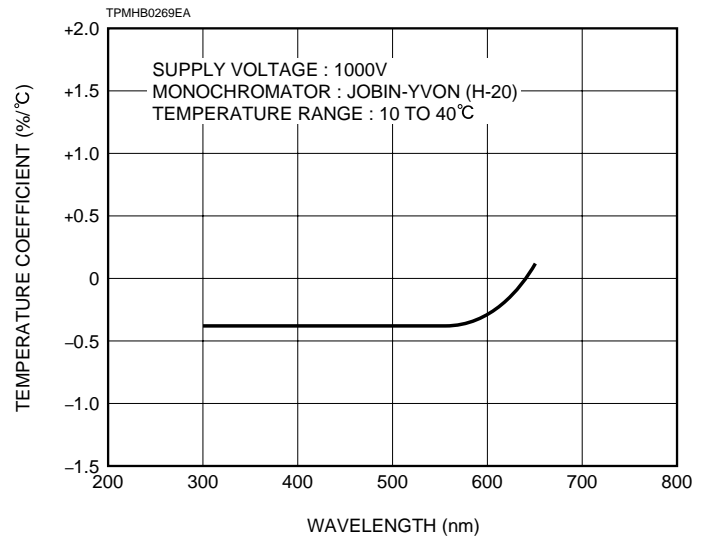


Figure 5: R5611 Dimensional Outline and Basing Diagram (Unit : mm)

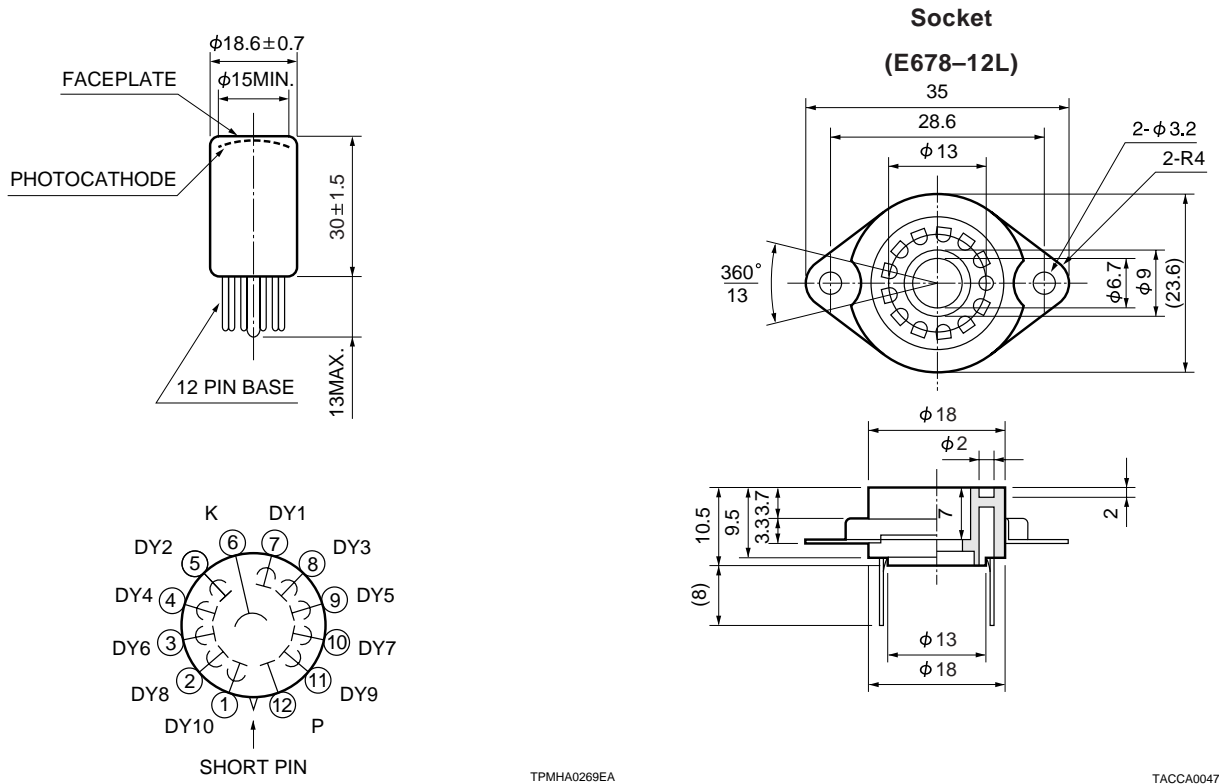
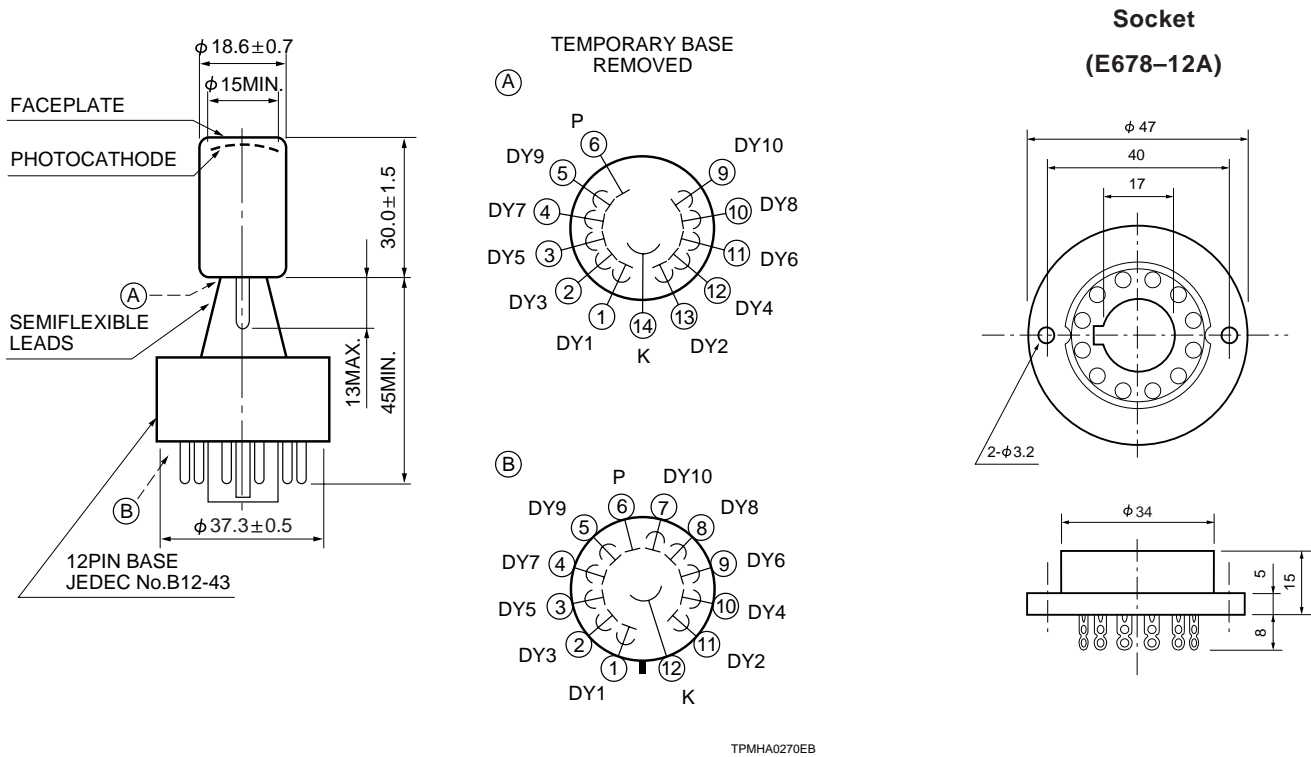


Figure 6: R5611-01 Dimensional Outline and Basing Diagram (Unit : mm)



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## **HAMAMATSU**

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