



# HAMAMATSU

## PHOTOMULTIPLIER TUBE R7111

For scintillation counting, Ruggedized, Low profile  
28 mm(1 - 1/8 Inch) diameter, Bialkali photocathode, 10- stage, Head- on type

### GENERAL

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420 ± 50	nm
Photocathode	Material	Bialkali	-
	Minimum Effective Area	25	mm dia.
Window Material		Borosilicate glass	-
Dynode	Structure	Circular - cage	-
	Number of Stages	10	-
Suitable Socket		E678 - 14C (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	-	μA/lm
	Blue (CS-5-58 filter)	-	10.5	-	μA/lm-b
Anode Sensitivity	Luminous (2856K)	20	100	-	A/lm
Gain		-	1.1 × 10 <sup>6</sup>	-	-
Anode Dark Current (after 30min. storage in darkness)		-	4.5	30	nA

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

- Shock ..... 100g's, 11 ± 1ms, 3 impact shocks per direction (6 directions)
- Vibration ..... 20g's, 50 to 2000Hz, 1oct per minute, 3 sweeps per axis (3 axes)

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Figure 1: Typical Spectral Response

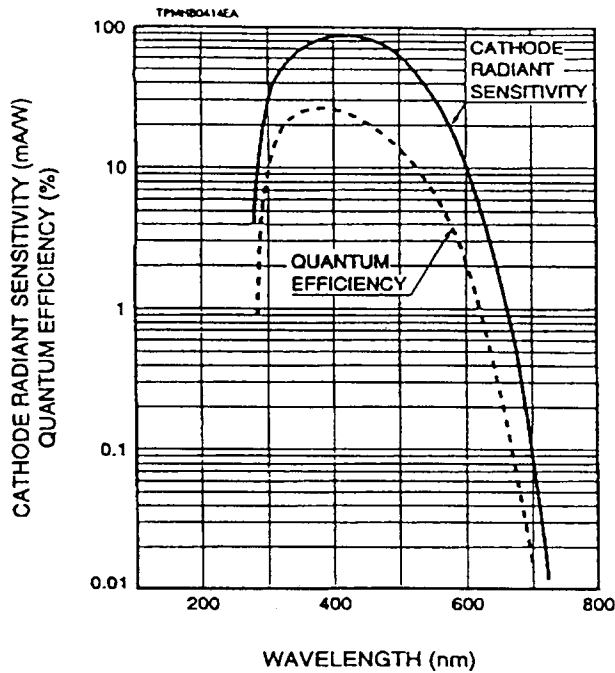


Figure 2: Typical Gain and Anode Dark Current

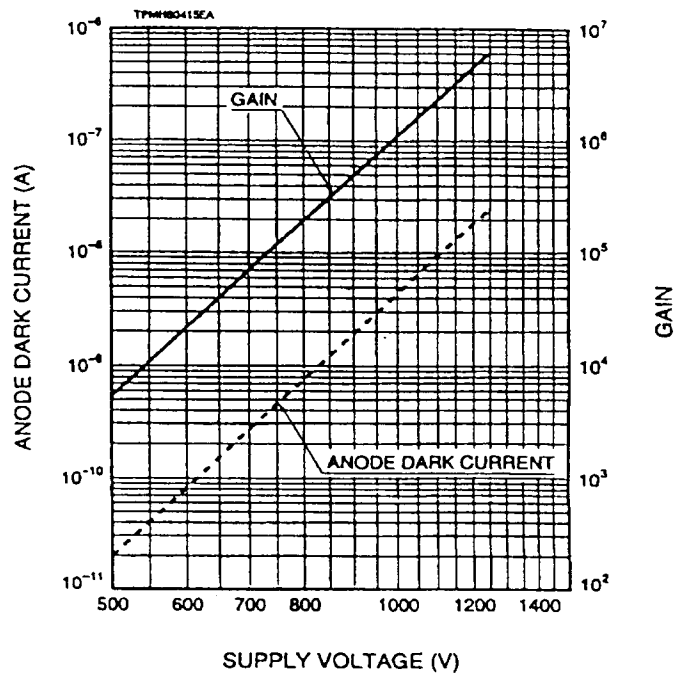
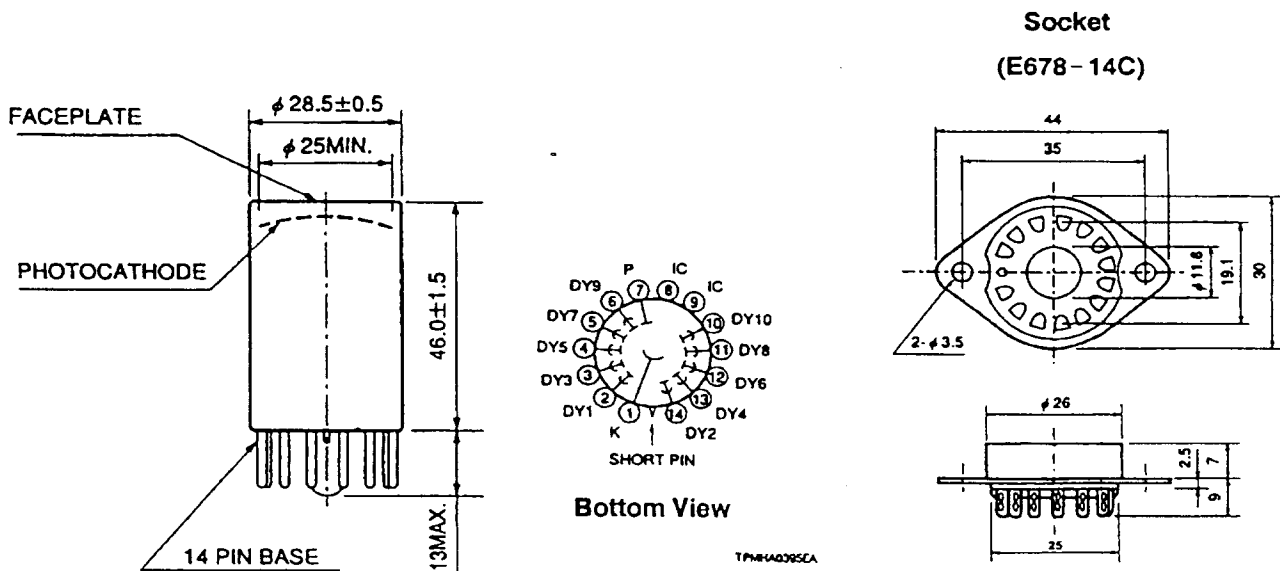


Figure 3: Dimensional Outline and Basing Diagram (Unit:mm)



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