

## For Scintillation Counting, Fast Time Response 51 mm (2 Inch) Diameter, Bialkali Photocathode, 12-stage Head-On Type

### GENERAL

Parameter		Description/Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode	Material	Bialkali	—
	Minimum Effective Area	46	mm dia.
Window	Material	Borosilicate glass	—
	Shape	Plano-concave	—
Dynode	Structure	Linear focused	—
	Number of Stages	12	—
Base		21-pin glass base	—
Suitable Socket		E678-21A (supplied)	—

### MAXIMUM RATINGS (Absolute Maximum Values)

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	2700	Vdc
Average Anode Current		0.2	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
	Radiant at 420nm	—	85	—	mA/W
Anode Sensitivity	Luminous (2856K)	30	100	—	A/lm
	Radiant at 420nm	—	$9.4 \times 10^4$	—	A/W
Gain		—	$1.1 \times 10^6$	—	—
Anode Dark Current (after 30min. storage in darkness)		—	6.0	40	nA
Time Response	Anode Pulse Rise Time	—	2.6	—	ns
	Electron Transit Time	—	48	—	ns
	Transit Time Spread (T.T.S.)	—	1.1	—	ns
Pulse Linearity	at 2% Deviation	—	100	—	mA
	at 5% Deviation	—	200	—	mA

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

### VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

Electrodes	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	4	0	1	1.4	1	1	1	1	1	1	1	1	1	1	1

Supply Voltage: 1500Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

\* The shield pin should be connected to Dy5.

### SPECIAL VOLTAGE DISTRIBUTION RATIO FOR PULSE LINEARITY MEASUREMENTS

Electrodes	K	G	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	P
Ratio	4.3	0	1	1.6	1	1	1	1.2	1.5	2	2.4	3	3.9	3	

Supply Voltage: 2000Vdc, K: Cathode, Dy: Dynode, P: Anode, G: Grid

# PHOTOMULTIPLIER TUBE R329-02

Figure 1: Typical Spectral Response

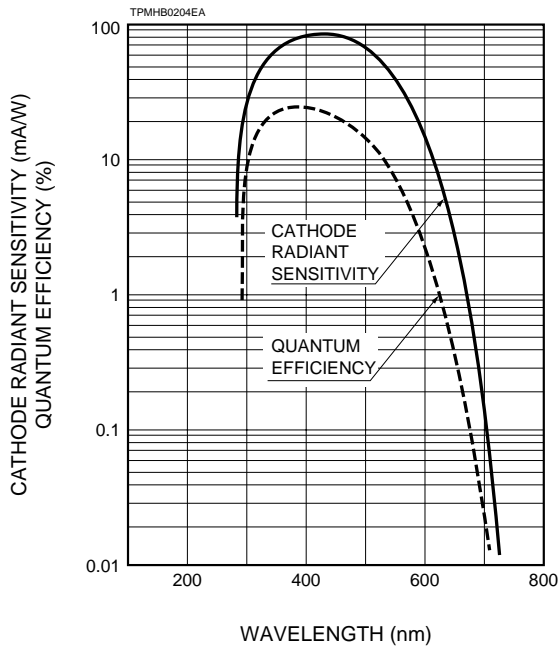


Figure 2: Typical Gain Characteristics

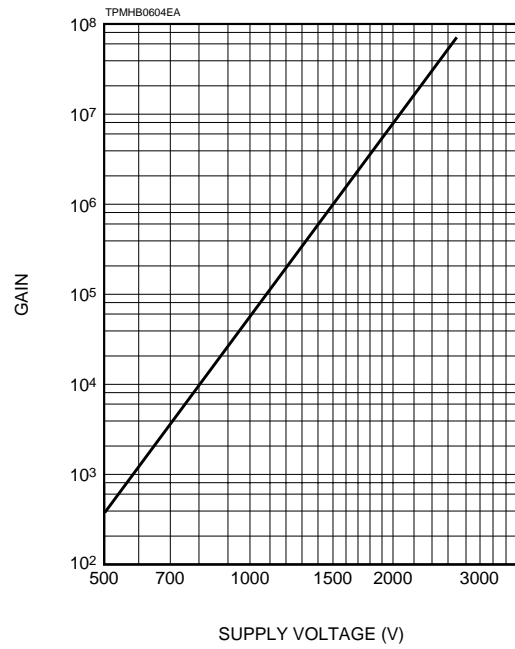
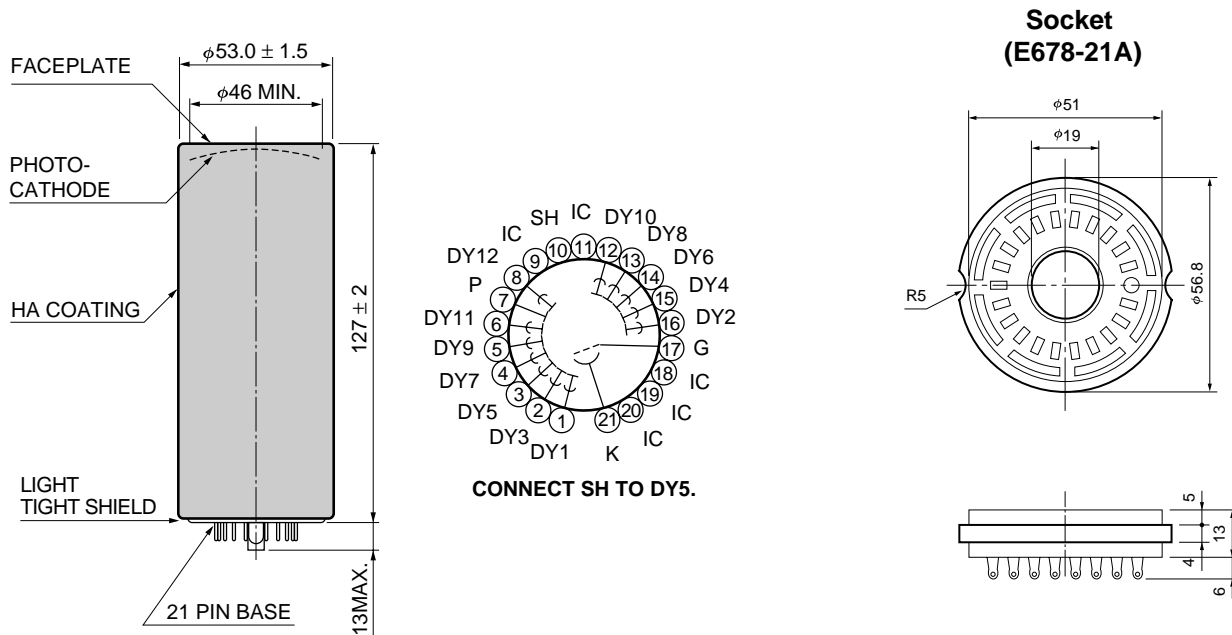


Figure 3: Dimensional Outline and Basing Diagram (Unit: mm)



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