

Ruggedized, High temperature (175 °C) PMT for oil well logging
51 mm (2 Inch) diameter, 10-stage, Head-on type

GENERAL

Parameter		Description / Value	Unit
Spectral response		300 to 650	nm
Wavelength of maximum response		375	nm
Photocathode	Material	High temp. bialkali	—
	Minimum effective area	φ46	mm
Window material		Borosilicate glass	—
Dynode	Structure	Circular and Linear-focused	—
	Number of stages	10	—
Operating ambient temperature		-30 to +175	°C
Storage temperature		-80 to +175	°C
Base		15-pin glass base	—
Suitable socket		E678-15C (supplied)	—

MAXIMUM RATINGS (Absolute maximum values)

Parameter		Value	Unit
Supply voltage	Between anode and cathode	1800	V
	Between anode and last dynode	250	V
Average anode current		0.02	mA

CHARACTERISTICS (at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode sensitivity	Luminous (2856 K)	20	40	—	μA/lm
	Radiant at 375 nm	—	51	—	mA/W
	Blue sensitivity index (CS 5-58)	4	6	—	—
Anode sensitivity	Luminous (2856 K)	5	20	—	A/lm
	Radiant at 375 nm	—	2.6 × 10 ⁴	—	A/W
Gain		—	5 × 10 ⁵	—	—
Anode dark current (after 30 min storage in darkness)		—	3*	50	nA
Time response	Anode pulse rise time	—	2.6	—	ns
	Electron transit time	—	28	—	ns

* 1.5 μA at 175 °C

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 dc, K: Cathode, Dy: Dynode, P: Anode

ENVIRONMENTAL TESTING

Shock 5000 m/s² (500G), 0.5 ms, 3 impact shocks per direction (6 directions)
 Vibration 200 m/s² (20G), 50 Hz to 2000 Hz, 1 oct per minute, 3 sweeps per axis (3 axes)
 (Only initial production tubes are tested)

PHOTOMULTIPLIER TUBE R4607A-01

Figure 1: Typical spectral response

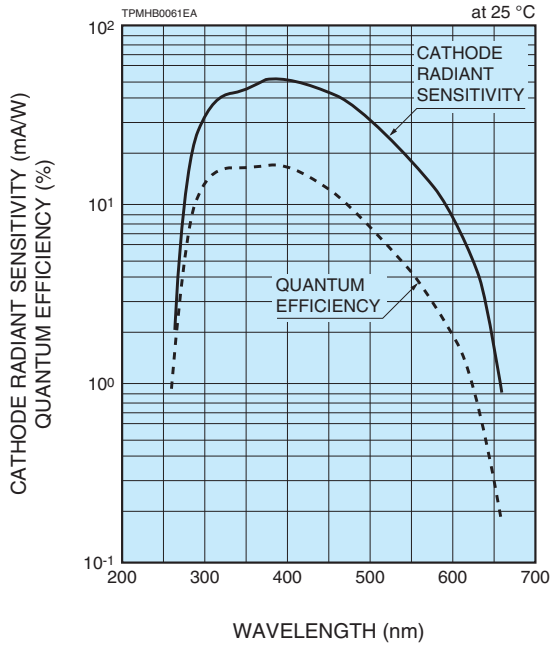


Figure 2: Typical gain characteristics

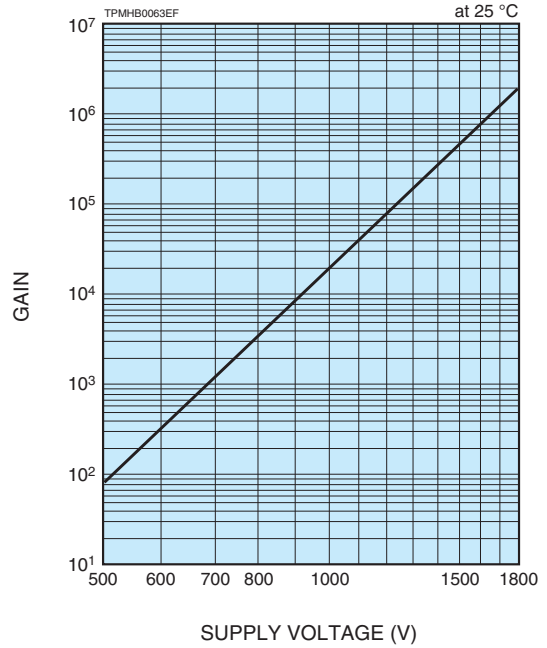
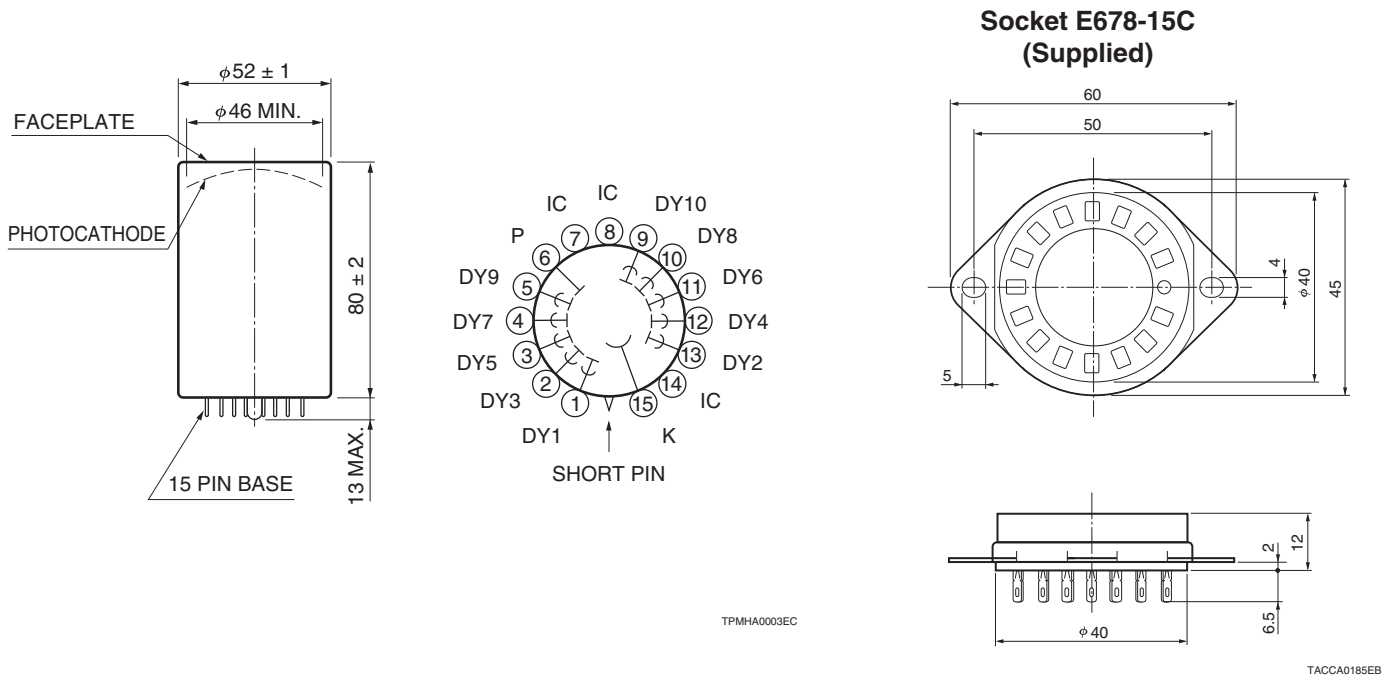


Figure 3: Dimensional outline and basing diagram (Unit: mm)



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