

28 mm (1-1/8 Inch) Diameter, Side-on Type
Compatible Pin Layout with Any 28 mm dia. Side-on PMT
Dark Current Becomes 1/50 by Cooling, For UV to NIR

CHARACTERISTICS

(at 25 °C)

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	400	525	—	μA/lm
	Quantum Efficiency at 450 nm	—	25	—	%
	Blue Sensitivity Index (CS 5-58)	—	13	—	—
Anode Sensitivity	Luminous (2856 K)	3000	5000	—	A/lm
Gain		—	9.5×10^6	—	—
Anode Dark Current (After 30 min Storage in Darkness)		—	15	50	nA
		—	0.3 ^(A)	1 ^(A)	nA
Time Response	Anode Pulse Rise Time	—	2.2	—	ns
	Electron Transit Time	—	22	—	ns



Left: R9182-01, Right: R928

NOTE: (A) The values are measured at 25 °C and a Peltier supply current of 2.7 A, with a heatsink attached to the R9182-01 for forced air cooling.

Figure 1: Typical Spectral Response

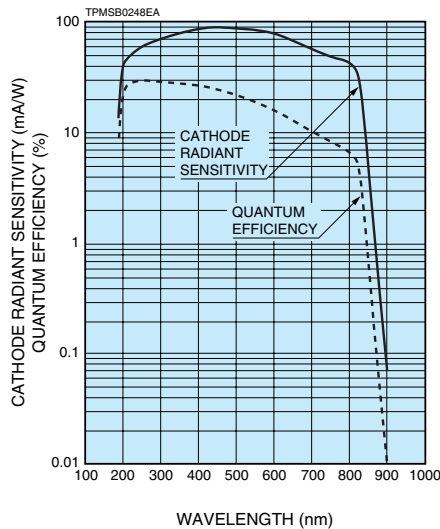


Figure 2: Typical Gain Characteristics

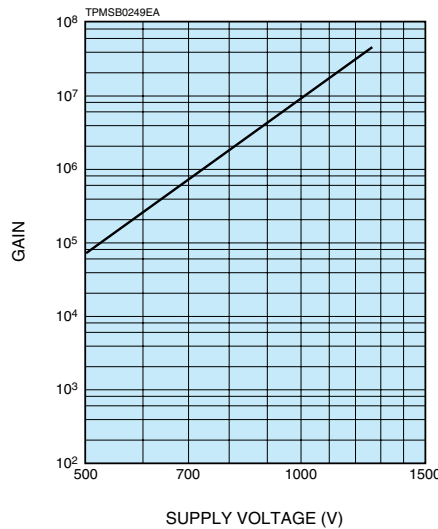
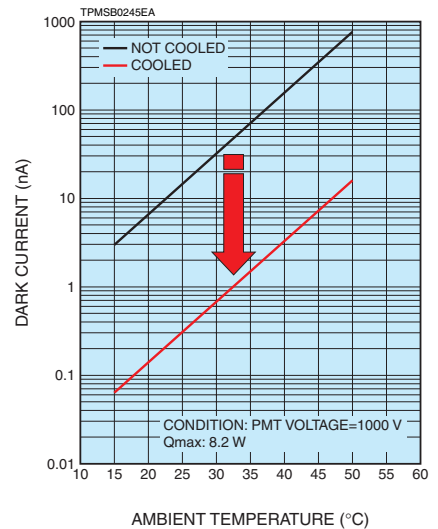


Figure 3: Temperature vs. Dark Current Characteristics with and without Cooling



PHOTOMULTIPLIER TUBE R9182-01 (Cooled PMT)

SPECIFICATIONS

GENERAL

Parameter	Description / Value	Unit
Spectral Response	185 to 900	nm
Wavelength of Maximum Response	450	nm
Photocathode	Material	Multialkali
	Minimum Effective Area	10 × 14
Window Material	UV glass	—
Dynode	Structure	Circular-cage
	Number of Stages	9
Base	11-pin base JEDEC No. B11-88	—
Weight	Approx. 63	g
Operating Ambient Temperature	-30 to +50	°C
Storage Temperature	-30 to +50	°C
Suitable Socket	E678-11A (Sold separately)	—
Suitable Socket Assembly	E717-63 (Sold separately)	—

MAXIMUM RATINGS (Absolute Maximum Values)

Parameter	Value	Unit
Supply Between Anode and Cathode	1250	V
Voltage Between Anode and Last Dynode	250	V
Average Anode Current	0.1	mA

VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

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

Supply Voltage: 1000 V, K: Cathode, Dy: Dynode, P: Anode

PELTIER DEVICE

Parameter	Description / Value	Unit
Maximum Cooling Capacity (Qmax.)	8.2	W
Maximum Supply Current	2.7	A
Maximum Applied Voltage	3.0	V
Maximum Operating Temperature	50	°C
Leak Current Between Cathode and Peltier GND	1 or less ^①	nA

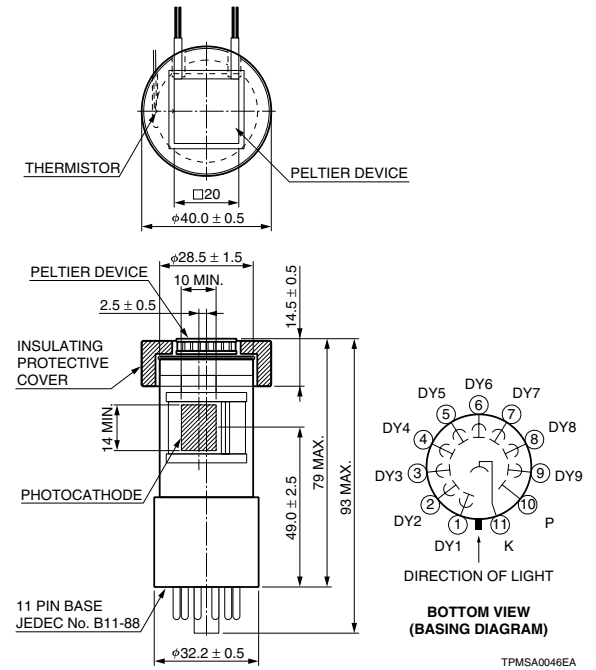
NOTE: ① Insulation resistance at 25 °C: $1.0 \times 10^{14} \Omega$

PELTIER COOLING PERFORMANCE

Parameter	Description / Value	Unit
Cathode Cooling Temperature (ΔT)	20 ^②	°C
Time Required to Reach Target Cooling Temperature	5 ^③	min

NOTE: ②, ③ At a supply current of 2.7 A and with a heatsink attached to the R9182-01 for forced air cooling.
Cooling temperature (ΔT) is the difference between the ambient temperature and the cathode temperature when fully cooled.
When attaching a heatsink to the R9182-01, apply thermal grease to the surface of the Peltier device so that the heat on the hot side dissipates efficiently through the heatsink during operation.
Temperature should be controlled by current during operation of the Peltier device.

Figure 4: Dimensional Outline and Basing Diagram (Unit: mm)



TPMSA0046EA

RELATED PRODUCTS

■ Photosensor Module* H7844 (incorporating a thermo-electric cooler)



NOTE: C-mount adapter A12683 is sold separately
*Module: PMT, Voltage divider circuit and high voltage power supply incorporated in the package.

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