

# HAMAMATSU

## PHOTOMULTIPLIER TUBE R105

### FEATURES

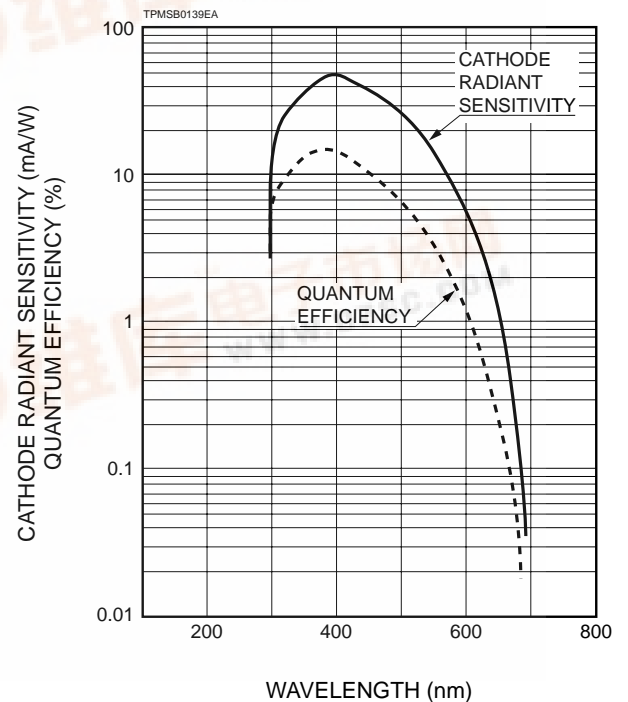
- 28mm (1-1/8 Inch) Diameter Side-on
- 300 to 650nm Spectral Response
- High Gain and Low Dark Current Variant of 931A



### GENERAL

Parameter		Description/Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		400	nm
Photo-cathode	Material	Sb-Cs	—
	Minimum Useful Size	8 × 24	mm
Window Material		Borosilicate glass	—
Dynode	Structure	Circular-cage	—
	Number of Stages	9	—
Direct Interelectrode Capacitances	Anode to Last Dynode	4	pF
	Anode to All Other Electrodes	6	pF
Base		JEDEC No. B11-88	—
Suitable Socket		E678-11A	—

Figure 1: Typical Spectral Response



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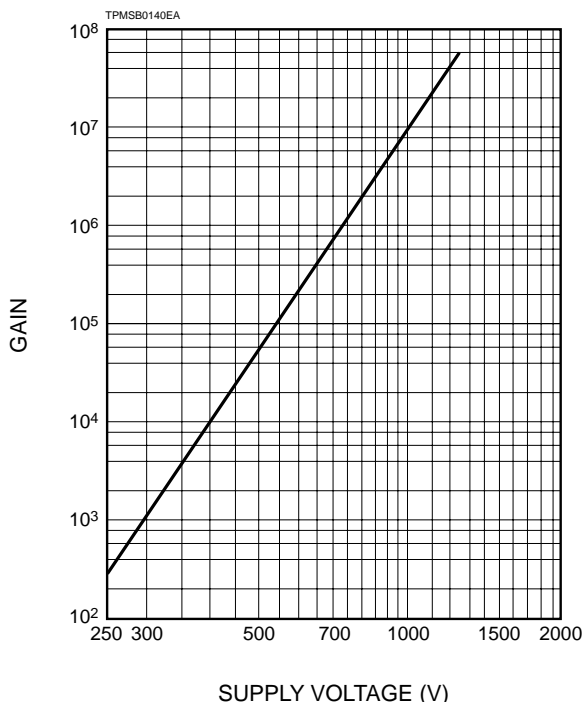
## MAXIMUM RATINGS (Absolute Maximum Values)

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
Anode Sensitivity	Luminous (2856K)	50	400	—	A/lm
	Radiant at 400nm	—	$4.8 \times 10^5$	—	A/W
Cathode Sensitivity	Luminous (2856K)	25	40	—	µA/lm
	Radiant at 400nm	—	48	—	mA/W
	Quantum Efficiency	—	13 at 350nm	—	%
Gain		—	$1.0 \times 10^7$	—	—
Anode Dark Current	after 5 seconds	—	10	50	nA
Time Response	after 30 minute	—	1	10	nA
Anode Pulse Rise Time	—	—	2.2	—	ns
	Electron Transit Time	—	22	—	ns

Figure 2: Typical Gain Characteristics

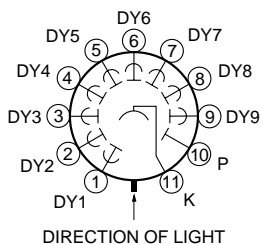
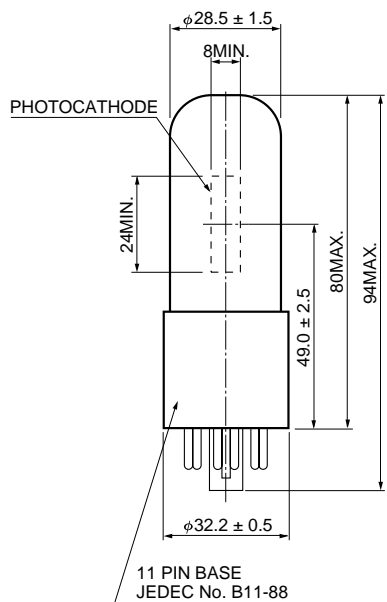


## VOLTAGE DISTRIBUTION RATIO AND SUPPLY VOLTAGE

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

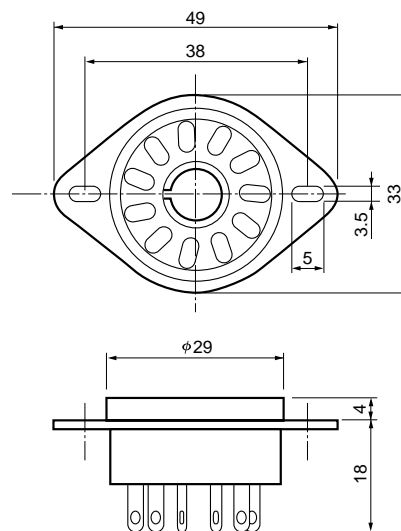
Supply Voltage: 1000Vdc, K: Cathode, Dy: Dynode, P: Anode

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



TPMSA0001EA

Socket (Option) (E678-11A)



TACCA0064EA

# HAMAMATSU

HAMAMATSU PHOTONICS K.K., Electron Tube Center

314-5, Shimokanzo, Toyooka-village, Iwata-gun, Shizuoka-ken, 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P. O. Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: Lough Point, 2 Gladbeck Way, Windmill Hill, Enfield, Middlesex EN2 7JA, United Kingdom, Telephone: (44)181-367-3560, Fax: (44)181-367-6384

North Europe: Hamamatsu Photonics Norden AB: Färögatan 7, S-164-40 Kista Sweden, Telephone: (46)8-703-29-50, Fax: (46)8-750-58-95

Italy: Hamamatsu Photonics Italia: S.R.L.: Via Della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39)2-935 81 733, Fax: (39)2-935 81 741