

# Electron Multipliers

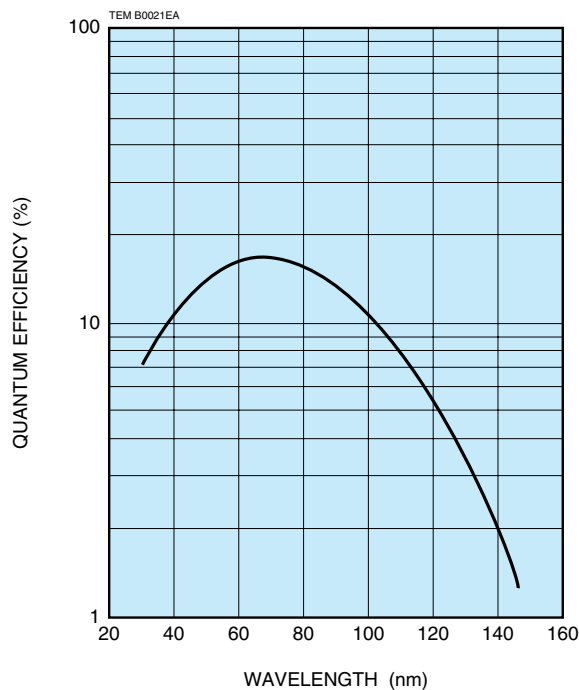
Electron multipliers (also called ion multipliers) are specially designed for the detection and measurement of electrons, ions, charged particles, VUV radiation and soft X-rays. Hamamatsu electron multipliers deliver high gain and low noise, making them ideal for the detection of very small or low energy particles by using the counting method. Especially useful applications include mass spectroscopy, field ion microscopy and electron or VUV spectroscopy such as Auger spectroscopy and ESCA.

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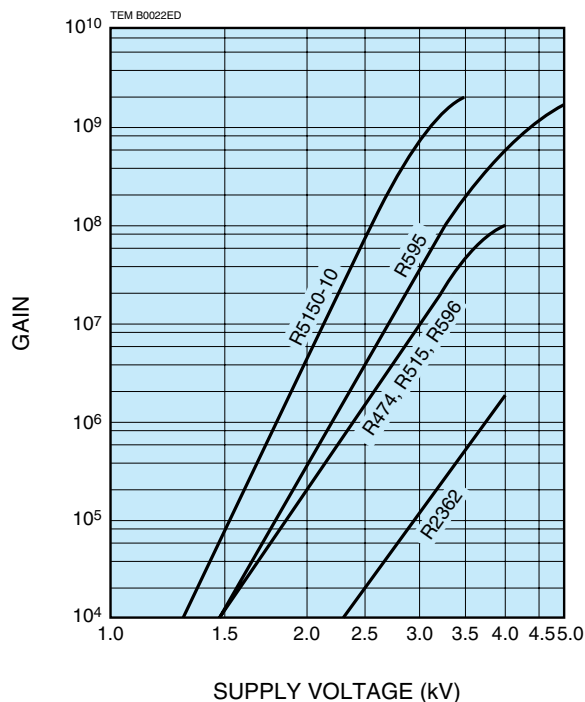
Each type has Cu-BeO dynodes connected by built-in divider resistors of 1 MΩ per stage. The first dynode can be replaced by a photocathode of Cs-I, K-Br, and so on for use in VUV spectroscopy. In applications where the operating vacuum level is inadequate, the R5150-10 is recommended. In TOF-MS applications, the R2362 with mesh dynodes is recommended.

Type No.	Out-line	Dynode			Characteristics				Max. Ratings				
		Number of Stages	Structure	Material	Input Aperture Diameter (mm)	Supply Voltage (V)	Gain Typ.	Rise Time Typ. (ns)	Anode to all Other Electrode Capacitance (pF)	Anode to First Dynode Voltage (V)	Anode to Last Dynode Voltage (V)	Average Anode Current (μA)	Operating Vacuum Level (Pa)
<b>Head-on Type</b>													
R5150-10	①	17	Box and Line	Cu-BeO	φ8	2000	$5 \times 10^6$	1.7	4.0	3500	350	10	$133 \times 10^{-4}$
R2362	②	23	Mesh	Cu-BeO	φ20	3450	$5 \times 10^5$	3.5	23	4000	350	10	$133 \times 10^{-4}$
R474	③	16	Box and Grid	Cu-BeO	8 × 6	2400	$1 \times 10^6$	9.3	5.0	4000	350	10	$133 \times 10^{-4}$
R515	④	16	Box and Grid	Cu-BeO	8 × 6	2400	$1 \times 10^6$	9.3	4.0	4000	350	10	$133 \times 10^{-4}$
R596	⑤	16	Box and Grid	Cu-BeO	12 × 10	2400	$1 \times 10^6$	10	9.0	4000	400	10	$133 \times 10^{-4}$
R595	⑥	20	Box and Grid	Cu-BeO	12 × 10	3000	$4 \times 10^7$	12	9.0	5000	400	10	$133 \times 10^{-4}$

Spectral Response (Cu-BeO)

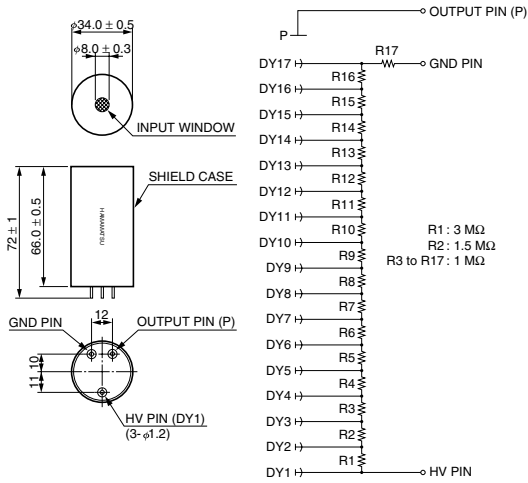


Gain



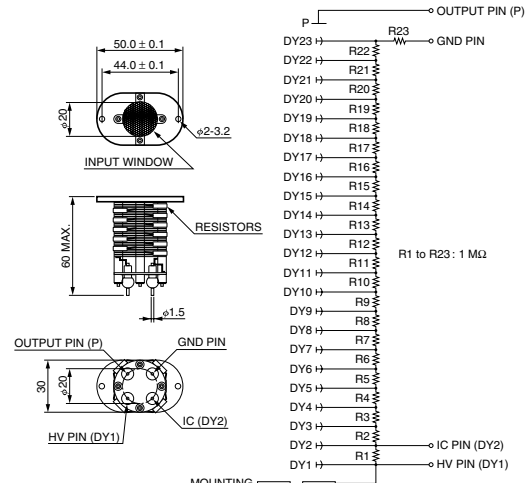
# Dimensional Outlines (Unit: mm)

## 1 R5150-10



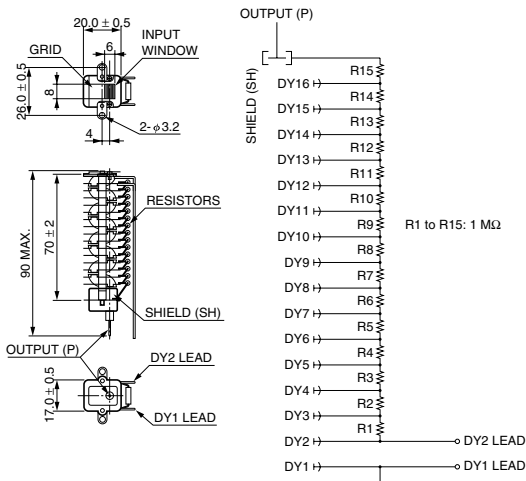
TEM A0015EB

## 2 R2362



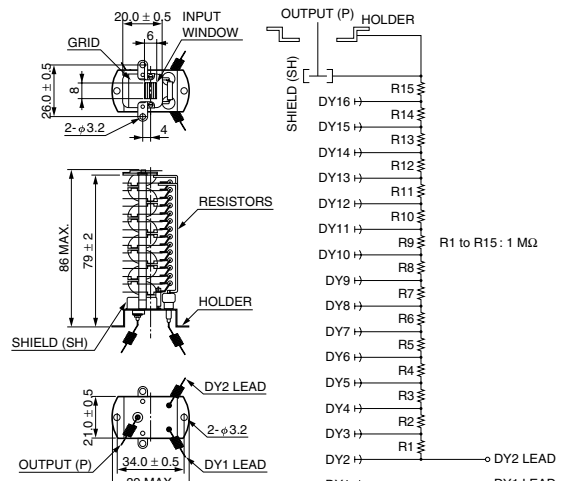
TEM A0009EC

## 3 R474



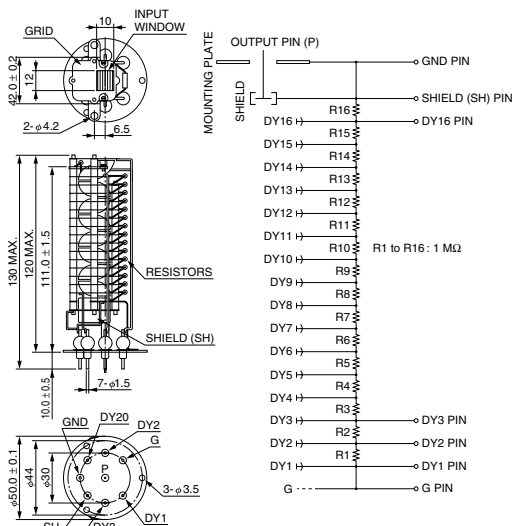
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## 4 R515



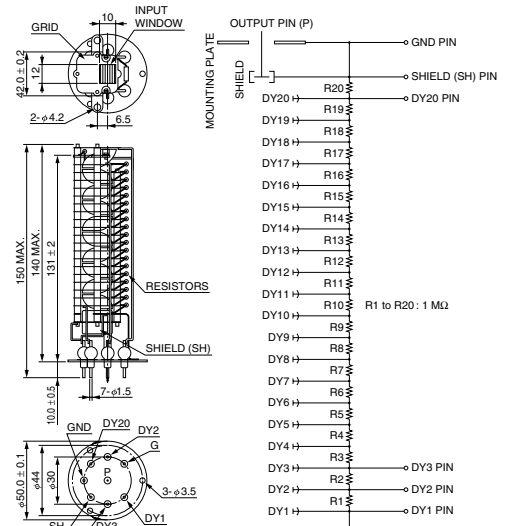
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## 5 R596



TEM A0007ED

## 6 R595



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