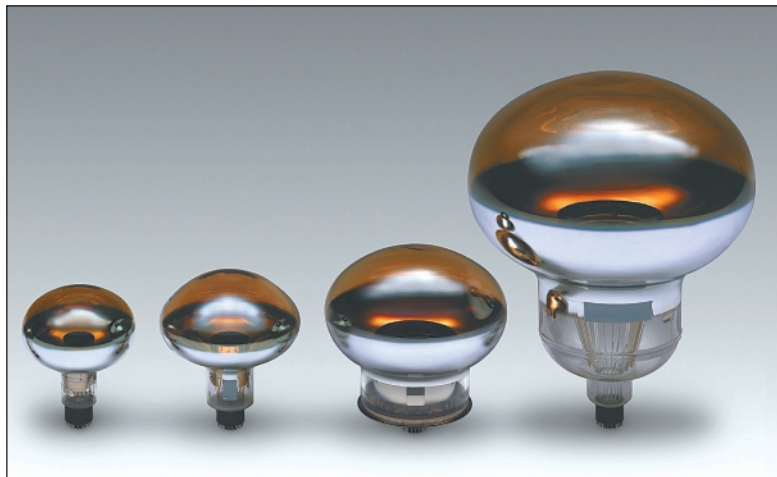


### APPLICATION

- Neutrino Physics

### FEATURES

- Large Photocathode Area
- Fast Time Response
- High Stability
- Less Dark Count



R5912  
R5912-02

R7081  
R7081-20

R8055

R3600-02  
R7250

### SPECIFICATIONS

Type No.	Diameter (mm) / (inch)	Minimum Effective Area (mm)	Surface Area		Dynode		Weight (g)
			Min. (cm <sup>2</sup> )	Typ. (cm <sup>2</sup> )	Structure	Number of Stages	
R5912	202 / 8	φ190	330	380	Box & Line	10	approx. 1100
R5912-02	202 / 8	φ190	330	380	Box & Line	14	approx. 1100
R7081	253 / 10	φ220	470	530	Box & Line	10	approx. 1400
R7081-20	253 / 10	φ220	470	530	Box & Line	14	approx. 1400
R8055	332 / 13	φ312	960	1080	Box & Line	10	approx. 3000
R3600-02	508 / 20	φ460	2030	2410	Venetian blind	11	approx. 8000
R7250	508 / 20	φ430	1680	1740	Box & Line	10	approx. 8000

### COMMON SPECIFICATIONS

Spectral Response	300 nm to 650 nm
Peak Wavelength	420 nm
Photocathode Material	Bialkali
Window Material	Borosilicate glass

# LARGE PHOTOCATHODE AREA PHOTOMULTIPLIER TUBES

## SPECIFICATIONS

Type No.	Cathode Sensitivity					Anode Sensitivity				
	Luminous (2856 K)		Radiant at 420 nm Typ. (mA/W)	Blue Sensitivity Index (CS 5-58)		Quantum Efficiency at 390 nm Typ. (%)	Luminous (2856 K) Typ. (A/lm)	Radiant at 420 nm Typ. (A/W)	Gain Typ.	Applied Voltage for Typical Gain Typ. (V)
	Min. (μA/lm)	Typ. (μA/lm)		Min.	Typ.					
R5912	40	80	80	6.0	10.0	25	700	$7.2 \times 10^5$	$1.0 \times 10^7$	1500
R5912-02	40	80	80	6.0	10.0	25	70 000	$7.2 \times 10^7$	$1.0 \times 10^9$	1700
R7081	40	80	80	6.0	10.0	25	800	$8.0 \times 10^5$	$1.0 \times 10^7$	1500
R7081-20	40	80	80	6.0	10.0	25	80 000	$8.0 \times 10^7$	$1.0 \times 10^9$	1700
R8055	35	60	65	5.5	8.0	20	3000	$3.25 \times 10^6$	$5.0 \times 10^7$	2000
R3600-02	35	60	65	5.5	8.0	20	600	$6.5 \times 10^5$	$1.0 \times 10^7$	2000
R7250	35	60	65	5.5	8.0	20	600	$6.5 \times 10^5$	$1.0 \times 10^7$	2000

NOTE: Anode characteristics are measured with the voltage distribution ratio shown below.  
 ( ): Measured with the special voltage distribution ratio (Tapered Divider) shown below.

Type No.	Maximum Ratings							Direct Interelectrode Capacitances	
	Supply Voltage		Average Anode Current (mA)	Operating Ambient Temperature (°C)	Storage Temperature (°C)	Ambient Pressure (Gauge) (MPa)	Anode to Last Dynode (pF)	Anode to All Other Dynodes (pF)	
	Anode to Cathode (V)	Anode to Last Dynode (V)							
R5912	2000	300	0.1	-30 to +50	-30 to +50	0.7	approx. 3	approx. 7	
R5912-02	2000	300	0.1	-30 to +50	-30 to +50	0.7	approx. 3	approx. 7	
R7081	2000	300	0.1	-30 to +50	-30 to +50	0.7	approx. 3	approx. 7	
R7081-20	2000	300	0.1	-30 to +50	-30 to +50	0.7	approx. 3	approx. 7	
R8055	2500	300	0.1	-30 to +50	-30 to +50	0.15	approx. 10	approx. 20	
R3600-02	2500	300	0.1	-30 to +50	-30 to +50	0.6	approx. 36	approx. 40	
R7250	2500	300	0.1	-30 to +50	-30 to +50	0.6	approx. 10	approx. 15	

## Anode Sensitivity

(at +25 °C)

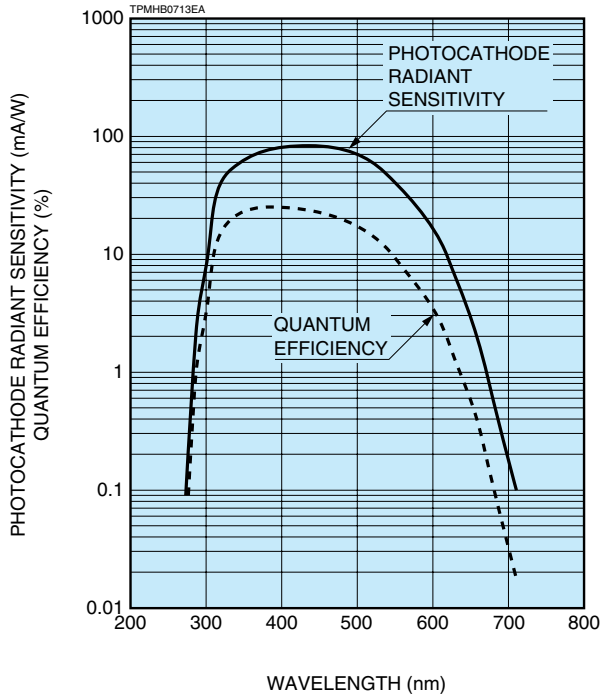
Dark Current (After 30 min storage in darkness)		Dark Count (After 15 hours storage in darkness)		Time Response			Single Photo-electron (Peak to valley ratio)		Pulse Linearity		Type No.
Typ. (nA)	Max. (nA)	Typ. (s <sup>-1</sup> )	Max. (s <sup>-1</sup> )	Rise Time Typ. (ns)	Electron Transit Time Typ. (ns)	Transit Time Spread (FWHM) Typ. (ns)	Min.	Typ.	at ±2 % Deviation Typ. (mA)	at ±5 % Deviation Typ. (mA)	
50	700	4000	8000	3.8	55	2.4	1.5	2.5	20 (60)	40 (80)	
1000	5000	6000	12 000	4	68	2.8	1.5	2.5	40	70	R5912-02
50	700	7000	15 000	4.3	63	2.9	1.5	2.5	20 (60)	40 (80)	R7081
1000	5000	9000	19 000	4.5	78	3.3	1.5	2.5	40	70	R7081-20
200	1000	15 000	30 000	5.3	88	2.8	1.5	2.5	60	80	R8055
200	1000	25 000	80 000	10	95	5.5	1.1	1.7	20	40	R3600-02
200	1000	25 000	80 000	7	110	3.5	1.5	2.5	60	80	R7250

Type No.	Supply Voltage (V)	Voltage Distribution Ratio K: Photocathode Dy: Dynode P: Anode F: Focus																		
		K	Dy1	F2	F1	F3	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	P				
R5912, R7081	1500	11.3	0	0.6	0	3.4	5	3.33	1.67	1	1	1	1	1	1	1				
		Capacitors in μF										0.01	0.01	0.01						
R5912, R7081 (Taperd Divider)	1500	11.3	0	0.6	0	3.4	5	3.33	1.67	1	1.2	1.5	2.2	3	2.4					
		Capacitors in μF										0.01	0.01	0.01						
R8055	2000	18.5	0	0.6	0	3.4	5	3.3	1.7	1	1	1	2	3	4					
		Capacitors in μF										0.01	0.01	0.01						
R7250	2000	18.5	0	0.6	0	3.4	5	3.3	1.7	1	1	1	2	3	4					
		Capacitors in μF										0.01	0.01	0.01						
R3600-02	2000	K	F2	F1	F3	Dy1	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	P			
		5	1	2	0.02	3	1	1	1	1	1	1	1	1	1	1	1			
Capacitors in μF										0.01	0.01	0.01								
R5912-02 R7081-20	1700	K	Dy1	F2	F1	F3	Dy2	Dy3	Dy4	Dy5	Dy6	Dy7	Dy8	Dy9	Dy10	Dy11	Dy12	Dy13	Dy14	P
		11.3	0	0.6	0	3.4	5	3.33	1.67	1	1	1	1	1	1.2	1.5	2.2	3	2.4	
Capacitors in μF										0.01	0.01	0.01	0.02	0.02						

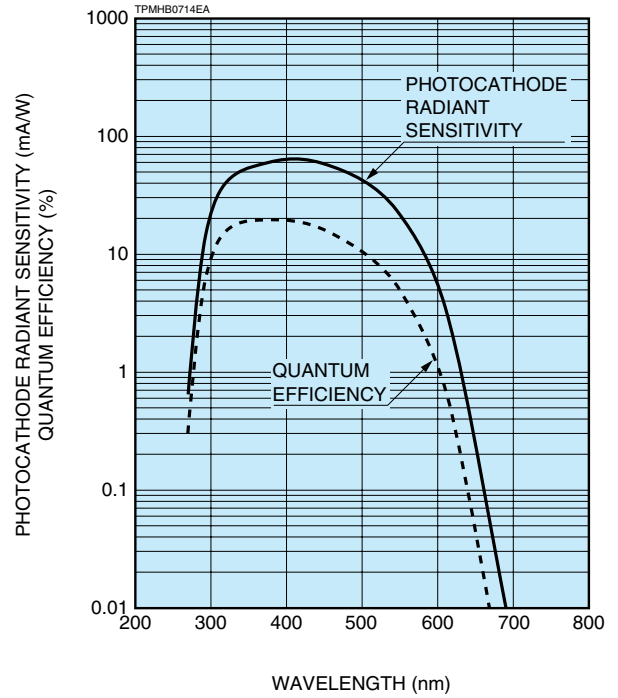
# LARGE PHOTOCATHODE AREA PHOTOMULTIPLIER TUBES

## SPECTRAL RESPONSE CHARACTERISTICS

- R5912, R5912-02
- R7081, R7081-20

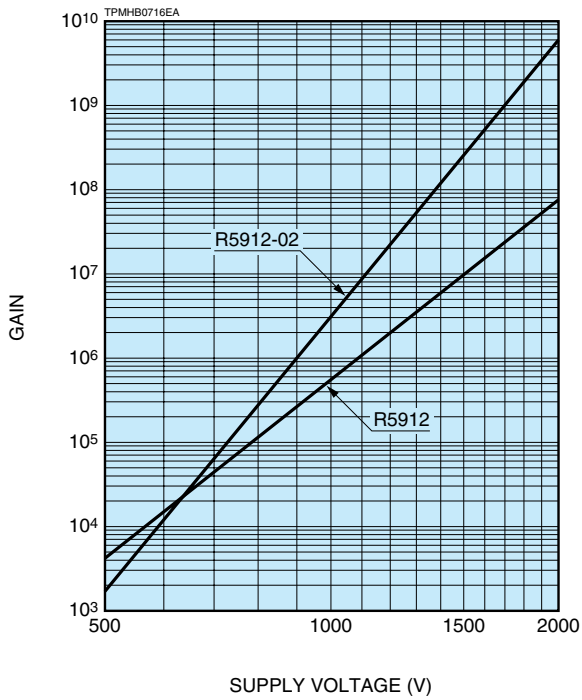


- R8055, R3600-02, R7250

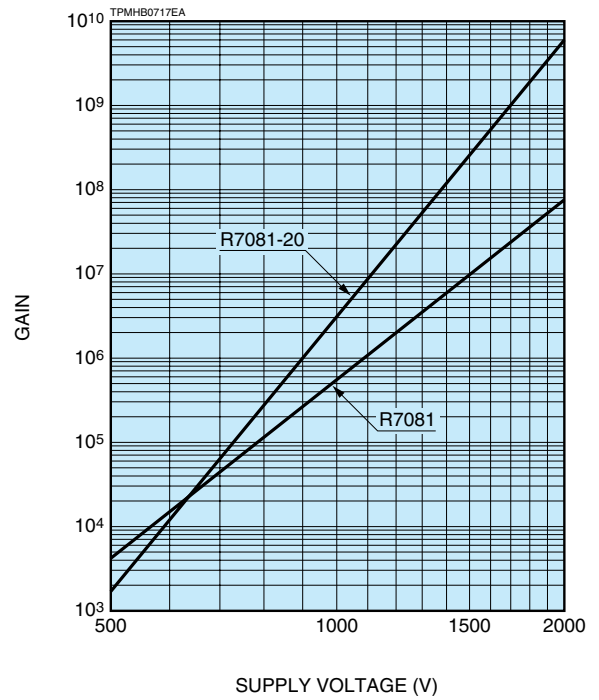


## GAIN

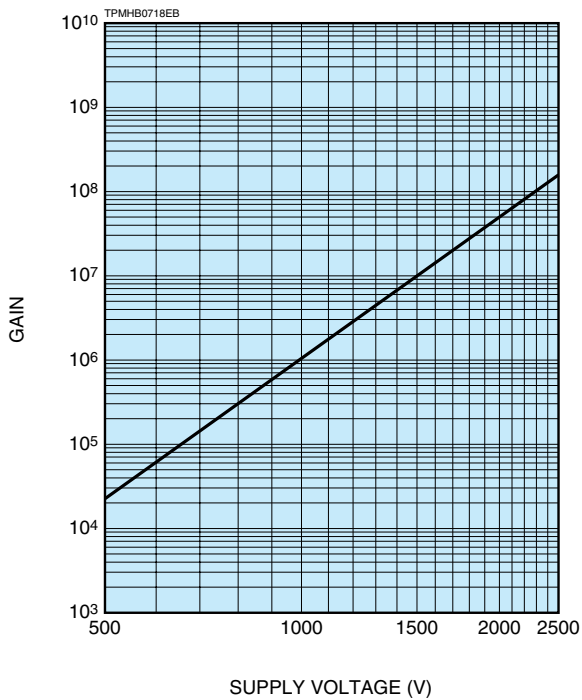
### ●R5912, R5912-02



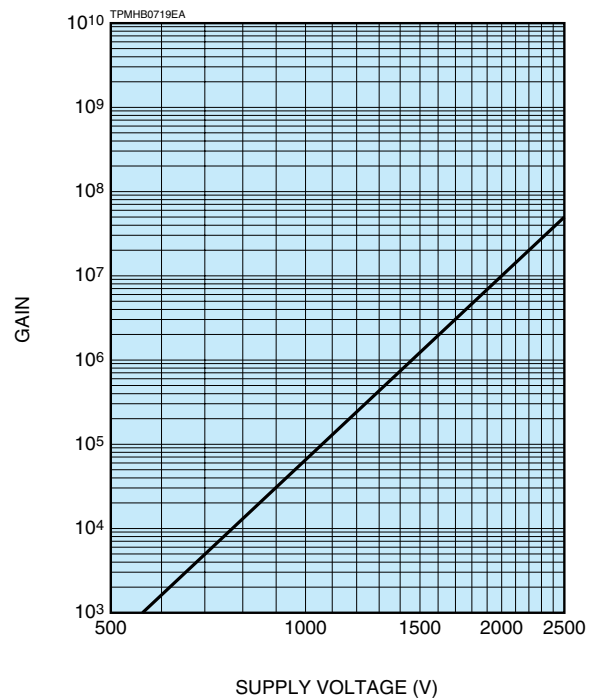
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### ●R8055



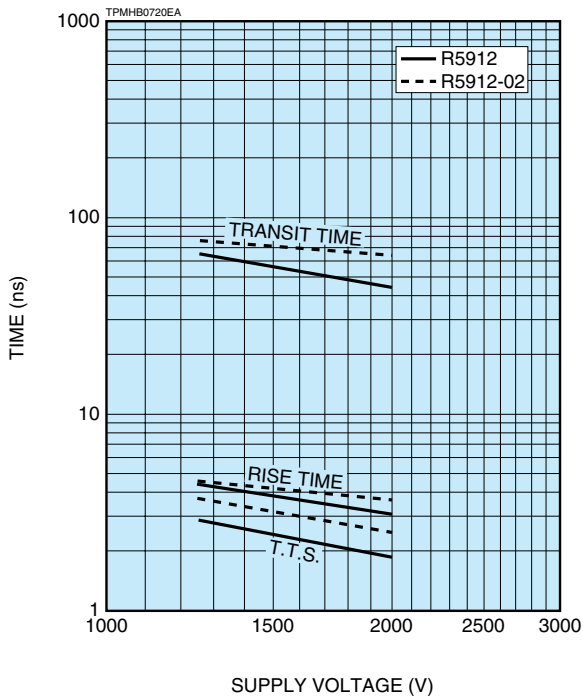
### ●R3600-02, R7250



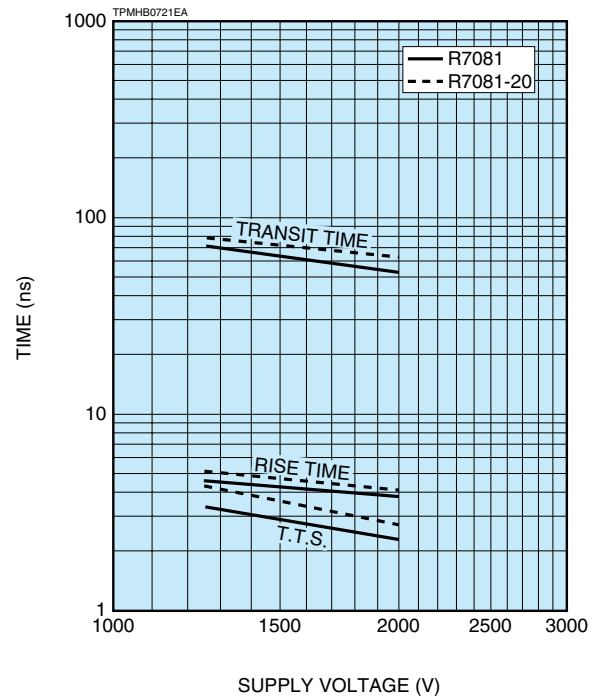
# LARGE PHOTOCATHODE AREA PHOTOMULTIPLIER TUBES

## TYPICAL TIME RESPONSE

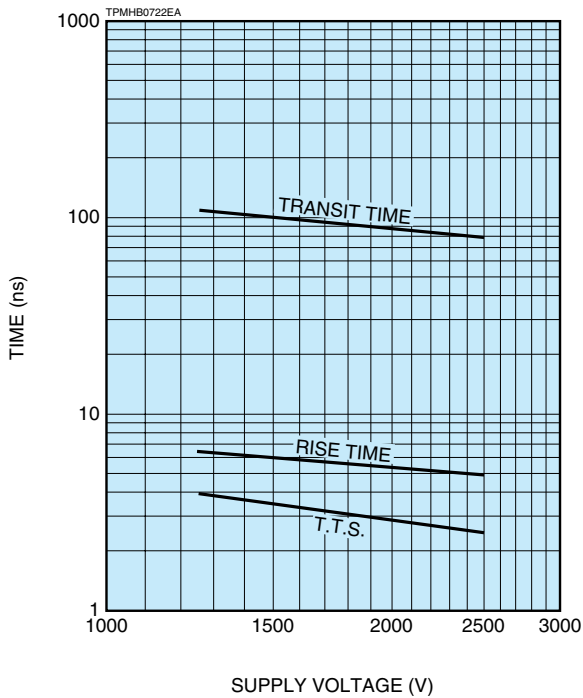
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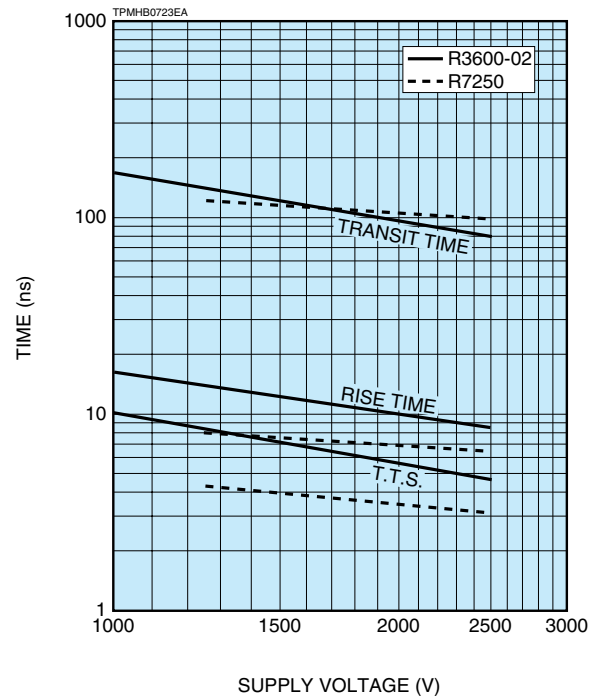
### ●R7081, R7081-20



### ●R8055

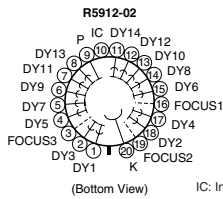
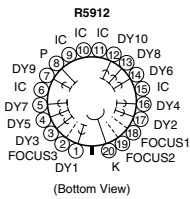
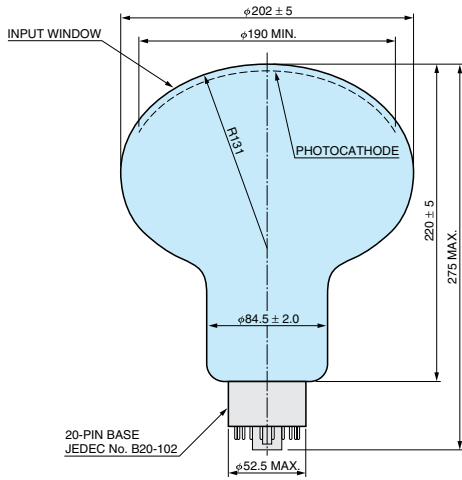


### ●R3600-02, R7250



## DIMENSIONAL OUTLINE (Unit: mm)

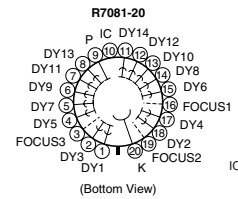
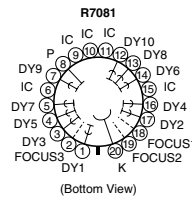
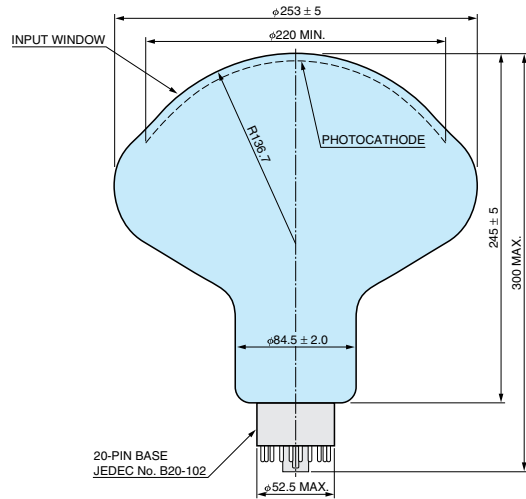
### ●R5912, R5912-02



IC: Internal Connection  
(Do not use)

TPMHA0500EA

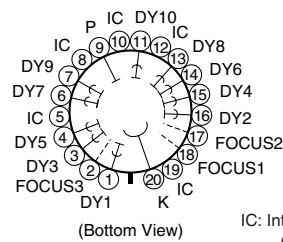
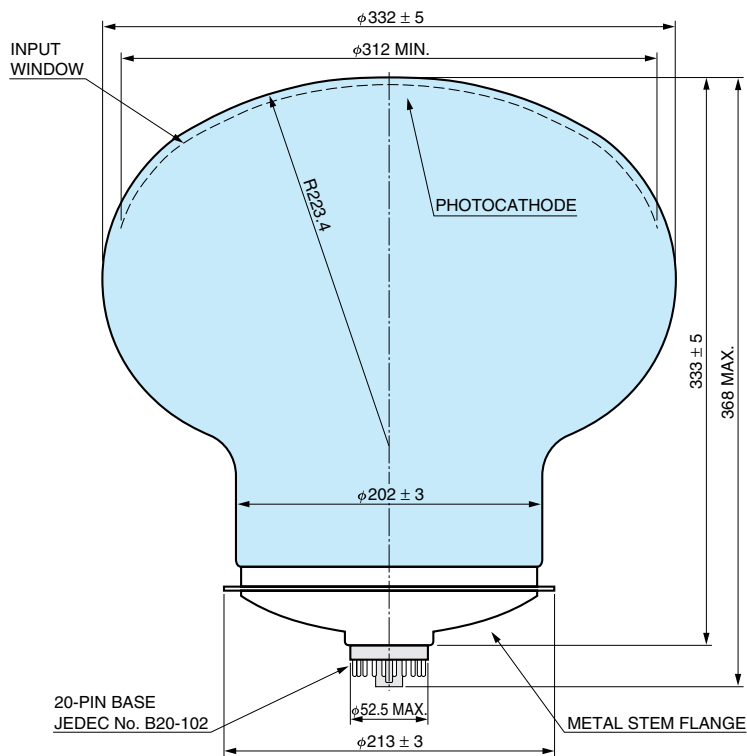
### ●R7081, R7081-20



IC: Internal Connection  
(Do not use)

TPMHA0501EA

### ●R8055



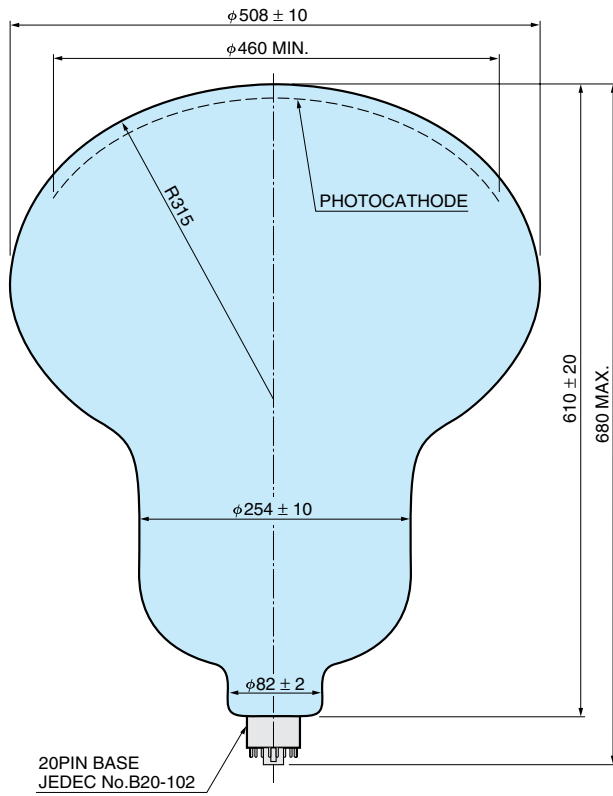
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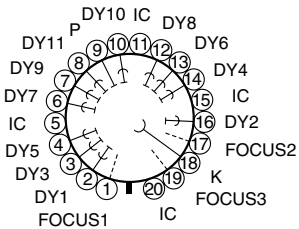
# LARGE PHOTOCATHODE AREA PHOTOMULTIPLIER TUBES

## DIMENSIONAL OUTLINE (Unit: mm)

●R3600-02



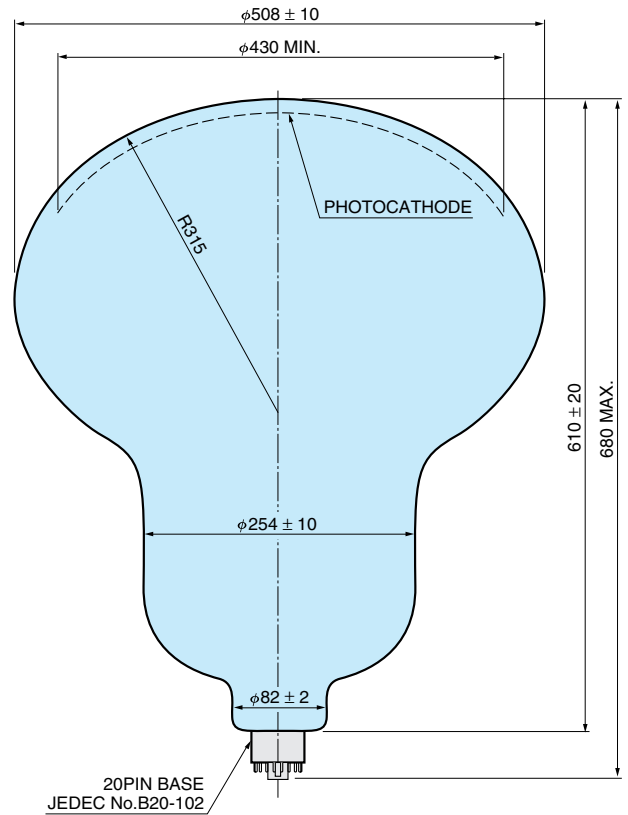
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JEDEC No.B20-102



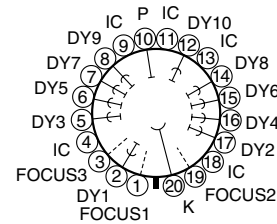
IC: Internal Connection  
(Do not use)

TPMHA0092EE

●R7250



20PIN BASE  
JEDEC No.B20-102



IC: Internal Connection  
(Do not use)

TPMHA0475ED

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