

**HAMAMATSU**TENTATIVE DATA SHEET  
Dec. 2017WATER-PROOF TYPE  
PHOTOMULTIPLIER TUBE ASSEMBLY  
**R7081-100-10 WA-S80**253mm (10 inch) Diameter, 10-stage Hemispherical  
Bialkali Photocathode, Head-On Type, Water-Proof Assembly**GENERAL**

Parameter		Description / Value	Unit
Spectral Response		300 to 650	nm
Wavelength of Maximum Response		420	nm
Photocathode Material		Bialkali	-
Window Material		Borosilicate glass	-
Effective Surface Area		530	cm <sup>2</sup>
Dynode	Structure	Box & Line	-
	Number of Stages	10	-
Capacitances	Anode to Last Dynode	approx. 3	pF
	Anode to All Other Dynodes	approx. 7	pF
Weight		6160	g

**MAXIMUM RATINGS (Absolute Maximum Values)**

Parameter		Value	Unit
Supply Voltage	Between Anode and Cathode	2000	V
Average Anode Current		8	uA
Operating Ambient Temperature		0 to +40	deg. C
Storage Temperature		-5 to +45	deg. C

**CHARACTERISTICS (at 25 deg. C )**

Parameter		Min.	Typ.	Max.	Unit
Cathode Sensitivity	Luminous (2856 K)	80	130	-	uA/lm
	Radiant at 420 nm	-	110	-	mA/W
	Blue Sensitivity Index (CS 5-58)	12.5	13.5	-	-
	Quantum Efficiency at peak	32	35	-	%
Anode Sensitivity	Luminous (2856 K)	-	1300	-	A/lm
	Radiant at 420 nm	-	1.1 x 10 <sup>6</sup>	-	A/W
Gain		-	1 x 10 <sup>7</sup>	-	-
Anode Dark Current (after 30 min. storage in darkness)		-	500	1000	nA
Dark Count (after 24 hrs. storage in darkness) *1		-	8000	16000	s <sup>-1</sup>
Time Response	Anode Pulse Rise Time	-	3.8	-	ns
	Electron Transit Time	-	62	-	ns
	Transit Time Spread (FWHM) *2	-	3.4	-	ns
P/V (Peak to Valley) Ratio *2		1.5	2.8	-	-
Pulse Linearity at +/-2% deviation		-	40	-	mA

**NOTES**

\* Anode characteristics are measured with the standard voltage distribution ratio.

\*1 LLD : 1/4 p.e.

\*2 at single p.e.

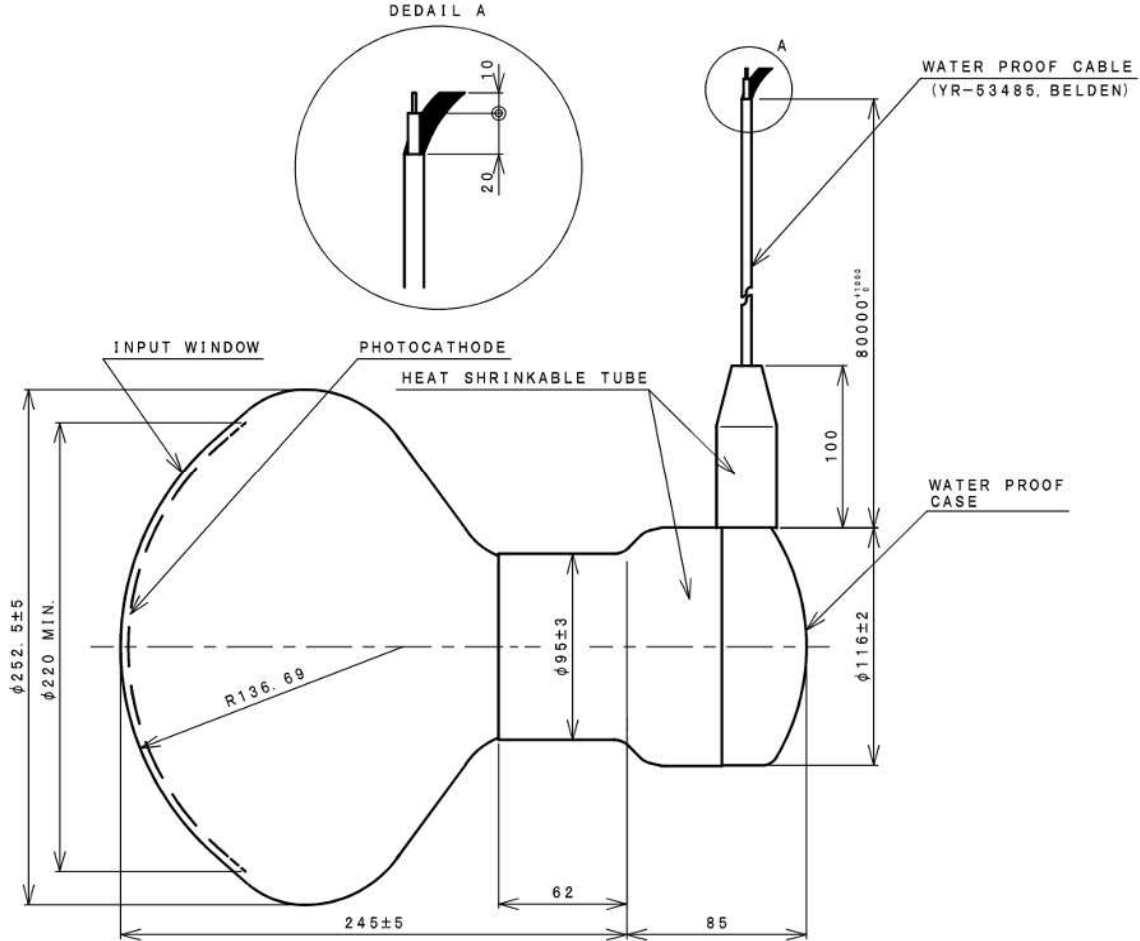
**Radiation content rate of glass : 238-U (70 ppb) , 232-Th (30 ppb) , 40-K (3.0 ppb)**

The RI data was taken by the test equipment owned by Hamamatsu Photonics K.K. and the absolute value may be vary due to the difference of the equipment and/or test condition.

WATER-PROOF TYPE

PHOTOMULTIPLIER TUBE ASSEMBLY R7081-100-10 WA-S80

**DIMENSIONAL OUTLINE**



**VOLTAGE DIVIDER CIRCUIT**

