

Photomultiplier

XP1886

8-stage 203mm (8") hemispherical tube

Application

- ✓ Neutrino physics

Features

- ✓ Fast
- ✓ High gain



Description

Window material	Borosilicate glass
Photocathode	Bi-alkali
Refr. Index at 420nm	1.48
Multiplier structure	Linear focused

Photocathode characteristics

	Min	Typ	Max	Unit
Spectral range :		270-650		nm
Maximum sensitivity at :		420		nm
Sensitivity :				
Luminous :		60		μA/lm
Blue * :	8	10		μA/lmF
Radiant, at 420nm		80		mA/W
Quantum efficiency at 420nm		24		%

Characteristics with voltage divider B

	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		5.8		
For a gain of		10 ⁶		
Supply voltage *	1100	1400	1700	V
Anode dark current *		10	50	nA
Background noise *		3000	10000	c/s
Single electron spectrum peak to valley ratio*	2	2.3		
Mean anode sensitivity deviation :				
Long term (16h) :		1		%
After change of count rate :		4		%
Vs temperature between 0°C and +40°C at 400nm :		0.2		%/K

For a supply voltage of : 1400V

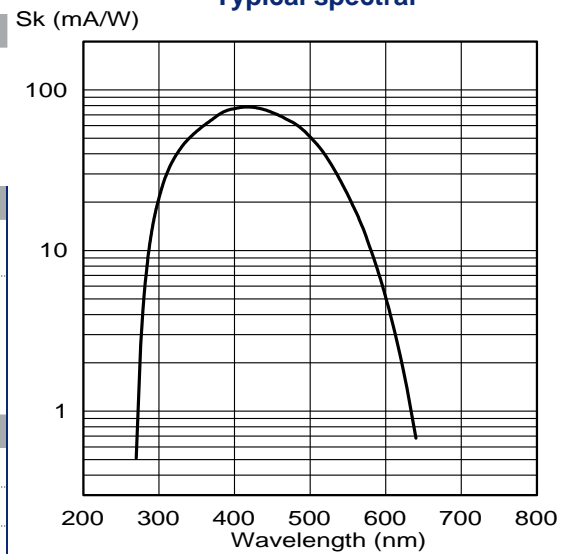
	Min	Typ	Max	Unit
Linearity (2%) of anode current up to :		35		mA
Anode pulse :				
Rise time :		5		ns
Duration at half height :		7		ns
Transit Time spread (FWHM) :		2.4		ns
Transit time :		80		ns

Recommended Voltage Divider

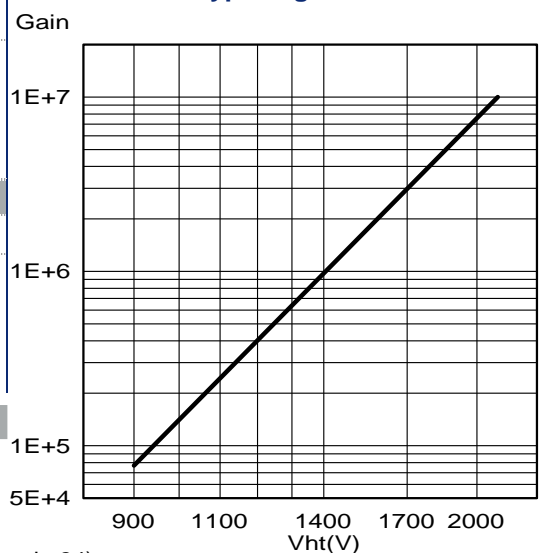
Type B for maximum gain

K	G1	D1	G2	D2	D3	D4	D5	D6	D7	D8	A	(total : 24)
	0.07	0.025		4	1	1	1	1	1	1	1	
←	10	→←	4	→								

Typical spectral



Typical gain curve

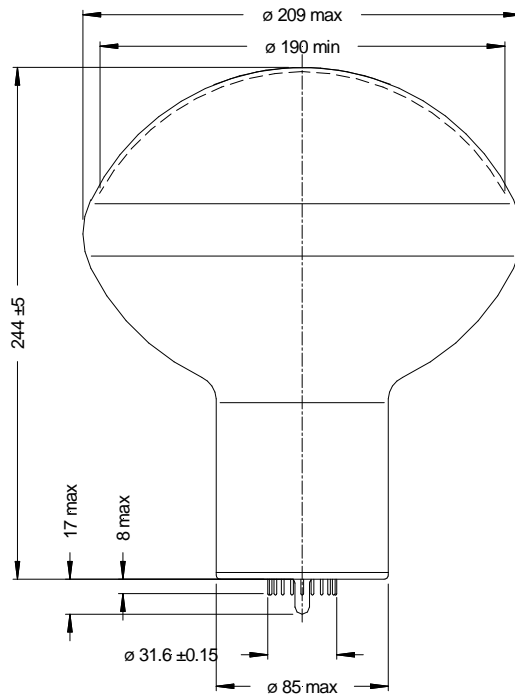


* characteristic measured and mentioned on the test ticket of each tube

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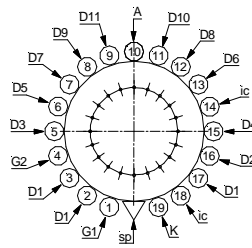
XP1886

Outline (dimensions in mm)



Mass: 880g

Accessories :
Socket : FE2019



K: cathode
sp: short pin

Gn: focusing and accelerating electrodes
n: plane of symmetry of the multiplier

Dn: dynode
ic: internal connection

A: anode

Limiting values	Min	Max	Unit
Anode blue sensitivity		10^7	
Supply voltage		2100	V
Continuous anode current		0.2	mA
Voltage between :			
D1 and photocathode :	450	900	V
Consecutive dynode :		100	V
Anode and D8:	70	100	V
Ambient temperature :			
Short operation (<30 mn) :	-30	+80	°C
Continuous operation & storage :	-30	+50	°C

Variants

XP1886

Finishing

B with plastic base JEDEC B20-402

FL with flying leads \varnothing 0.7

FB with flying leads and plastic base

Also, other variants can be made. Please, contact us to discuss any specific product requirements.

PHOTONIS

07/11/2007