

Photomultiplier

XP1302

10-stage 13.5mm (1/2"), Round tube

Applications

- ✓ Scintillation counting
- ✓ Energy physics
- ✓ Analytical and control

Features

- ✓ High gain
- ✓ Low noise



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 :		80		µA/lm
Blue * :	8.5	10		µA/lmf
Radiant, at 420nm		80		mA/W

Characteristics with voltage divider A

	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		6.8		
For an anode blue sensitivity of		10		A/lmF
Supply voltage *	700	1000	1100	V
Gain		10 ⁶		
Anode dark current *		1	5	nA
Background noise *		50	100	cps
Mean anode sensitivity deviation :				
Long term (16h) :		1		%
After change of count rate :		1		%
Gain halved for a magnetic field of :				
Perpendicular to axis "n" :		0.3		mT
Parallel to axis "n" :		0.2		mT

For a supply voltage of : 1500V

	Min	Typ	Max	Unit
Gain		7.5x10 ⁶		
Linearity (2%) of anode current up to :		10		mA
Anode pulse :				
Rise time :		2.5		ns
Duration at half height :		3.5		ns
Transit Time :		24		ns
Transit Time Different centre of photocathode up to 7mm from it :		1.6		ns

Recommended Voltage Divider

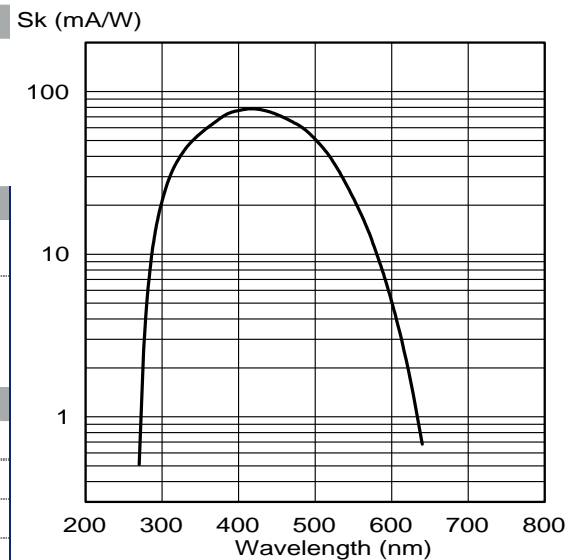
Type A for maximum gain

K	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	A
1	1	1	1	1	1	1	1	1	1	1	1

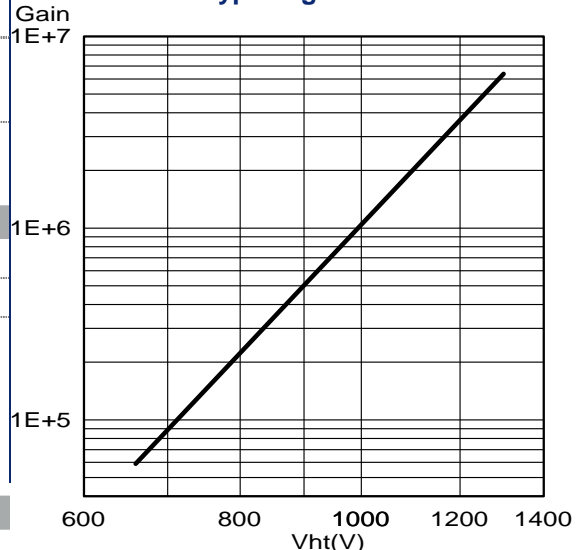
(total : 11)

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

Typical spectral



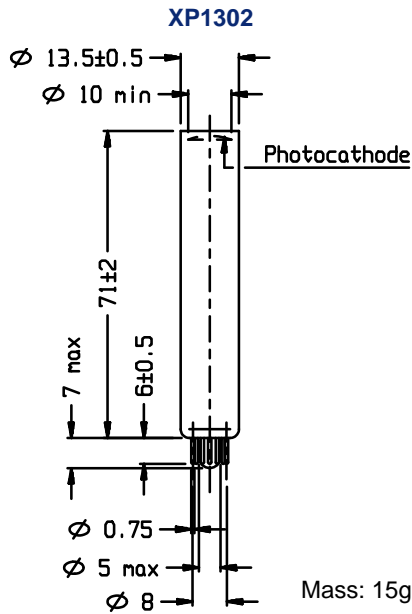
Typical gain curve



Photomultiplier

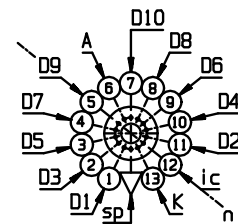
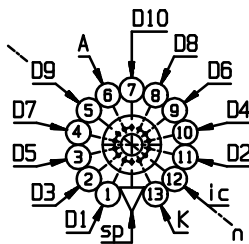
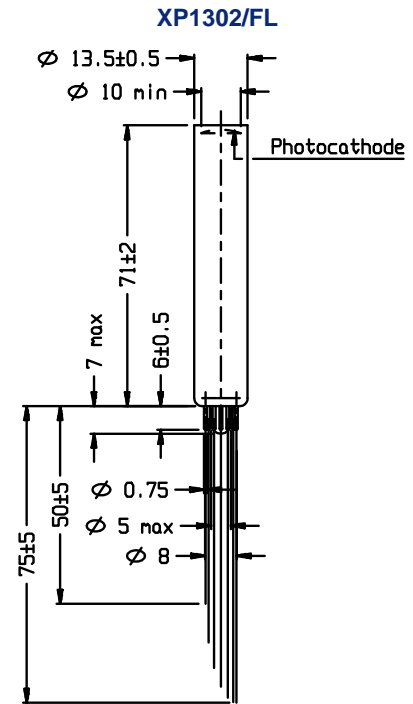
XP1302

Outline (dimensions in mm)



Mass: 15g

Accessories :
Socket : FE3113
Voltage divider : VD307/A



K: cathode
sp: short pin

Dn: dynode
ic: internal connection

A: anode

n: plane of symmetry of the multiplier
Flying leads: Ni \varnothing 0.5, tinned up to pumping stem height

Limiting values	Min	Max	Unit
Anode blue sensitivity		100	A/lmf
Supply voltage		1300	V
Continuous anode current		0.1	mA
Voltage between :			
D1 and photocathode :	60	120	V
Consecutive dynode :		100	V
Anode and D10 :	30	100	V
Ambient temperature :			
Short operation (<30 mn) :	-30	+80	°C
Continuous operation & storage :	-30	+50	°C

Variants

Finishing

FL with flying leads \varnothing 0.5 (see drawing above)
FB with flying leads and plastic base

Option

C with electrostatic coating
(conductive paint connected to the cathode + insulating coating)

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