

Photomultiplier

XP45080

10-stage
130mm (5"), Round tube

Application

✓ Energy physics

Features

✓ Fast
✓ UV sensitive
✓ High gain



Description

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

Photocathode characteristics

	Min	Typ	Max	Unit
Spectral range :		160-650		nm
Maximum sensitivity at :		420		nm
Sensitivity :				
Luminous :		65		μA/lm
Blue * :	8	10		μA/lmf
Radiant, at 420nm		80		mA/W
Quantum efficiency at 420 nm		24		%

Characteristics with voltage divider A

	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		7.5		
For a gain of		2×10^7		A/lmf
Supply voltage *	1450	2100	2500	V
Anode dark current *		30	600	nA
Mean anode sensitivity deviation :				
Long term (16h) :		1		%
After change of count rate :		4		%
Vs temperature between 0 and +40°C at 420 nm		-0.3		%/K
Gain halved for a magnetic field :				
Perpendicular to axis "n" :		0.04		mT
Parallel with axis "n" :		0.07		mT
Parallel with the tube axis :		0.13		mT

For a supply voltage of : 1700V

	Min	Typ	Max	Unit
Linearity (2%) of anode current up to :		80		mA
Anode pulse:				
Rise time:		2.5		ns
Duration at half height:		3.8		ns
Transit time:		49		ns

Recommended Voltage Divider

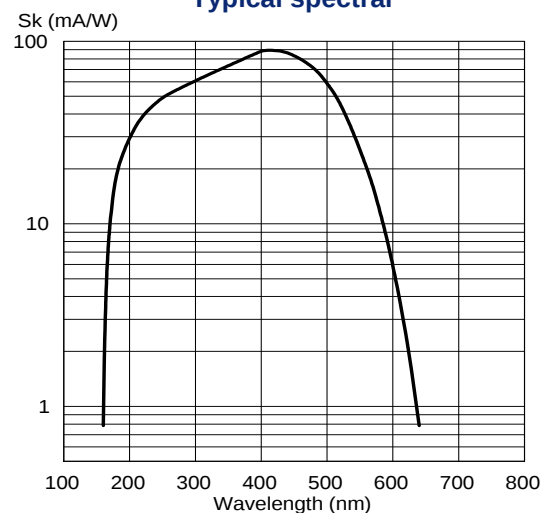
Type C for maximum gain

K	G1	D1	D2	D3	D4	D5	D6/G2	D7	D8	D9	D10	A	
3	7	2	1	1	1	1	1.5	2	2.5	3	2.5		(total : 27.5)

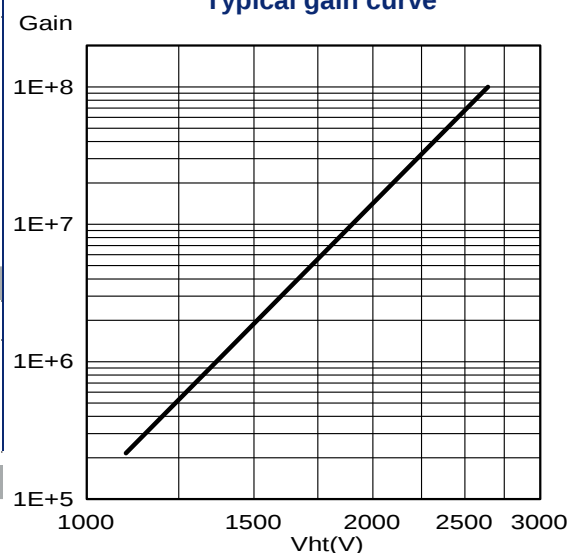
G1 and G2 are externally connected to D6

* characteristic mentioned on the test ticket of the tube

Typical spectral



Typical gain curve



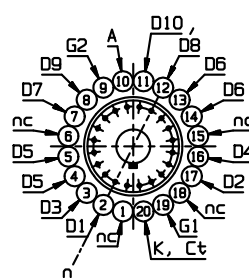
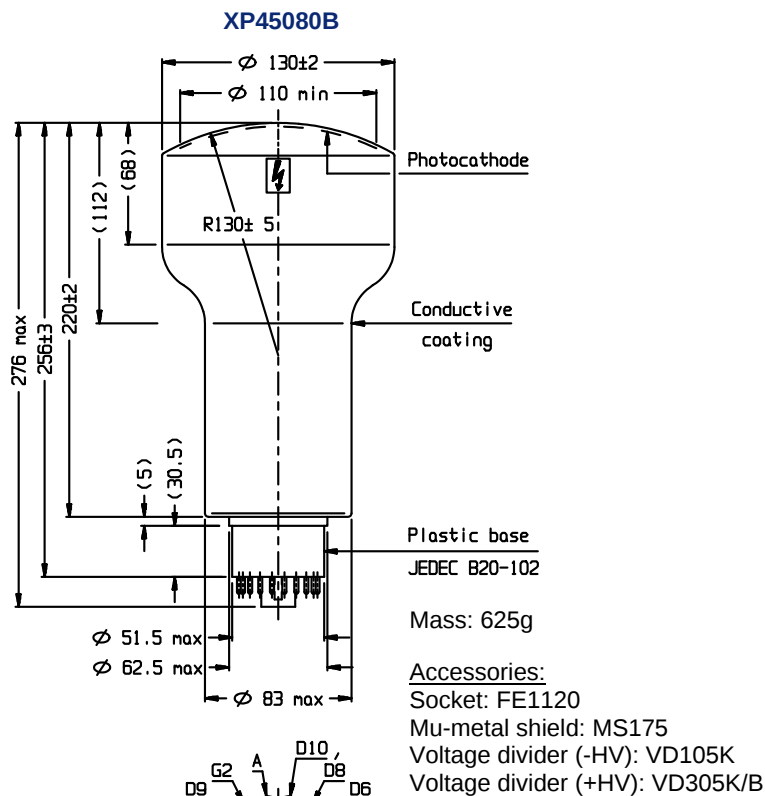
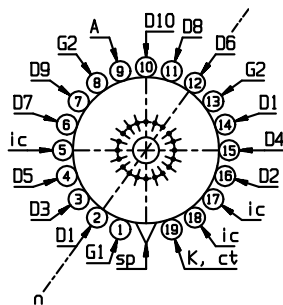
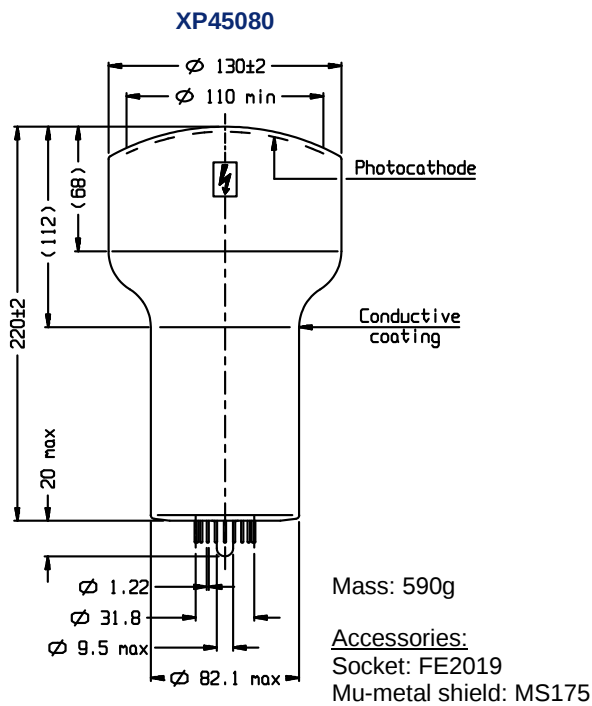
PHOTONIS

13/07/2007

Photomultiplier

XP45080

Outline (dimensions in mm)



K: cathode
Dn: dynode
A: anode
G: focusing electrode
sp: short pin
Ct: coating
n: plane of symmetry of the multiplier
ic: internal connection

Limiting values	Min	Max	Unit
Anode blue sensitivity		10^8	
Supply voltage		2700	V
Continuous anode current		0.2	mA
Voltage between :			
D1 and photocathode :	400	1100	V
Consecutive dynode :		500	V
Anode and D10 :	80	500	V
Ambient temperature :			
Short operation (<30 mn) :	-30	+80	°C
Continuous operation & storage :	-30	+50	°C

Variants

Finishing

B with plastic base JEDEC B20-102

F with flying leads $\varnothing 0.5$

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.