

# Photomultiplier

# XP2042

**10-stage  
39mm (1,5"), Round tube**

## Applications

- ✓ Photometry
- ✓ Scintillation counting

## Features

- ✓ High gain
- ✓ High resolution



### Description

Window material	Lime glass
Photocathode	Bi-alkali
Refr. Index at 420nm	1.54
Multiplier structure	Linear focused

### Photocathode characteristics

	Min	Typ	Max	Unit
Spectral range :		290-650		nm
Maximum sensitivity at :		420		nm
Sensitivity :				
Luminous :		90		μA/lm
Blue * :	10	11.5		μA/lmf
Radiant, at 420nm		90		mA/W

### Characteristics with voltage divider A

	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		7.5		
For an anode blue sensitivity of		7.5		A/lmf
Supply voltage *	700	800	950	V
Gain		6.5x10 <sup>5</sup>		
Anode dark current *		2	10	
Pulse height resolution <sup>137</sup> Cs - NaI(Tl) 2"x2"		7.5		%
Pulse height resolution <sup>55</sup> Fe - NaI(Tl) 2" x2" *		38	40	%
Peak to valley ratio for <sup>55</sup> Fe		40		
Mean anode sensitivity deviation :				
Long term (16h) :		0.6		%
After change of count rate :		1		%
Vs temperature between 0 and +40°C at 420 nm		-0.3		%/K
Gain halved for a magnetic field of :				
Perpendicular to axis "n" :		0.12		mT
Parallel to axis "n" :		0.3		mT

### For a supply voltage of : 800V

	Min	Typ	Max	Unit
Linearity (2%) of anode current up to :		30		mA
Gain		6.5x10 <sup>5</sup>		
Anode pulse:				
Rise time:		3		ns
Duration at half height:		7		ns
Transit time:		36		ns

### Recommended Voltage Divider

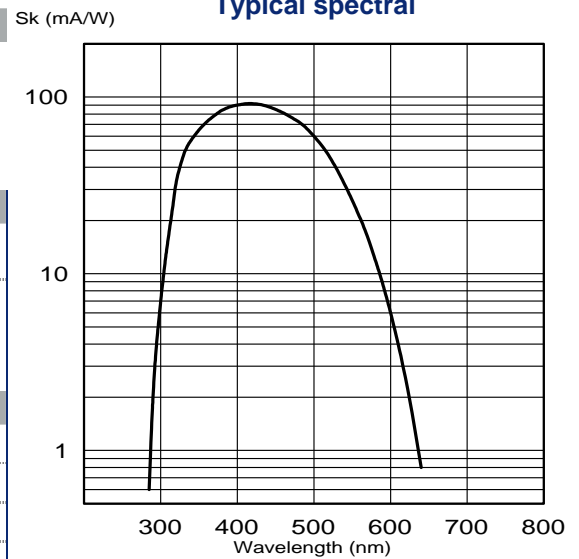
Type A for maximum gain

K	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	A	
2	2	1	1	1	1	1	1	1	1	1	1	(total : 13)

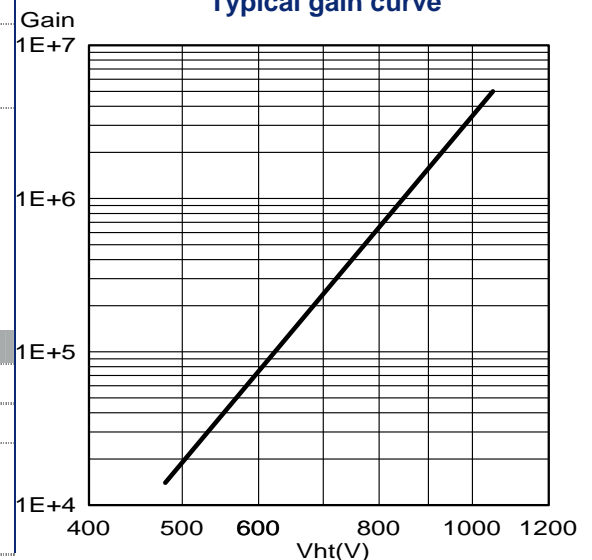
• characteristic mentioned on the test ticket of the tube

# PHOTONIS

Typical spectral



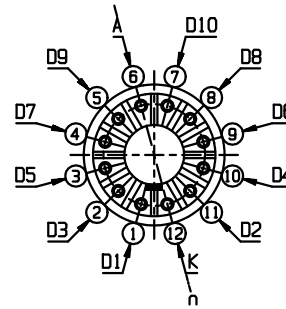
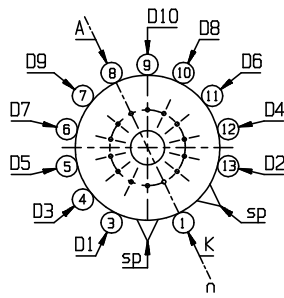
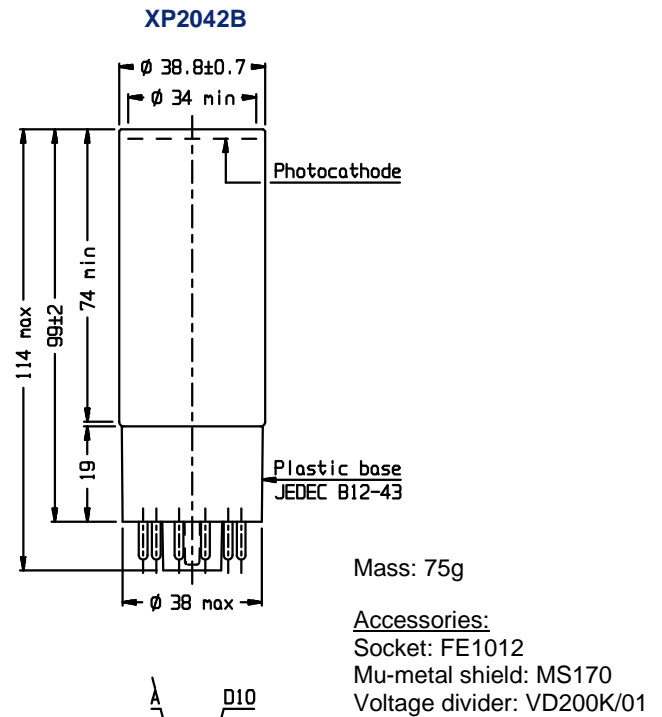
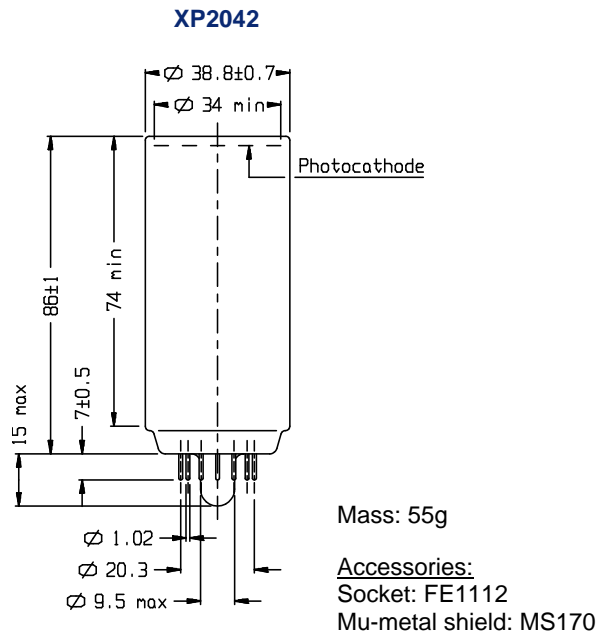
Typical gain curve



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## Outline (dimensions in mm)



K: cathode  
Dn: dynode

A: anode

sp: short pin

n: plane of symmetry of the multiplier

Limiting values	Min	Max	Unit
Anode blue sensitivity		75	A/lmf
Supply voltage		1400	V
Continuous anode current		0.2	mA
Voltage between :			
D1 and photocathode :	100	400	V
Consecutive dynode :		300	V
Anode and D10 :	30	300	V
Ambient temperature :			
Short operation (<30 mn) :	-30	+80	°C
Continuous operation & storage :	-30	+50	°C

## Variants

### Finishing

**B** with plastic base JEDEC B12-43  
**F** with flying leads  $\varnothing 0.5$   
**FB** with flying leads and plastic base

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### 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.