

# Photomultiplier

# XP3102

## 10-stage 25mm (1"), Round tube

### Applications

- ✓ Scintillation counting
- ✓ High energy physics

### Features

- ✓ High gain
- ✓ Good timing



### 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 :		90		μA/lm
Blue * :	9	11		μA/lmF
Radiant, at 400nm		85		mA/W
Characteristics with voltage divider A	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		6.8		
For an anode sensitivity of		10		A/lmF
Supply voltage *	900	1100	1300	V
Gain		9.1x10 <sup>5</sup>		
Anode dark current *		1	10	nA
Pulse height resolution <sup>137</sup> Cs		7.7		%
Mean anode sensitivity deviation :				
Long term (16h) :		1		%
After change of count rate :		1		%
Vs temperature between 0 and +40°C at 400 nm		-0.2		%K
Gain halved for a magnetic field of :				
Perpendicular to axis "n" :		0.2		mT
Parallel to axis "n" :		0.1		mT
Parallel to tube axis :		0.3		mT
For a supply voltage of : 1500V	Min	Typ	Max	Unit
Gain		8.2x10 <sup>6</sup>		
Linearity (2%) of anode current up to :		30		mA
Anode pulse :				
Rise time :		2		ns
Duration at half height :		3.1		ns
Transit Time :		23.8		ns

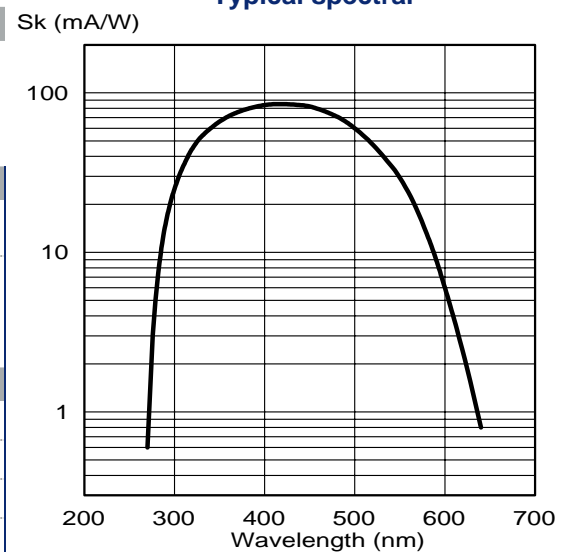
### Recommended Voltage Divider

Type A for maximum gain

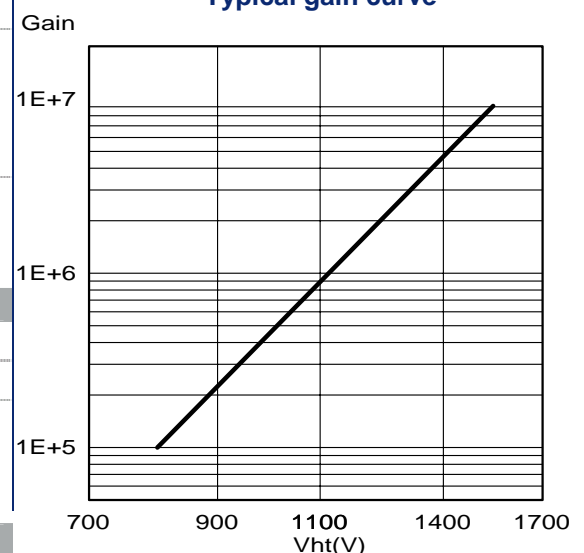
K	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	A	
2	1	1.5	1	1	1	1	1	1	1	1	1	(total : 12.5)

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

Typical spectral



Typical gain curve

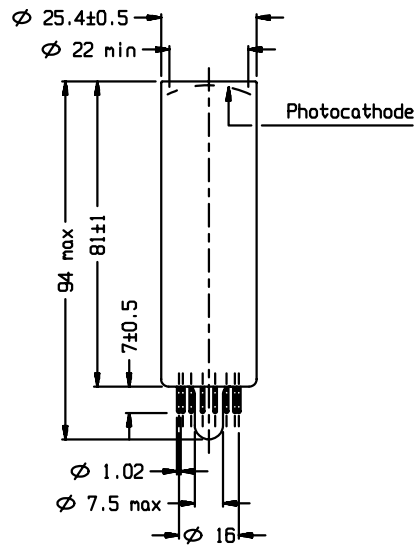


**HZC PHOTONICS**

# Photomultiplier

# XP3102

## Outline (dimensions in mm)



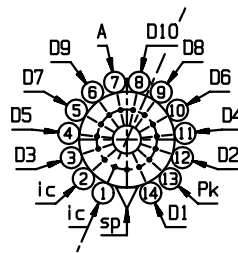
Mass: 30g

### Accessories :

Socket for wires: FE3214/W

Socket for PCB: FE3214/PC

Voltage divider: VD101/TA



K: cathode  
sp: short pin

Dn: dynode  
ic: internal connection

A: anode

n: plane of symmetry of the multiplier

Limiting values	Min	Max	Unit
Anode blue sensitivity		100	A/lmF
Supply voltage		1800	V
Continuous anode current		0.2	mA
Voltage between :			
D1 and photocathode :	120	350	V
Consecutive dynode :		250	V
Anode and D10 :	30	300	V
Ambient temperature :			
Short operation (<30 mn) :	-30	+80	°C
Continuous operation & storage :	-30	+50	°C

## Variants

### Finishing

**F** with flying leads  $\varnothing$  0.5

**FB** with flying leads and plastic base

XP3102

### 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.



**HZC PHOTONICS**