

# Photomultiplier

# XP9100-16

## Compact, multianode 25.4 mm (1") square tube

### Applications

- ✓ Animal PET scanners
- ✓ Analytical control

### Features

- ✓ 16-channel
- ✓ wide effective area
- ✓ easy stacking



### Description

Window material	Borosilicate glass
Photocathode	Bi-alkali
Refr. Index at 420nm	1.48
Multiplier structure	Foil, 10-stage
Minimum effective area	17.8 x 17.8 mm <sup>2</sup>
Anode size	4.2 x 4.2 mm <sup>2</sup>

### Photocathode characteristics

	Min	Typ	Max	Unit
Spectral range :		270-650		nm
Maximum sensitivity at :		410		nm
Sensitivity :				
Luminous :		50		μA/lm
Radiant, at 410nm *	60	80		mA/W
QE at 410nm	18	24		%

### Characteristics with voltage divider A

	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		9		
For a gain of		10 <sup>5</sup>		
Supply voltage *		1050	1200	V
Anode dark current per channel		0.4	1	nA
In total		3.2	16	nA
Cross talk (4 mm x 4 mm aperture) :		0.5	1	%
Uniformity between anodes (min/Max ratio)		1:3	1:5	
Mean anode sensitivity deviation :				
Long term (16h) :		1		%
After change of count rate :		1		%
Vs temperature between 0 and +40°C at 410 nm		-0.3		%/K

### For a supply voltage of : 1200V

	Min	Typ	Max	Unit
Linearity (5%) of anode current up to :		1		mA
Anode pulse :				
Rise time :		tbd		ns
Duration at half height :		tbd		ns
Transit Time :		tbd		ns

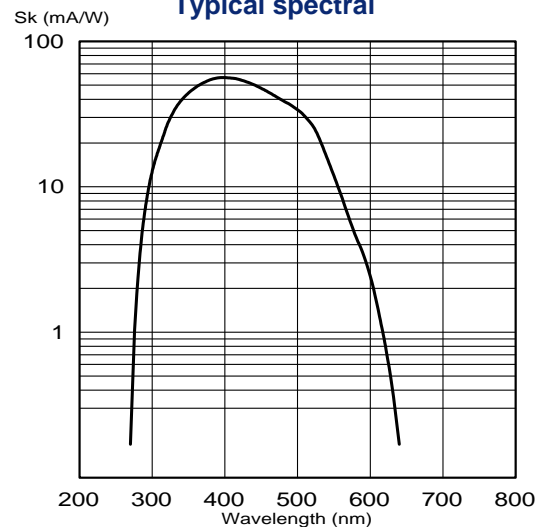
### Recommended Voltage Divider

Type A for maximum gain

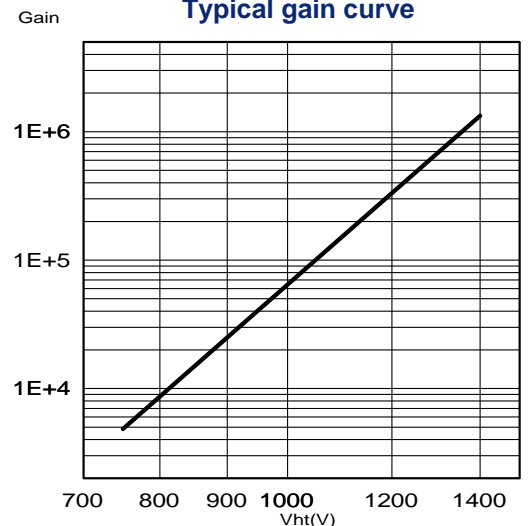
K	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	Ai	
2	1	1	1	1	1	1	1	1	1	1	1	(total : 12)

\* characteristic mentioned on the test ticket of the tube

### Typical spectral



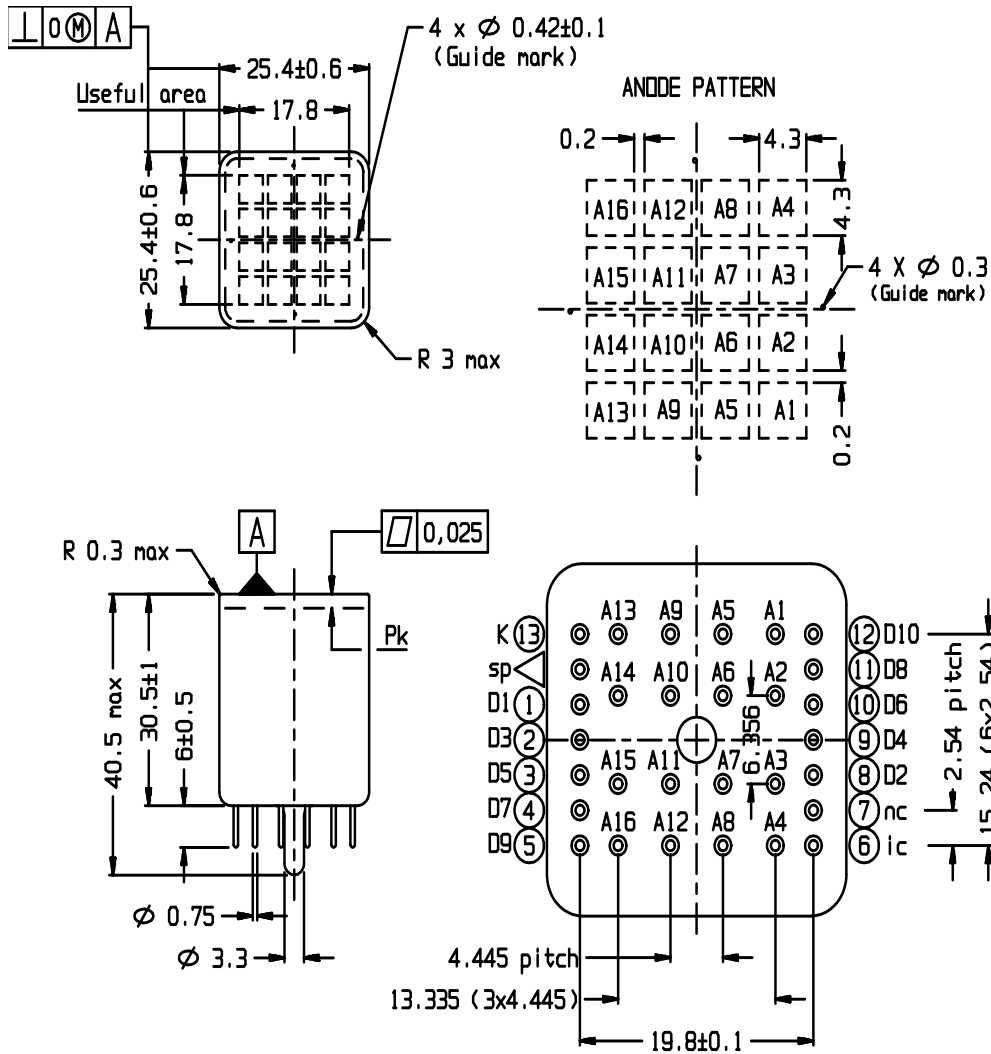
### Typical gain curve



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## Outline (dimensions in mm)



K: cathode  
An: anode

ic: internal connection  
sp: short pin

Dn: dynode

nc: not connected

Limiting values	Min	Max	Unit
Anode luminous sensitivity		80	A/lmf
Supply voltage		1400	V
Continuous anode current		0.2	mA
Voltage between :			
D1 and photocathode :	50	200	V
Consecutive dynode :		200	V
Anode and D10 :	30	200	V
Ambient temperature :			
Short operation (<30 mn) :	-30	+80	°C
Continuous operation & storage :	-30	+50	°C

## Variants

Variants can be made. Please, contact us to discuss any specific product requirements.