

# Photomultiplier

# XP2950

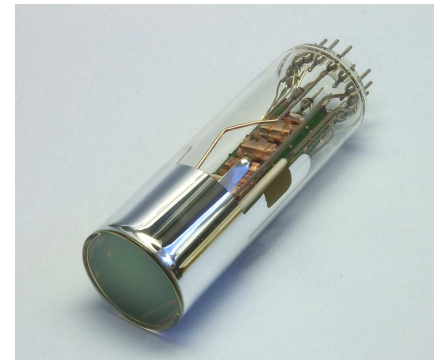
## 11-stage 29mm (1 1/8"), Round tube

### Applications

- ✓ Scintillation counting
- ✓ High energy physics

### Features

- ✓ Low voltage
- ✓ 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 * :	9	11		μA/lmf
Radiant, at 420nm		95		mA/W

### Characteristics with voltage divider A

	Min	Typ	Max	Unit
Gain slope (vs supp. Volt., log/log)		7.8		
For an anode blue sensitivity of		30		A/lmf
Supply voltage *	700	1000	1100	V
Gain		$2.7 \times 10^6$		
Anode dark current *		1	5	
Background noise at 0.2 pe *		100	250	cps
Pulse height resolution <sup>137</sup> Cs – NaI(Tl) 2"X2"		7.7		%
Single electron spectrum Peak to valley ratio :		2		%
Mean anode sensitivity deviation :				
DC drift :		5		%
Long term (16h) :		1		%
After change of count rate :		1		%
Vs temperature between 0 and +40°C at 420 nm		-0.2		%/K

### For a supply voltage of : 1500V

	Min	Typ	Max	Unit
Linearity (2%) of anode current up to :		20		mA
Anode pulse:				
Rise time:		3.4		ns
Transit time:		27		ns

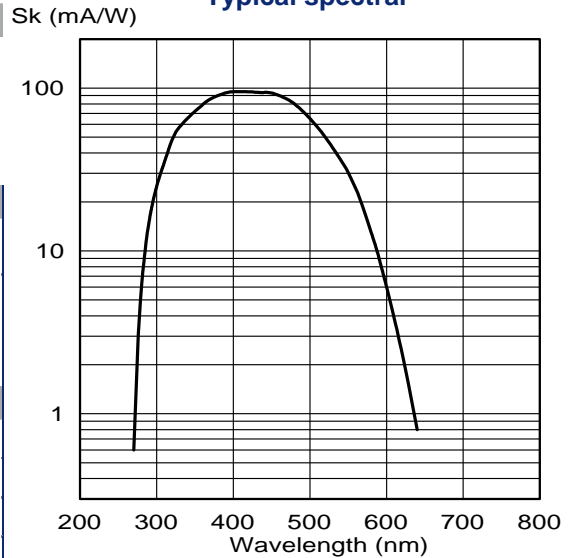
### Recommended Voltage Divider

Type A for maximum gain

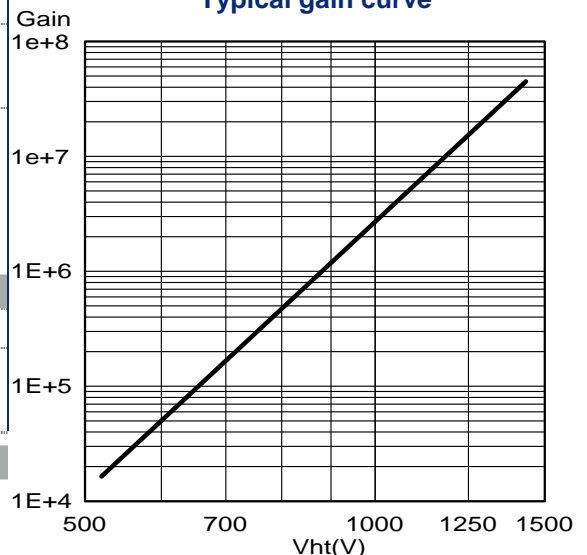
K	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10	D11	A
2	1	1	1	1	1	1	1	1	1	1	1	(total : 13)

\* characteristic mentioned on the test ticket of the tube

Typical spectral



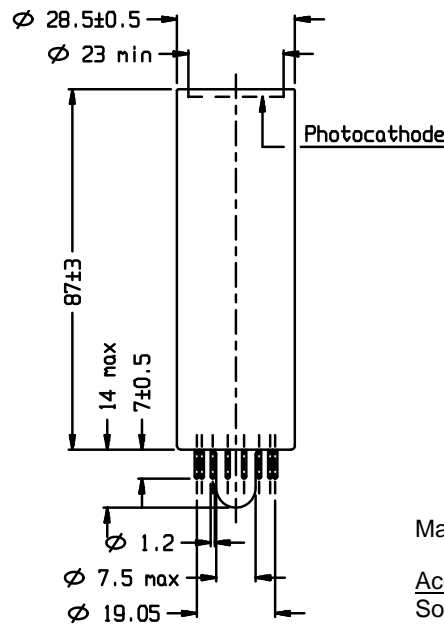
Typical gain curve



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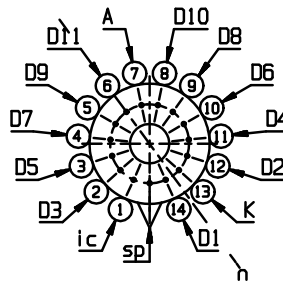
## Outline (dimensions in mm)



Mass: 30g

### Accessories:

Socket for wires: FE1114  
 Socket for PCB: FE3114  
 Mu-metal shield: MS179  
 Voltage divider: VD1A9



K: cathode  
 Dn: dynode

A: anode  
 ic: internal connection

sp: short pin  
 nc: not connected

n: plane of symmetry of the multiplier

Limiting values	Min	Max	Unit
Anode blue sensitivity		500	A/lmf
Supply voltage		1600	V
Continuous anode current		0.2	mA
Voltage between :			
D1 and photocathode :	80	350	V
Consecutive dynode :		250	V
Anode and D11 :	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

XP2950

### 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.