

Photomultiplier

XP3540

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



Applications

- ✓ Scintillation and photon counting
- ✓ Analytical and control
- ✓ Bioluminescence

Features

- ✓ High PHR
- ✓ High sensitivity
- ✓ 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 : | | 90 | | μA/lm |
| Blue * : | 9 | 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 | 900 | 1100 | V |
| Gain | | 6.5x10 ⁵ | | |
| Anode dark current * | | 1 | 5 | nA |
| Background noise : | | 1200 | 5000 | cps |
| Pulse height resolution ¹³⁷ Cs : | | 6.7 | | % |
| Pulse height resolution ⁵⁵ Fe : | | 36 | | % |
| Single electron spectrum Peak to Valley ratio : | | 3 | | |
| Mean anode sensitivity deviation : | | | | |
| Long term (16h) : | | 1 | | % |
| After change of count rate : | | 1 | | % |
| Vs temperature between 0 and +40°C at 420 nm | | -0.3 | | %/K |

For a supply voltage of : 1200V

| | Min | Typ | Max | Unit |
|---|-----|-----|-----|------|
| Linearity (2%) of anode current up to : | | 10 | | mA |
| Anode pulse : | | | | |
| Rise time : | | 9.5 | | ns |
| Duration at half height : | | 23 | | ns |
| Transit Time : | | 70 | | ns |

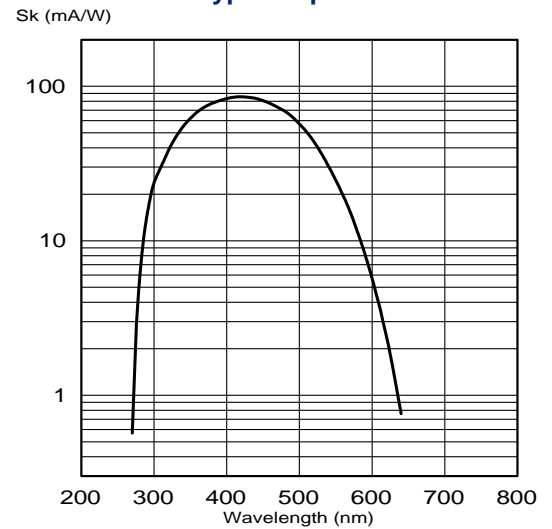
Recommended Voltage Divider

Type A for maximum gain

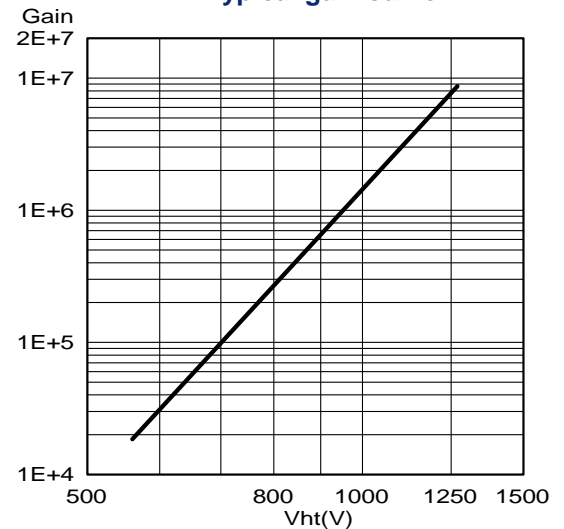
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|---|----|----|----|----|----|----|----|----|----|-----|---|--------------|
| K | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 | D9 | D10 | A | |
| 4 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | (total : 14) |

* characteristic mentioned on the test ticket of the tube

Typical spectral



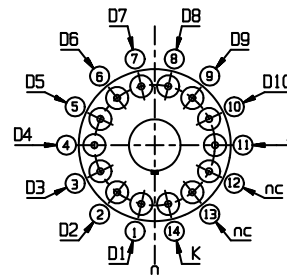
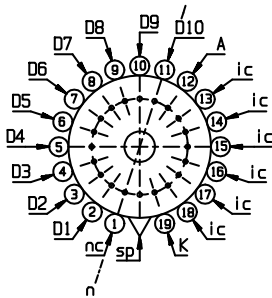
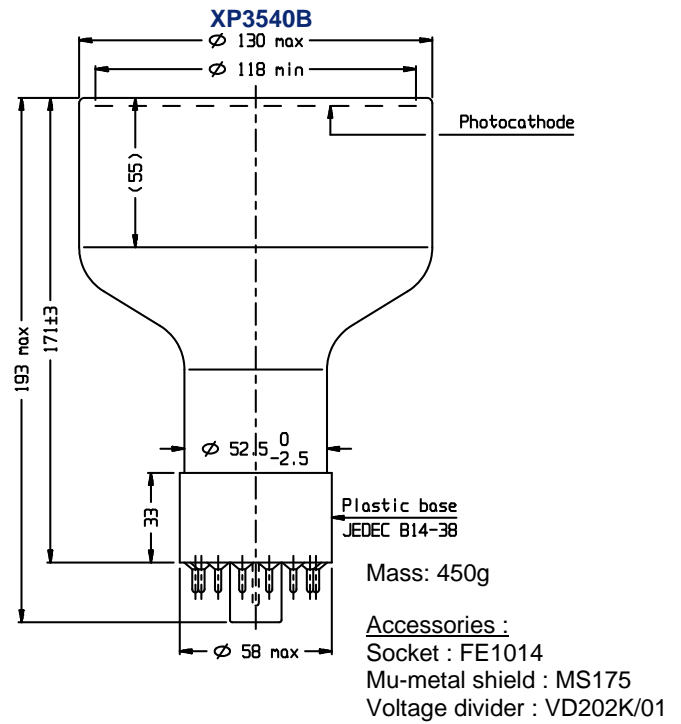
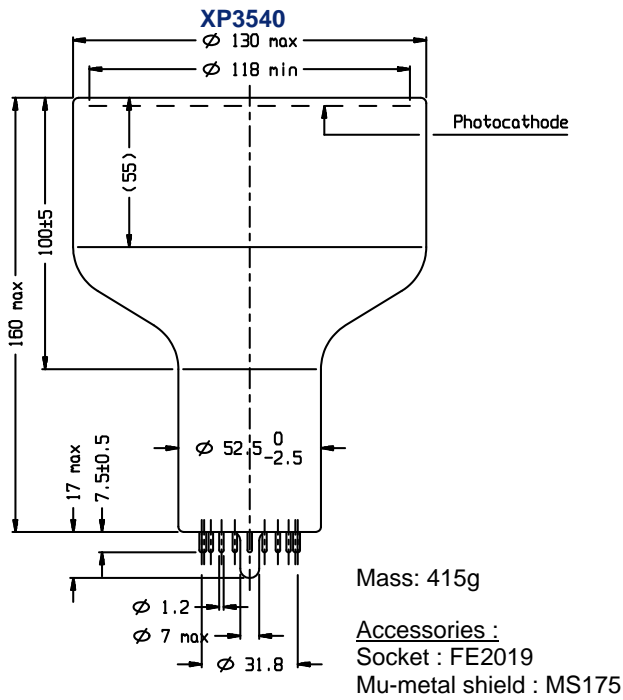
Typical gain curve



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Outline (dimensions in mm)



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 | | 100 | A/lmf |
| Supply voltage | | 1700 | V |
| Continuous anode current | | 0.2 | mA |
| Voltage between : | | | |
| D1 and photocathode : | 100 | 500 | V |
| Consecutive dynode : | | 300 | V |
| Anode and D10 : | 40 | 300 | V |
| Ambient temperature : | | | |
| Short operation (<30 mn) : | -30 | +80 | °C |
| Continuous operation & storage : | -30 | +50 | °C |

Variants

Finishing

B with plastic base JEDEC B14-38
F with flying leads \varnothing 0.5
FB with flying leads and plastic base

XP3540

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.