# Photomultiplier

# XP5212

## 9-stage
## 51mm (2"), Round tube

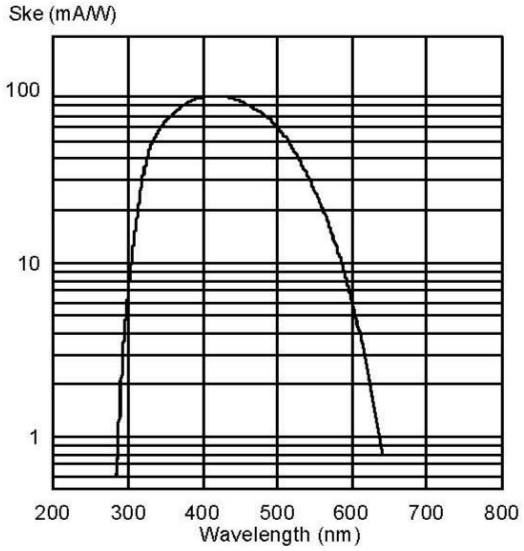
### Application
√ Gamma-cameras

### Features
√ High PHR
√ Low profile

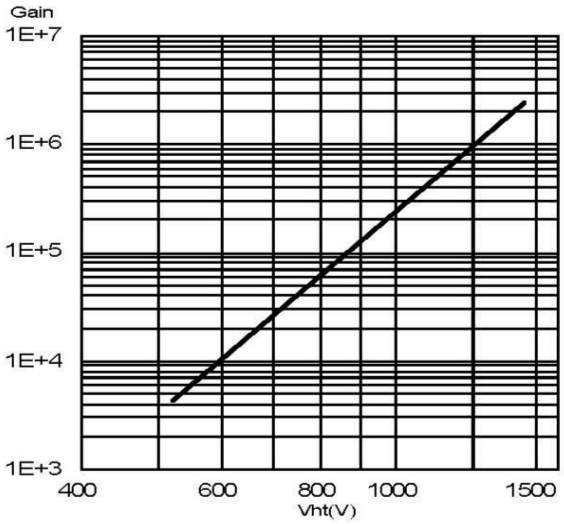
| Description | |
|---|---|
| Window material | Lime glass |
| Photocathode | Bi-alkali |
| Refr. Index at 420nm | 1.54 |
| Multiplier structure | Box and Linear focused |

| Photocathode characteristics | Min | Typ | Max | Unit |
|---|---|---|---|---|
| Spectral range: | | 290-650 | | nm |
| Maximum sensitivity at | | 420 | | nm |
| Sensitivity: | | | | |
| Luminous | | 100 | | μA/lm |
| Blue * | 10.5 | 12 | | μA/lmF |
| Radiant, at 420nm | | 95 | | mA/W |
| **Characteristics with voltage divider A** | **Min** | **Typ** | **Max** | **Unit** |
| Gain slope (vs supp. Volt., log/log) | | 6.2 | | |
| For an anode blue sensitivity of | | 3 | | A/lmF |
| Supply voltage * | 800 | 1000 | 1200 | V |
| Gain | | $2.5x10^5$ | | |
| Anode dark current * | | 1 | 20 | nA |
| Pulse height resoulution $^{57}$Co-NaI(Tl) 2″×2″ | | 8.7 | 9.3 | % |
| Pulse height resoulution $^{137}$Cs-NaI(Tl) 2″×2″ | | 7 | | % |
| 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 |
| Anode sensitivity change for magnetic field of 0.05 mT: | | | 2 | % |
| **For a supply voltage of : 1000V** | **Min** | **Typ** | **Max** | **Unit** |
| Linearity (2%) of anode current up to | | 10 | | mA |
| Anode pulse: | | | | |
| Rise time | | 5.5 | | ns |
| Duration at half height | | 13 | | ns |
| Signal transit time | | 45 | | ns |
| Center to edge difference (C.E.D) | | 11 | | ns |

### Typical spectral




### Typical gain curve




### Recommended Voltage Divider

**Type A** for maximum gain

| K | G | D1 | D2 | D3 | D4 | D5 | D6 | D7 | D8 | D9 | A | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | (Total: 13) |

*** characteristic mentioned on the test ticket of the tube**

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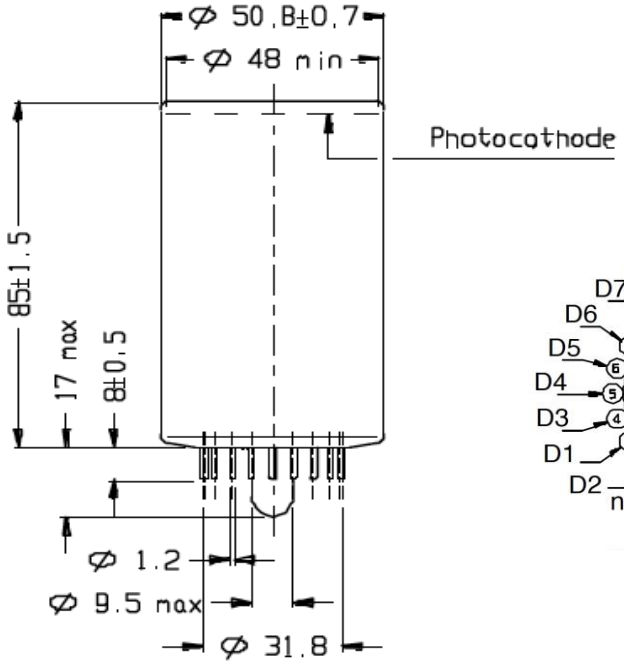
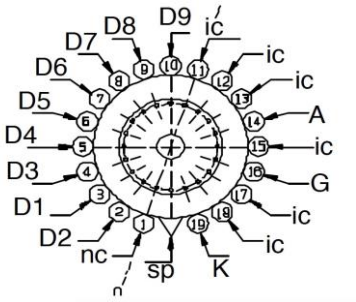
## Outline (dimensions in mm)




Mass: 85g

Accessories:
Socket: FE 2019
Mu-metal shield: MS 132

K: cathode
G: focusing electrode
A: anode
Dn: dynode
sp: short pin
ic: internal connection
n: plane of symmetry of the multiplier
nc: not connected

| Limiting values | Min | Max | Unit |
|---|---|---|---|
| Anode blue sensitivity | | 30 | A/lmF |
| Supply voltage | | 1500 | V |
| Continuous anode current | | 0.2 | mA |
| Voltage between: | | | |
| D1 and photocathode | 160 | 500 | V |
| Consecutive dynode | | 300 | V |
| Anode and D9 | 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 B14-38
**F** with flying leads Φ 0.5
**FB** with flying leads and plastic base

### 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.

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