

# Photomultiplier Tube

## Model: OPR-PMT2018

### Features

- High Temp. Resistance
- Ruggedized, Low Profile Structure

### Applications

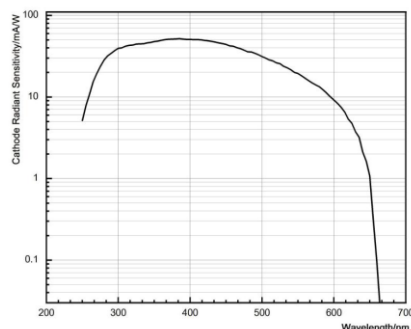
- Oil Well logging
- Geological Exploration



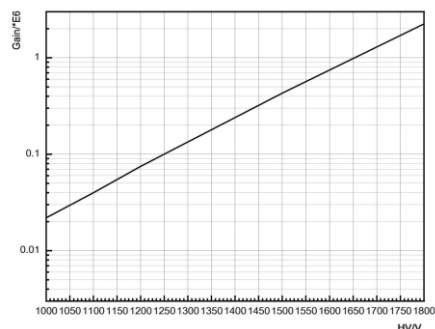
### Technical Specification

|                       |                                    |                                  |                     |                        |       |
|-----------------------|------------------------------------|----------------------------------|---------------------|------------------------|-------|
| Window material       |                                    | Borosilicate glass               |                     |                        |       |
| Photocathode material |                                    | High temp. bialkali              |                     |                        |       |
| Dynode structure      |                                    | Circular and Linear Focused      |                     |                        |       |
| Shock                 |                                    | 500m/s <sup>2</sup> (500g) 0.5ms |                     |                        |       |
| Sine vibration        |                                    | 200m/s <sup>2</sup> (20g)        |                     |                        |       |
|                       |                                    | Min.                             | Typ.                | Max.                   | Unit. |
| Cathode parameters    | Cathode effective diameter         | 22                               |                     |                        | mm    |
|                       | Spectral response range            | 290-650                          |                     |                        | nm    |
|                       | Quantum efficiency peak wavelength |                                  | 380                 |                        | nm    |
|                       | Quantum efficiency                 |                                  | 12                  |                        | %     |
|                       | Luminous sensitivity@25°C          | 20                               | 40                  |                        | μA/lm |
|                       | Blue sensitivity@25°C              | 4                                | 6                   |                        | μA/lm |
| Anode parameters      | Anode Luminous sensitivity@25°C    | 8                                | 20                  |                        | A/lm  |
|                       | Supply voltage                     |                                  | 1500                | 1800                   | V     |
|                       | Gain@25°C                          |                                  | 5 × 10 <sup>5</sup> |                        | --    |
|                       | Dark current                       |                                  | 0.1 @ 25°C          | 10 @25°C<br>1000@175°C | nA    |
| Time response         | Rise time                          |                                  | 1.5                 |                        | ns    |
|                       | TTS                                |                                  | 15                  |                        | ns    |

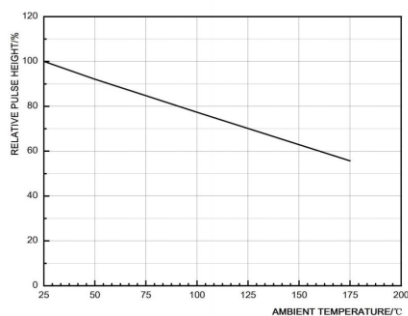
Typical spectral response curve



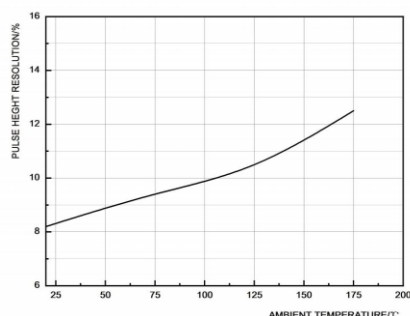
Typical gain curve



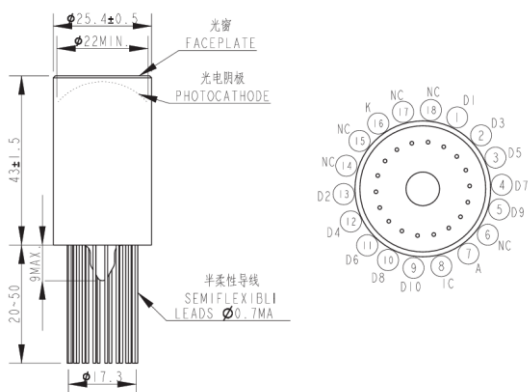
Typical pulse height resolution as a function of temperature



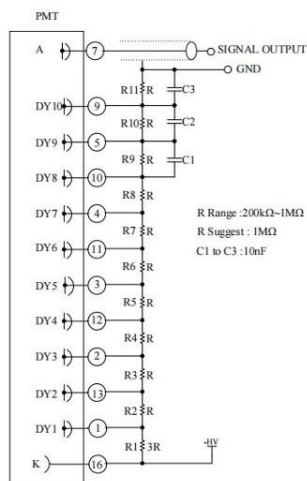
Typical pulse height as a function of temperature



PMT structure



PMT voltage distribution ratio



| 电极  | K | Dy1 | Dy2 | Dy3 | Dy4 | Dy5 | Dy6 | Dy7 | Dy8 | Dy9 | Dy10 | A |
|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---|
| 分压比 | 3 | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1   | 1    | 1 |

K: 阴极; Dy: 打拿极; A: 阳极  
K: Cathode; Dy: Dynode; A: Anode