

KP-A Si Avalanche Photodiodes

KPDA020P-H8

Characteristics

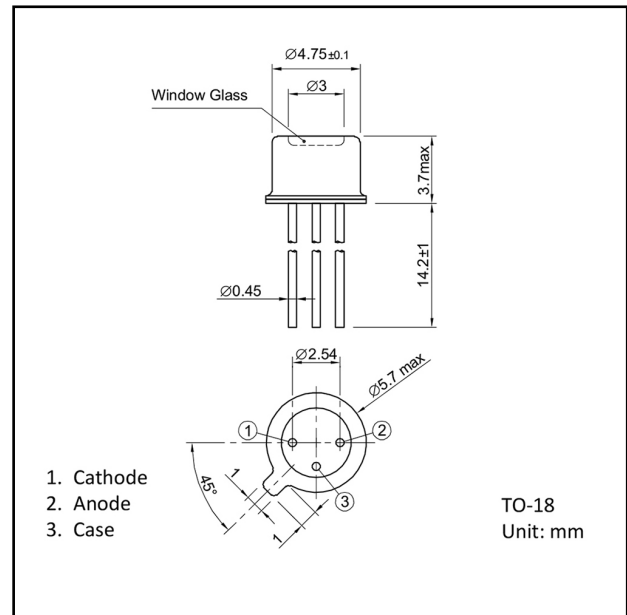
- 1.3GHz response with 0.2mm dia.
- 1.2GHz response with 0.5mm dia.
- 0.6GHz response with 1.0mm dia.
- High gain

Applications

- Short wavelength optical communications
- Optical measurement
- Optical sensors
- Weak light signal detection

Package

- TO-CAN



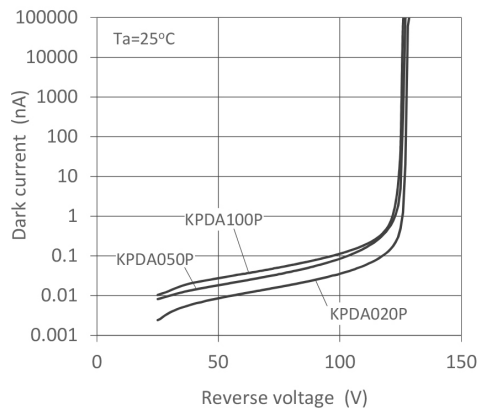
Absolute Maximum Ratings

| Parameter | Symbol | Value | Unit | Conditions |
|-----------------------|-----------|-------------|------|------------------------|
| Reverse Current | I_R | 0.2 | mA | - |
| Forward current | I_F | 10 | mA | - |
| Operating temperature | T_{opr} | -40 to +85 | | Avoid dew condensation |
| Storage temperature | T_{stg} | -40 to +125 | | Avoid dew condensation |

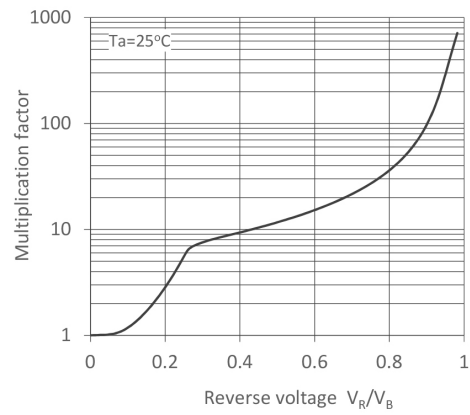
Electrical and Optical characteristics ($T_a=25$ unless otherwise noted)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|----------------------------------|---------|------|---------|------|------|--|
| Active area | D | - | 0.2 | - | mm | - |
| Sensitive wavelength | | 400 | 780(P) | 1000 | nm | - |
| Responsivity | R | 0.4 | 0.45 | - | A/W | M=1, $\lambda=850\text{nm}$ |
| Dark current | I_D | - | 10 | 200 | pA | $V_R=50\text{V}$ |
| Breakdown voltage | V_B | 80 | 120 | 200 | V | $I_R=100\ \mu\text{A}$ |
| Temperature coefficient of V_B | V_B/T | - | 0.55 | - | V/ | - |
| Terminal capacitance | C_t | - | 0.6 | 1.2 | pF | $V_R=0.9V_B$ f=1MHz |
| Cutoff frequency | f_c | - | 1.3 | - | GHz | M=100, $R_L=50$, $\lambda=850\text{nm}$ |

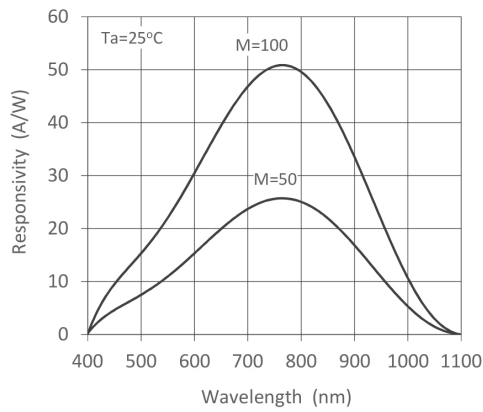
Dark Current - Reverse Voltage



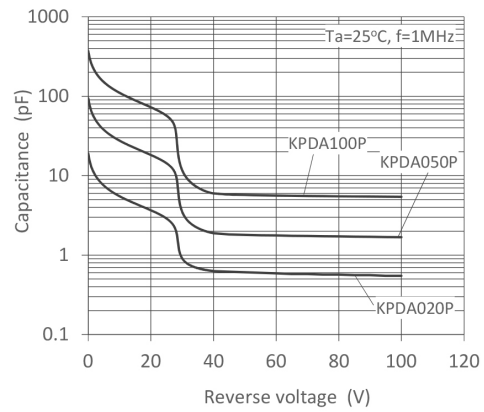
Multiplication Factor



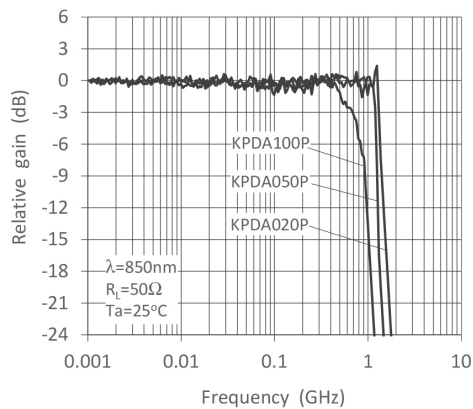
Spectral Responsivity



Capacitance - Reverse Voltage



Frequency Response



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