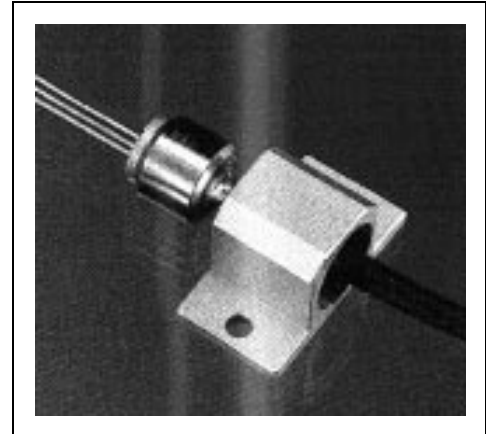


## Ge-Avalanche Photodiode with Pigtail, Central Pin

SRD 00534X  
SRD 00535X

- Designed for application in fiber-optic communication systems
- Sensitive receiver for the 2<sup>nd</sup> optical window (1300 nm)
- High gain-bandwidth product
- Suitable for bit rates up to 2.5 Gbit/s and long-haul transmission
- Planar structure
- Small radiant sensitive area
- Low multiplied dark current
- High spectral sensitivity by built-in optics
- Hermetically sealed metal case with central pin
- With optimally coupled multimode-fiber pigtail



| Type       | Ordering Code | Connector/Flange                     |
|------------|---------------|--------------------------------------|
| SRD 00534H | Q62702-Pxxxx  | Pigtail, FC/PC-connector             |
| SRD 00535H | Q62702-Pxxxx  | Pigtail with flange, FC/PC-connector |

**Component with other connector types on request.**

### Maximum Ratings

| Parameter  | Symbol          | Values        | Unit |
|--|-----------------|---------------|------|
| Forward current  | $I_F$           | 50            | mA   |
| Reverse voltage  | $V_R$           | *             | V    |
| Operating and storage temperature  | $T_A$ $T_{stg}$ | - 40 ... + 85 | °C   |
| Max. radiant power into the opt. port<br>( $V_R = 5$ V)  | $\Phi_{port}$   | 1             | mW   |
| Soldering time (wave / dip soldering), distance<br>between solder point and base plate<br>( $\geq 2$ mm, 260 °C) | $t_s$           | 10            | s    |

\* Individual value of  $V_{BR}$  is delivered with each component.

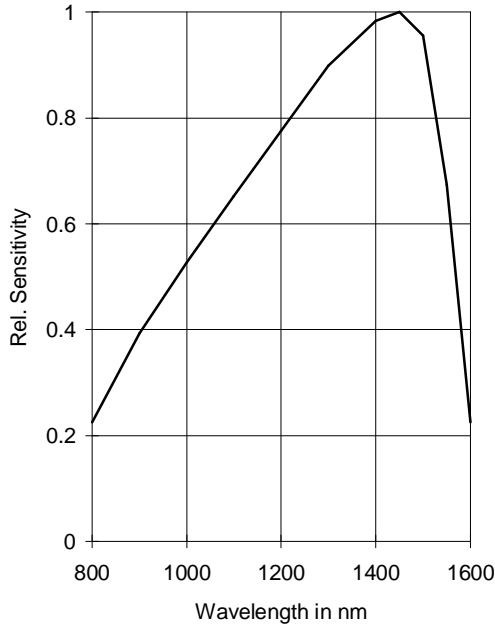
## Characteristics

All optical data refer to an optimally coupled 10/125  $\mu\text{m}$  SM fiber at ambient temperature of 25 °C, unless otherwise defined.

| Parameter  | Symbol          | Values                 | Unit     |
|--|-----------------|------------------------|----------|
| Spectral sensitivity<br>$\lambda = 1310 \text{ nm}$ , $M = 1$  | $S_\lambda$     | 0.8 ( $\geq 0.7$ )     | A/W      |
| Rise and fall time (10 % – 90 %)<br>$R_L = 50 \Omega$ , $M = 1$ , $\lambda = 1310 \text{ nm}$ , $\Phi_{\text{port}} = 100 \mu\text{W}$ | $t_r$ ; $t_f$   | 0.3 ( $\leq 0.5$ )     | ns       |
| Multiplication factor at $V_R = 0.9 V_{\text{BR}}$   | $M$             | 4 ( $\geq 3$ )         |          |
| Breakdown voltage<br>$I_R = 100 \mu\text{A}$   | $V_{\text{BR}}$ | 28 ... 40              | V        |
| Total capacitance, $\Phi_{\text{port}} = 0$ , $f = 1 \text{ MHz}$<br>$V_R = 0 \text{ V}$ ,<br>$V_R = 25 \text{ V}$                     | $C$             | $\leq 7$<br>$\leq 1.5$ | pF<br>pF |
| Dark current<br>$V_R = 10 \text{ V}$<br>$V_R = 0.9 V_{\text{BR}}$  | $I_D$           | < 200<br>< 300         | nA<br>nA |
| Multiplied dark current ( $M = 10$ )   | $I_{\text{DM}}$ | $\leq 20$              | nA       |
| Optical return loss  | $R_L$           | > 30                   | dB       |

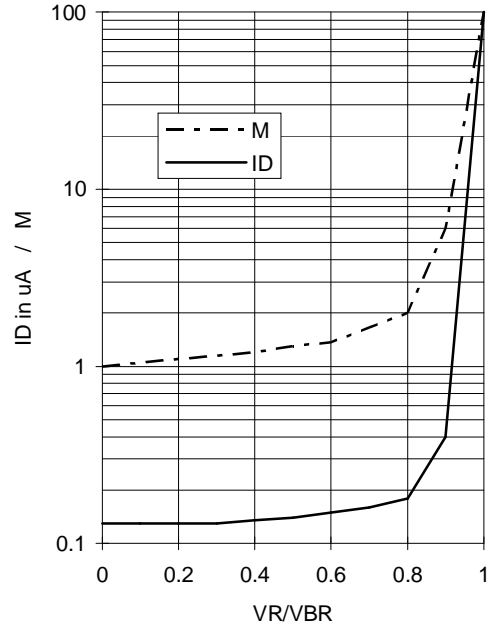
**Rel. Spectral Sensitivity**

$M = 1$  ( $V_R = 10$  V)



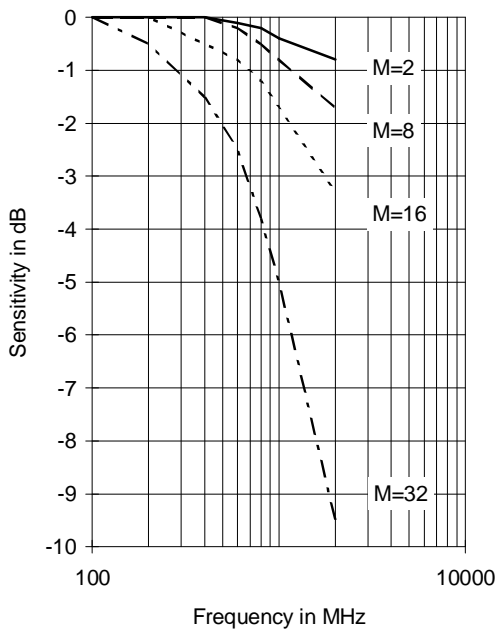
**Dark Current  $I_D = I_D(V_R / V_{BR})$**

**Multiplication Factor  $M = M(V_R / V_{BR})$**



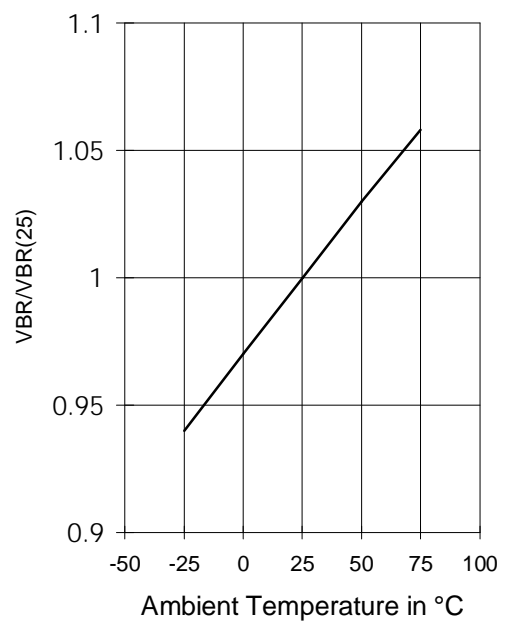
**Frequency Response of Sensitivity**

$S = S(f)$ ,  $\lambda = 1300$  nm



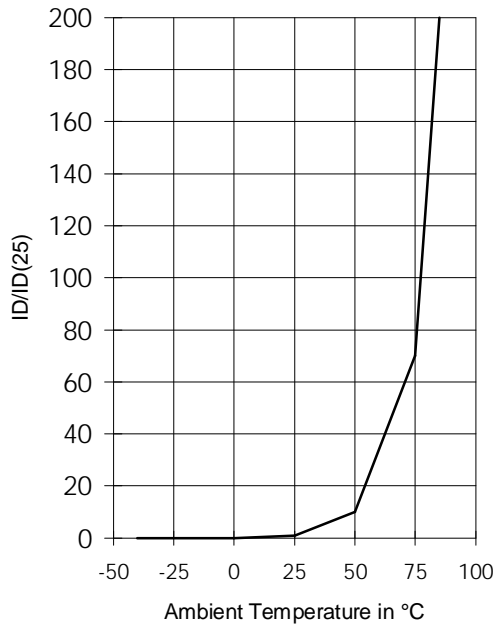
**Temperatur Behaviour of Breakdown Voltage**

$V_{BR} / V_{BR}(25^\circ\text{C})(T_A)$



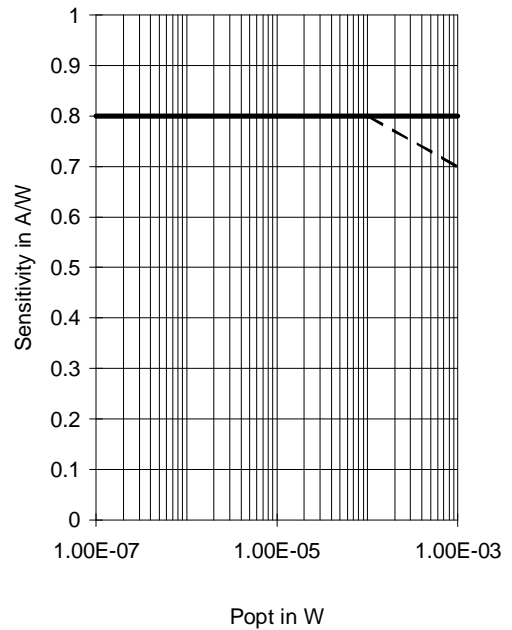
## Temperature Behaviour of Dark Current

$$I_D / I_{D(25^\circ\text{C})}(T_A)$$

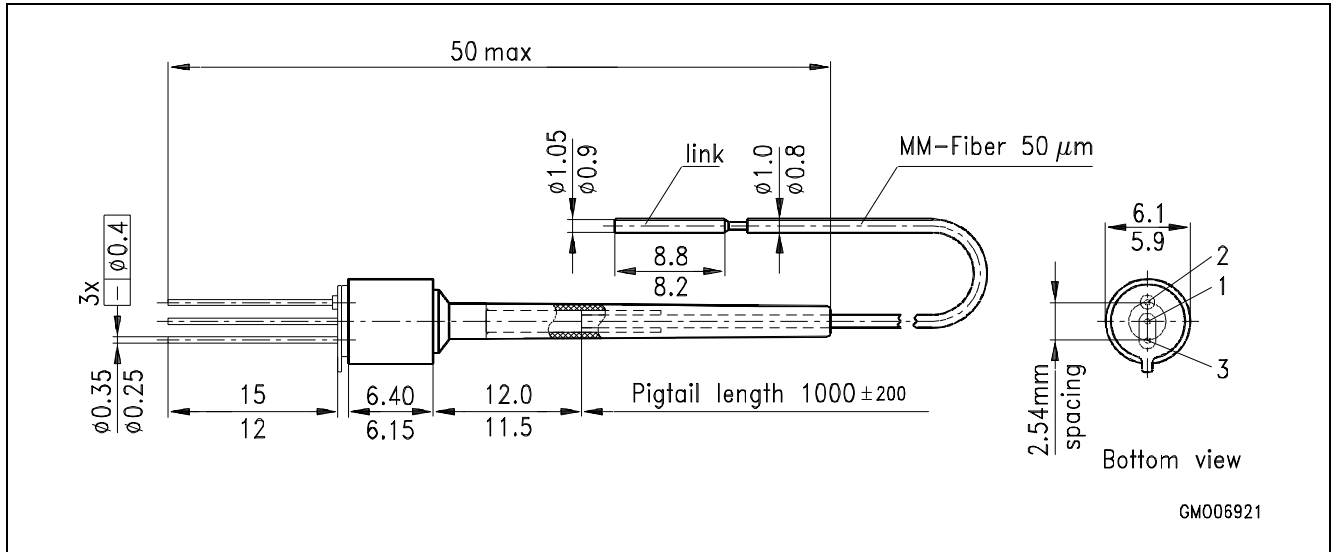


## Sensitivity at different input Powers

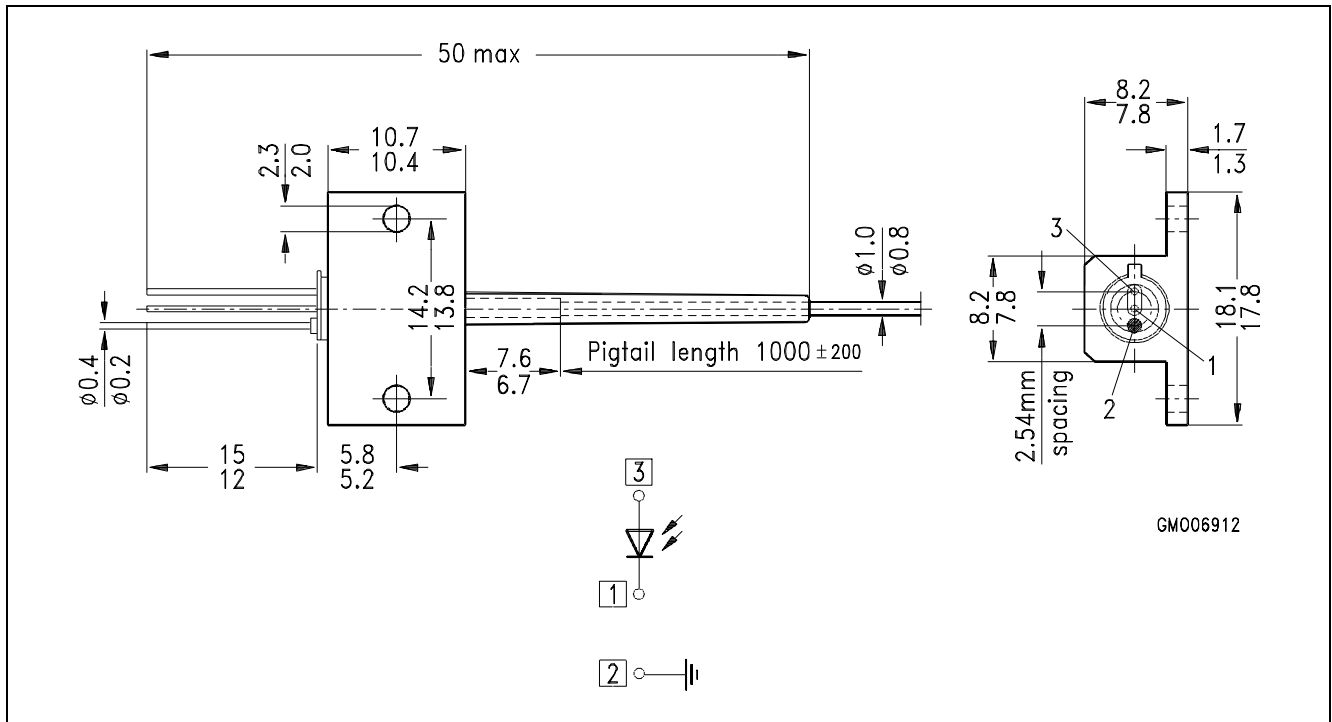
$$V_{BR} / V_{BR(25^\circ\text{C})}(T_A)$$



Package Outlines (Dimensions in mm)



SRD 00534X



SRD 00535X