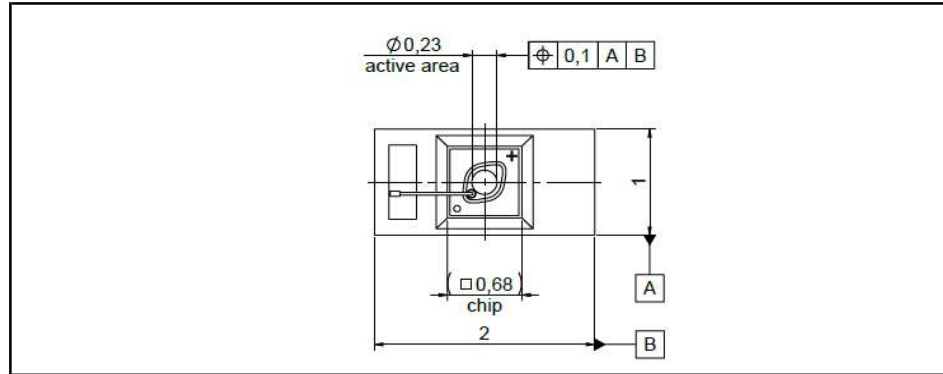
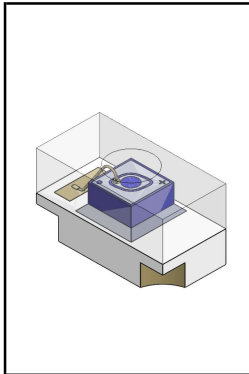


Preliminary



Features

- APD with 0.04 mm² active area
- QE > 80% @ 750 nm - 910 nm
- High speed, low noise

Description

Circular active area APD chip including two bond pads with NIR enhanced sensitivity. BT resin carrier type non hermetic SMD package with castellations. Automotive qualified based on AEC-Q102.

Application

- LIDAR applications
- Laser range finder
- Laserscanner
- High speed photometry
- Medical equipment

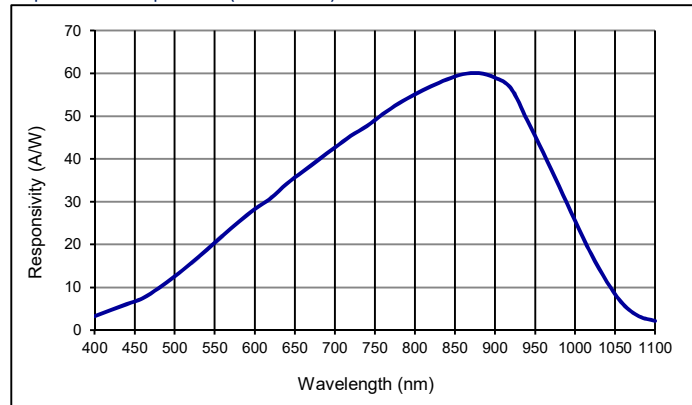
RoHS

2011/65/EU

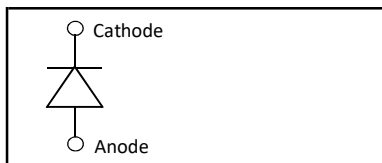
Absolute maximum ratings

| Symbol | Parameter | Min | Max | Unit |
|-------------------|-------------------------------|-----|------|------|
| T _{STG} | Storage temp | -40 | 125 | °C |
| T _{OP} | Operating temp | -40 | 125 | °C |
| M _{max} | Gain (I _{p0} = 1 nA) | 200 | | |
| I _{PEAK} | Peak DC current | | 0.25 | mA |
| MSL | Moisture sensitivity level | 3 | | |

Spectral response (M = 100)



Schematic

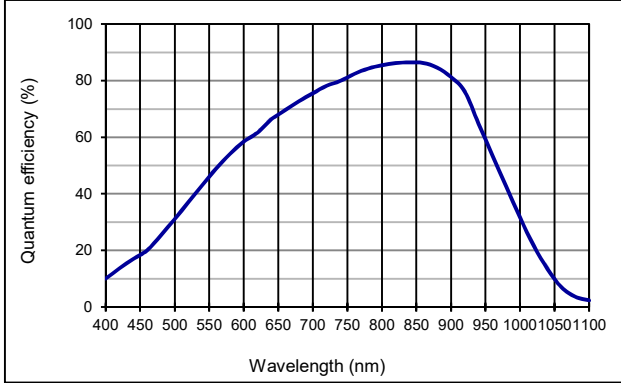


Electro-optical characteristics @ 23 °C

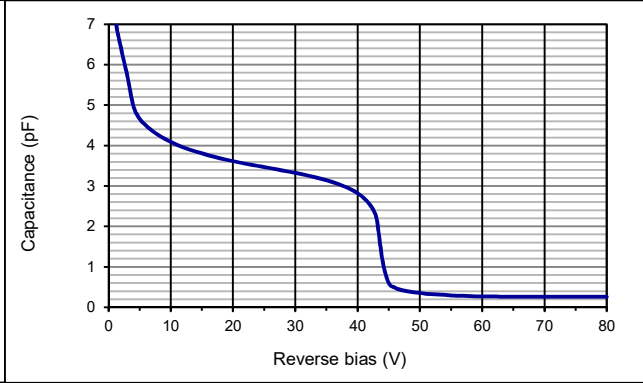
| Symbol | Characteristic | Test Condition | Min | Typ | Max | Unit |
|-----------------|-------------------------|---|-----|------|-----|-----------------|
| | Active area | Diameter | | 230 | | µm |
| | Active area | | | 0.04 | | mm ² |
| I _D | Dark current | M = 100 | | 10 | 200 | pA |
| C | Capacitance | M = 100, f = 100 kHz | | 0.3 | | pF |
| | Responsivity | M = 100, λ = 905 nm | 52 | 58 | | A/W |
| t _R | Rise time | M = 100; λ = 905 nm; R _L = 50 Ω | | 0.75 | | ns |
| V _{BR} | Breakdown voltage | I _R = 2 µA, V _{BR} - 5V (±2V) binning classes | 160 | | 200 | V |
| V _R | Bias voltage | M = 100 | 140 | | 180 | V |
| | Temperature coefficient | Change of V _{BR} with temperature | | 1.45 | | V/K |

Preliminary

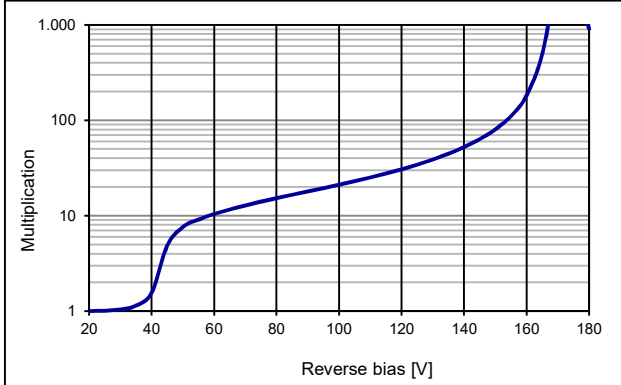
Quantum efficiency (23 °C)



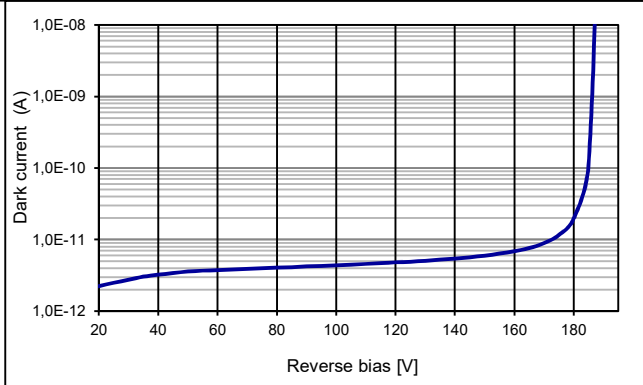
Capacitance as fct of reverse bias (23 °C)



Multiplication as fct of bias (23 °C)



Dark current as fct of bias (23 °C)



Handling:

Please refer to document "Instructions for handling and processing"

Package Dimensions:

Large quantities on tape and reel vacuum sealed with desiccant & MSL indicator card inside a metalized ESD bag.

Preliminary

Technical Drawing

