

Features

- APD with 1.0 mm² active area
- 1130 μm diameter active area
- High gain at low bias voltage
- Fast rise time, low capacitance
- Optimum gain: 50-60

Description

Circular active area APD chip with 1130 μm diameter. Metal can type hermetic TO52 package with clear glass window.

Application

- Laser range finder
- High speed photometry
- High speed optical communications
- Medical equipment

RoHS

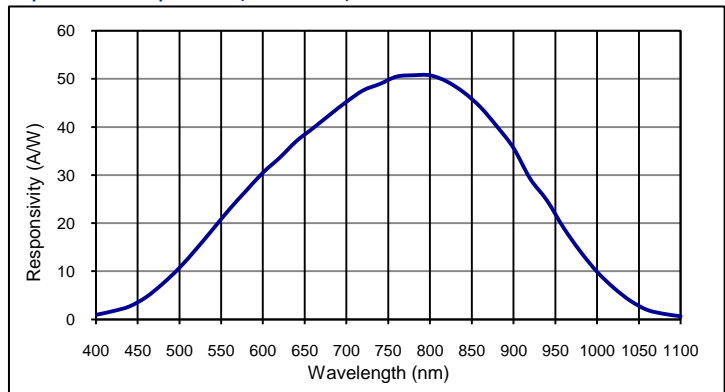
2002/95/EC



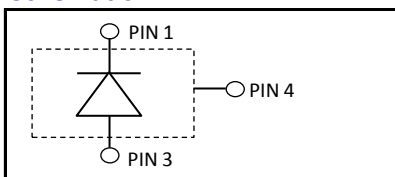
Absolute maximum ratings

| Symbol | Parameter | Min | Max | Unit |
|-------------------|-------------------------------|-----|------|------|
| T _{STG} | Storage temp | -55 | 125 | °C |
| T _{OP} | Operating temp | -40 | 100 | °C |
| M _{max} | Gain (I _{PO} = 1 nA) | 200 | | |
| I _{PEAK} | Peak DC current | | 0.25 | mA |

Spectral response (M = 100)



Schematic



Electro-optical characteristics @ 23 °C

| Symbol | Characteristic | Test Condition | Min | Typ | Max | Unit |
|-----------------|-------------------------|--|---------------|------|-----|-----------------|
| | Active area | | diameter 1130 | | | μm |
| | Active area | | 1.0 | | | mm ² |
| I _D | Dark current | M = 100 | | 4.0 | 8.0 | nA |
| C | Capacitance | M = 100 | | 8.0 | | pF |
| | Responsivity | M = 100; λ = 800 nm | 45 | 50 | | A/W |
| t _R | Rise time | M = 100; λ = 905 nm; R _L = 50 Ω | | 1.0 | | ns |
| | Cut-off frequency | -3dB | | 0.35 | | GHz |
| V _{BR} | Breakdown voltage | I _R = 2 μA, V _{BR} - binning available | 80 | 150 | 240 | V |
| | Temperature coefficient | Change of V _{BR} with temperature | | 0.45 | | V/K |
| | Excess noise factor | M = 100 | | 2.2 | | |
| | Excess noise index | M = 100 | | 0.2 | | |

European, International Sales:

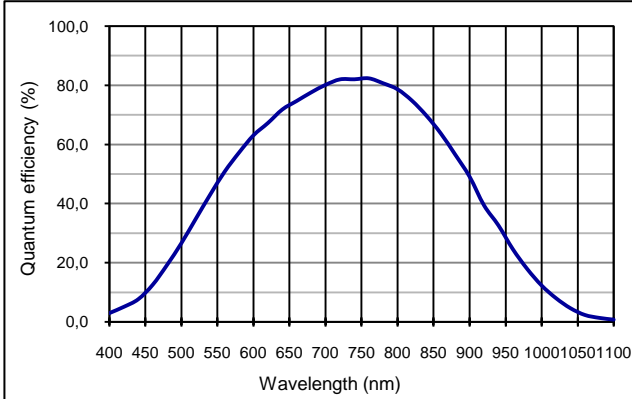
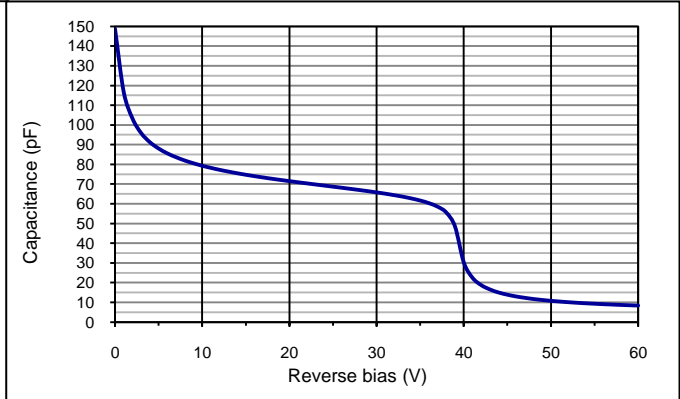
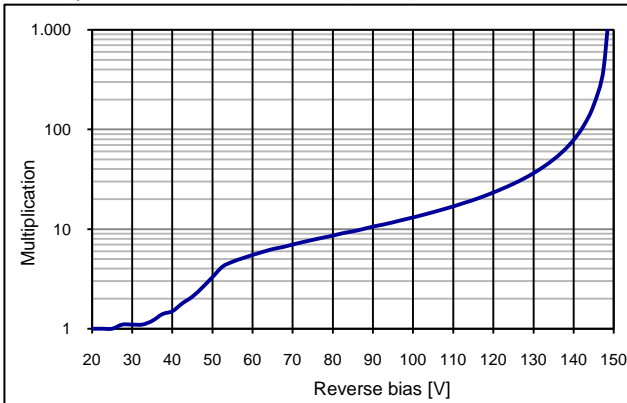
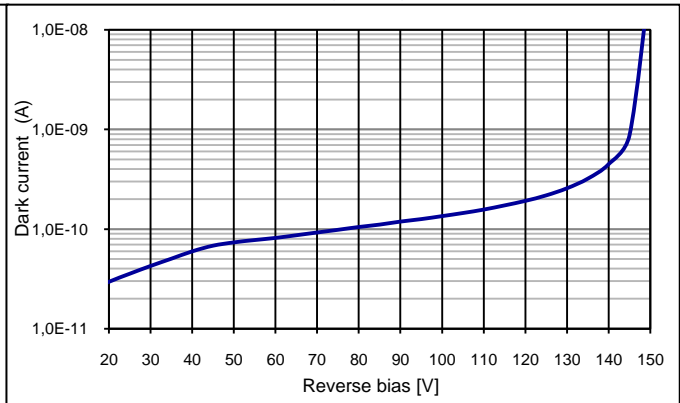
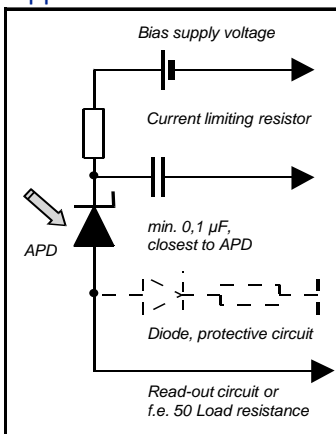


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Quantum efficiency (23 °C)

Capacitance as fct of reverse bias (23 °C)

Multiplication as fct of bias (23 °C)

Dark current as fct of bias (23 °C)

Application hints:


- Current should be limited by a protecting resistor or current limiting - IC inside the power supply
- For low light level applications blocking of ambient light should be used
- For high gain applications bias voltage should be temperature compensated
- Please consider basic ESD protection while handling
- Use low noise read-out - IC
- For further questions please refer to document "Instructions for handling and processing"
- Optimum gain: 50-60

Package dimension:

Small quantities: Foam pad, boxed (12 cm x 16.5 cm)

Disclaimer: Due to our strive for continuous improvement, specifications are subject to change within our PCN policy according to JESD46C.

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