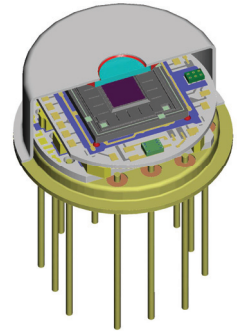


XFP-3137-003

PbSe photoresistor with tunable FFP

Description: **PROTOTYPE**

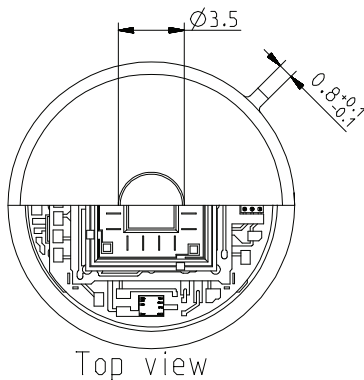
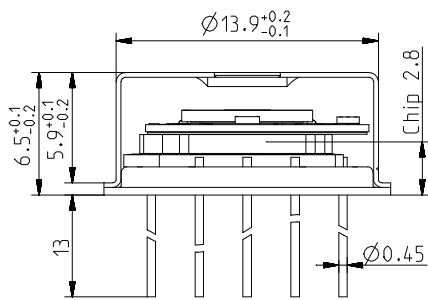
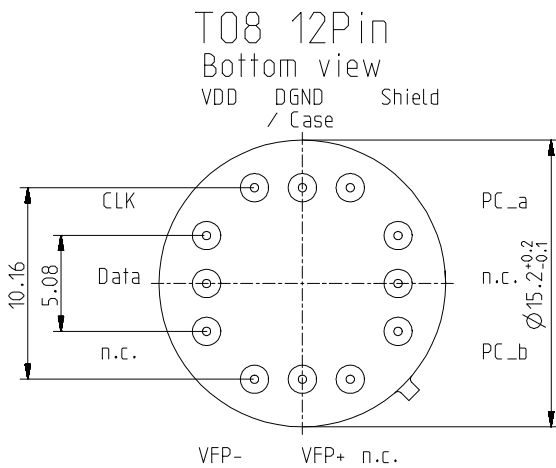
variable color; TO8 housing; medium chip size;
 IR detector with integrated $\varnothing 1.8$ mm micromachined tunable Fabry-Pérot filter.
 Tuning range 3.1 ... 3.7 μm , 4th interference order, spectral bandwidth 25 nm, integrated temperature sensor and EEPROM for storage of calibration data.



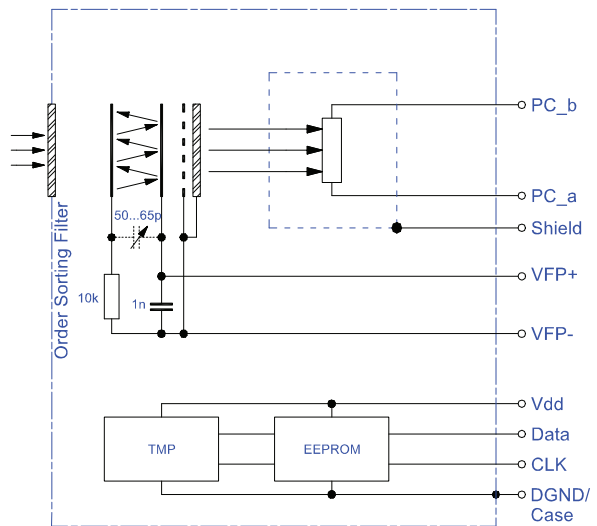
InfraTec Part number: **P10630**

HOUSING:

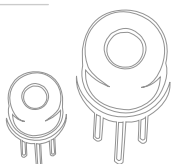
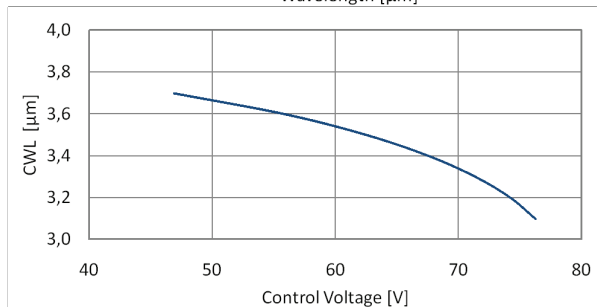
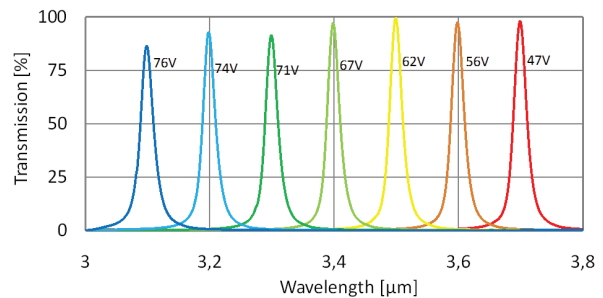
PIN ASSIGNMENT:



Maximum current between Case and the "Case"-Pin 10 mA!



FPI WAVELENGTH RESPONSE:



XFP-3137-003

PbSe photoresistor with tunable FPF

PARAMETERS:

Fabry-Pérot filter	nom	FPF SIRKO prototype
Filter Aperture size		Ø 1.8 mm
Mirror drive mechanism	nom	electrostatic, 1 nF load, <0.05 µA leakage current
Guaranteed tuning range	nom	3.1 ... 3.7 µm
Spectral bandwidth @ 50 % of transmission peak ^{1,2}	nom	25 nm
Control voltage VFP+ - VFP- @ 3.1 µm ³	typ	please refer to the individual inspection certificate
Max Allowable control voltage ⁴		please refer to the individual inspection certificate
Accuracy of calibration stored in EEPROM (+15 ... +50 °C, without influence of gravity)	typ	± 5 nm
Order sorting filter	nom	Si WBP
Out of band blocking UV to	min	11 µm
Element size / type	nom	2.0x2.0 mm ² uncooled PbSe photoresistor
Voltage responsivity (rms) {400 °C, 10...1000 Hz, 25°C, CWL = 3.5±0.05 µm}	typ	20 V/W
Noise density (rms) {10 Hz, BW 1 Hz, 25°C}	typ	1 µV/√Hz
Noise density (rms) {100 Hz, BW 1 Hz, 25°C}	typ	0.3 µV/√Hz
Noise density (rms) {1 kHz, BW 1 Hz, 25°C}	typ	0.2 µV/√Hz
Detectivity {400 °C, 10 Hz, 25°C, CWL = 3.5±0.05 µm}	typ	3.4·10 ⁶ cm·√Hz/W
Detectivity {400 °C, 100 Hz, 25°C, CWL = 3.5±0.05 µm}	typ	1.1·10 ⁶ cm·√Hz/W
Detectivity {400 °C, 1 kHz, 25°C, CWL = 3.5±0.05 µm}	typ	2.1·10 ⁶ cm·√Hz/W
Operating temperature ⁵	nom	+15 ... +50 °C
Storage temperature	nom	-25 ... +85 °C

¹ Spectral measurement conditions: FTIR (resolution 4 cm⁻¹; cone angle ±3°; AOI 0°)

² typical variation within the tuning range (see application note)

³ Different value for each detector

⁴ Limited by pull-in effect, excess may cause irreversible damage to filter

⁵ Calibrated temperature range

InfraTec reserves the right to change these specifications at any time without notification.

