

Gooch & Housego

OL 740-17 and OL 740-17C Pyroelectric Detectors

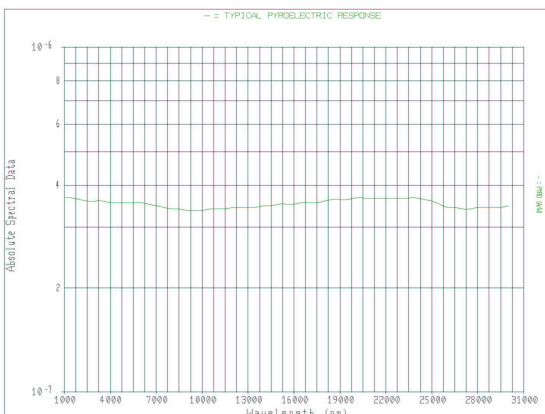
The OL 740-17 is a moderately sensitive, broadband pyroelectric detector. The spectral response is relatively constant over a wide wavelength range. The pyroelectric detector has a 5 mm diameter, blackened lithium tantalate crystal and a high-sensitivity current mode preamplifier sealed into a TO-99 transistor housing with an infrared transmitting KRS-5 window. This preamplifier converts the extremely small AC current signal to millivolt levels suitable for voltage mode amplifiers. The detector is stable, non-hygroscopic and relatively insensitive to ambient temperature changes. The detector is mounted in an acoustically dampened housing.

The OL 740-17C consists of the OL 740-17 calibrated for spectral response from 1 to 14.5 μm . The OL 740-17EC is calibrated from 1 – 30 μm . It is particularly useful as a working standard for calibration of other infrared detectors.

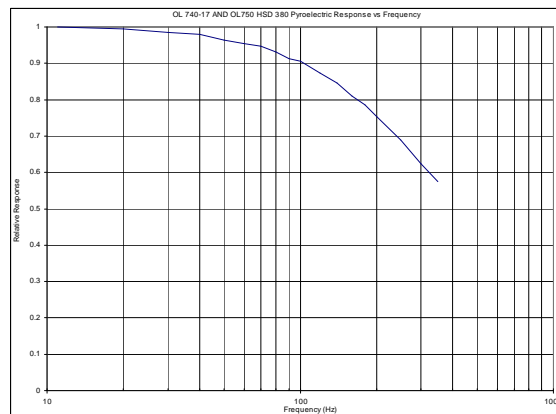
The relative spectral response of the OL 740-17C is based on spectral evaluation of the blackened coating and the transmittance of the KRS-5 window. An absolute calibration is performed relative to a NIST-traceable standard detector at a wavelength of 1.0 μm .

SPECIFICATIONS

Active area	5 mm dia (0.196 cm ²)
Optical window.....	KRS-5
Wavelength range	0.6 to 30 μm
Noise (relative to detector, 163 Hz)	typ. 5.0×10^{-15} A/ $\sqrt{\text{Hz}}$
Noise (relative to BNC output, 163 Hz)	typ. 5.0×10^{-6} V/ $\sqrt{\text{Hz}}$
Noise equivalent power	typ. 1.5×10^{-8} W/ $\sqrt{\text{Hz}}$
Noise equivalent radiance	typ. 8.2×10^{-8} (W/cm ²)/ $\sqrt{\text{Hz}}$
Responsivity (relative to detector).....	typ. 3.3×10^{-7} A/W/ $\sqrt{\text{Hz}}$
Responsivity (relative to BNC output)	typ. 3.3×10^{-2} V/W/ $\sqrt{\text{Hz}}$
Irradiance responsivity (relative to detector)	typ. 6.1×10^{-8} A/(W/cm ²)/ $\sqrt{\text{Hz}}$
Irradiance responsivity (relative to BNC output)	typ. 6.1×10^{-1} V/(W/cm ²)/ $\sqrt{\text{Hz}}$
Operating temperature	10°C to 30°C
Internal gain	$1.0 \times 10^{+9}$ V/A
Output impedance	75 Ω
Frequency response.....	1 Hz to 2kHz
Supply voltage	12 VDC (P5-2.1 mm)



Thermal detector response vs frequency



Thermal detector typical absolute spectral data

Contact: orlandosales@goochandhousego.com

www.GHinstruments.com

As part of our policy of continuous product improvement, we reserve the right to change specifications at any time

