

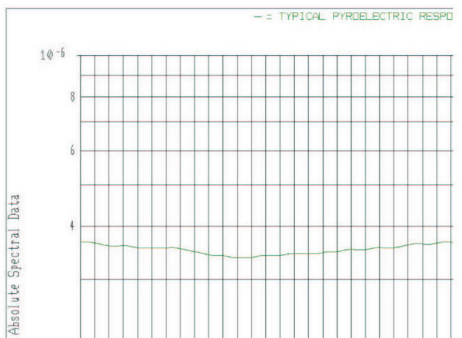
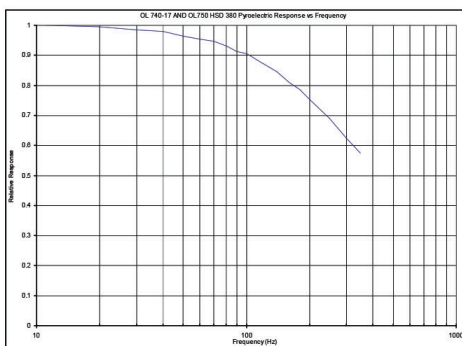
OL SERIES 740-17 & OL 740-17C

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 .



Thermal detector response vs frequency

SPECIFICATIONS	
Active Area	5 mm Dia (0.196 cm ²)
Optical Window	KSR-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^{-9} (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	1.0×10^{19} V/A
Output Impedance	75 Ω
Frequency Response	1 Hz to 2kHz
Supply Voltage	12 VDC (P5-2.1 mm)