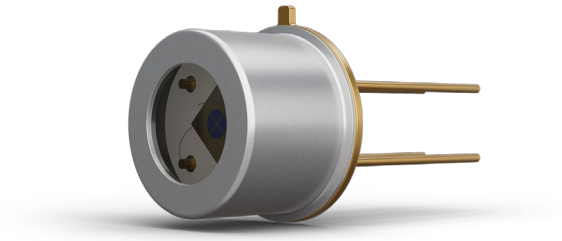
PRELIMINARY

HANDLING RECOMMENDATION GUIDE

Packaged Pyroelectric Detectors

with Infrared Windows



1. Storage and Handling

It is best to store the detectors until ready for use in the original package in a dry environment at normal room temperature. The detectors are shipped in Electrostatic Discharge (ESD) safe packaging and should be handled with gloves in an ESD-protected area.

As with all optical elements, it is important to keep the detector in a non-condensing environment. The detectors used for infrared spectroscopy may use optical windows that are hygroscopic, examples being KBr and CsI. Detectors with moisture-sensitive windows should be stored in a dry environment, or else the shelf life can be impacted.

Pyroelectric detectors used in spectroscopy have optical windows that transmit in the longwave infrared. Some of these window materials may be toxic, so care should be taken not to touch them. These windows often scratch easily; precautions should be taken to avoid direct contact.

2. Cleaning

Detectors, as received, should be in a clean state, so cleaning should not be necessary. If cleaning the package window is required, loosely sticking particles can be blown off using nitrogen or bottled compressed air. Take care to avoid using excessive pressure on the window, as this may destroy the hermetic seal or damage the window. As infrared windows such as KBr and CsI scratch easily, they should never be cleaned with a cotton bud and solvent.

NEVER USE AN ULTRASONIC CLEANER TO CLEAN DETECTORS OR DETECTOR ASSEMBLIES.

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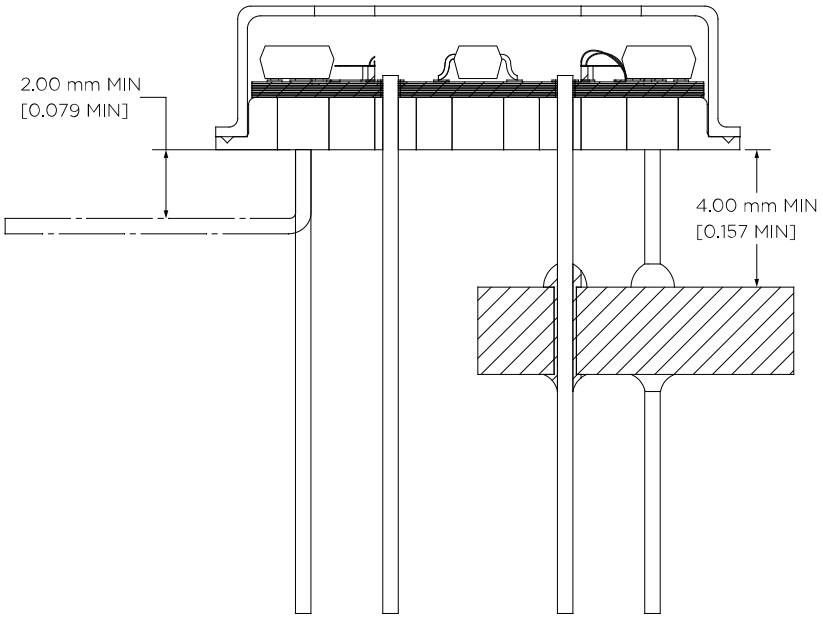
3. Soldering

When hand soldering, the following precautions and recommendations should be followed:

- Use a low-wattage microelectronic soldering iron with no-clean flux.
- Ensure a minimum distance of 4 mm between the bottom of the detector and the detector board (see Figure 1).
- Use a soldering temperature of 265 °C for less than 10 seconds.
- Use heat sink clips or pliers on lead wires between the solder joint and base of the package. If heat sinking is not possible, use the minimum soldering iron tip temperature and time to form the solder joint. Do not exceed 265 °C for 10 seconds.
- DO NOT BEND leads at sharp angles less than 2 mm from the base of the package, as this may damage the glass feedthrough seals (see Figure 1). No force should be applied to the pins at the glass-to-metal seal.
- DO NOT APPLY any pressure or load to the detector cap housing the optical filter or window.
- Clean after soldering per the solder manufacturer's guidelines, as long as it does not involve using acetone or halogenated solvents.



SECTION B-B

Figure 1

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