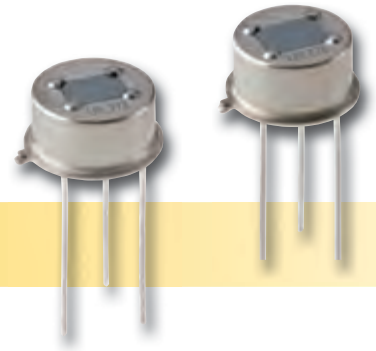


Pyroelectric, Dual-Element Detectors For Motion Sensing



LHi 778 – Low-Cost Pyro
LHi 878, PYD 1388 – Standard Pyro

Applications

- Auto Light Switch
- Wall Switch
- Auto Lamps

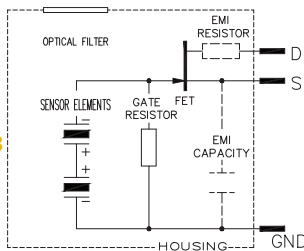
Features and Benefits

- TO-5 metal housing
- Different window sizes
- Additional EMI protection with PYD 1388

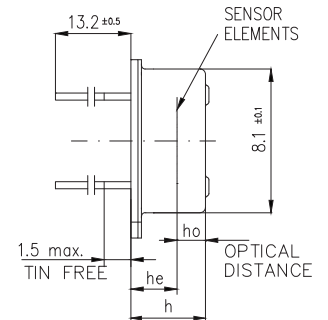
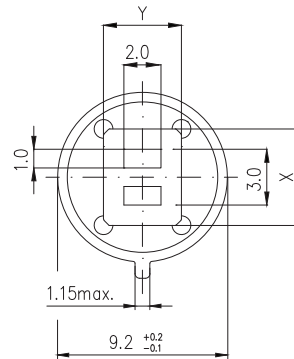
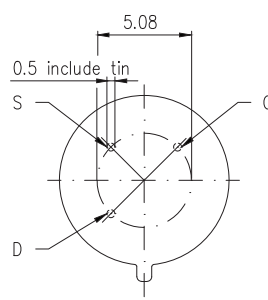
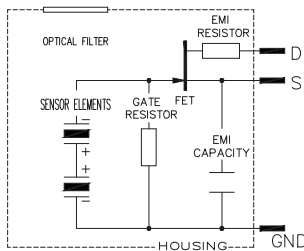
Product Description

This Dual Element detector family offers standard TO-5 housings with different window sizes. Whereas LHi 778 is designed to meet low cost and having small optical window, LHi 878 offers standard window size. PYD1388 has same dimensions and provides for additional EMI protection as option.

LHi 778, 878



PYD 1388



LHi 778, LHi 878 and PYD 1388

| Parameter | Symbol | LHi 778 | LHi 878 | PYD 1388 | Unit | Remarks |
|---------------------------|-----------|------------|------------|------------|-----------------|-------------------------------|
| Responsivity, min. | R_{min} | 3,3 | 3,3 | 3,3 | kV/W | f = 1 Hz |
| Responsivity, typ. | R | 4,2 | 4,2 | 4,2 | kV/W | f = 1 Hz |
| Match, max. | M_{max} | 10 | 10 | 10 | % | |
| Noise, max. | N_{max} | 50 | 50 | 50 | μV_{pp} | 0,4...10Hz/20°C |
| Noise, typ. | N | 35 | 25 | 20 | μV_{pp} | 0,4...10Hz/20°C |
| Field of View, horizontal | FoV | 71° | 95° | 95° | | unobstructed |
| Field of View, vertical | | 71° | 87° | 87° | | unobstructed |
| Source Voltage | | 0,2...1,55 | 0,2...1,55 | 0,2...1,55 | V | 47 k Ω , 20°C, VDD=10V |
| Operating Voltage | | 2,0...10 | 2,0...10 | 2,0...10 | V | 47 k Ω , 20°C |
| EMI performance | | | * | * | | |
| Height | h | 4,2 | 4,2 | 4,2 | mm | |
| Optical Element Location | he / ho | 3,2 / 0,75 | 3,2 / 0,75 | 3,2 / 0,75 | mm | |
| Filter Size | X/Y | 4 x 3 | 4,6 x 3,4 | 4,6 x 3,4 | mm ² | |

Pyroelectric, Dual-Element Detectors For Motion Sensing



LHi 874, LHi 944, PYD 1394 – Low-Profile Pyro

Target Applications

- Auto Light Switch
- Wall Switch
- Auto Lamps with 180°FOV w. 2 Detectors

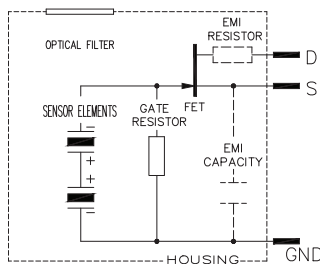
Features and Benefits

- TO-39 metal housing
- Different window sizes
- EMI protection option

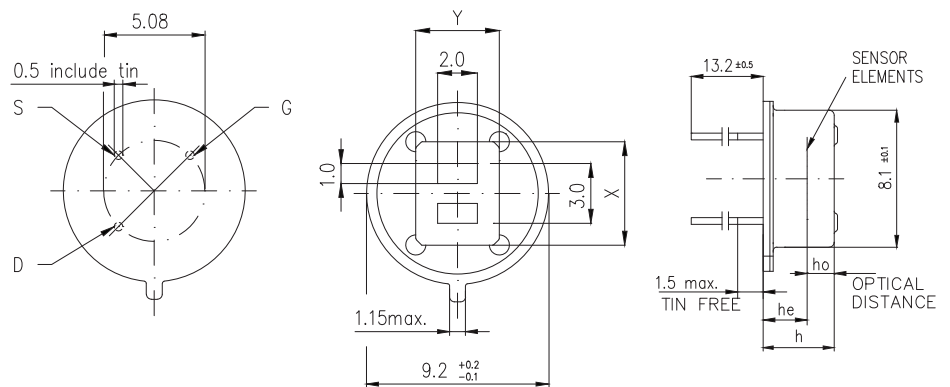
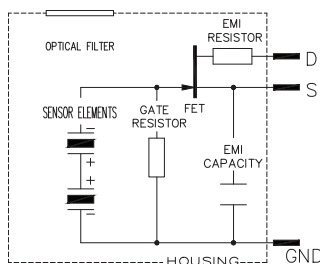
Product Description

These Low-Profile TO-39 detectors are very well suited for use as two detectors arranged at an angle so as to enable a 180 degree view. The LHi 874 offers a standard window size, whereas the LHi 944 model offers a large window with greater Field Of View. The PYD 1394 has same dimensions and provides for additional EMI protection.

LHi 874, 944



PYD 1394



LHi 874, LHi 944 and PYD 1394

| Parameter | Symbol | LHi 874 | LHi 944 | PYD 1394 | Unit | Remarks |
|---------------------------|-----------|------------|------------|------------|-------------------------|----------------------|
| Responsivity, min. | R_{min} | 3,3 | 3,3 | 3,3 | kV/W | f = 1 Hz |
| Responsivity, typ. | R | 4,2 | 4,2 | 4,2 | kV/W | f = 1 Hz |
| Match, max. | M_{max} | 10 | 10 | 10 | % | |
| Noise, max. | N_{max} | 50 | 50 | 50 | μV_{pp} | 0,4...10Hz/20°C |
| Noise, typ. | N | 25 | 20 | 20 | μV_{pp} | 0,4...10Hz/20°C |
| spec. Detectivity | D^* | 19 | 21 | 21 | $10^7 cm^* \sqrt{Hz/W}$ | 1Hz/ 1Hz BW |
| Field of View, horizontal | FoV | 95° | 110° | 110° | | unobstructed |
| Field of View, vertical | | 87° | 110° | 110° | | unobstructed |
| Source Voltage | | 0,2...1,55 | 0,2...1,55 | 0,2...1,55 | V | 47 kΩ, 20°C, VDD=10V |
| Operating Voltage | | 2,0...10 | 2,0...10 | 2,0...10 | V | 47 kΩ, 20°C |
| EMI performance | | * | * | ** | | |
| Height | h | 3,2 | 3,2 | 3,2 | mm | |
| Optical Element Location | he /ho | 2,2 / 0,75 | 2,2 / 0,75 | 2,2 / 0,75 | mm | |
| Filter Size | X x Y | 4,6 x 3,4 | 5,2 x 4,2 | 5,2 x 4,2 | mm ² | |