

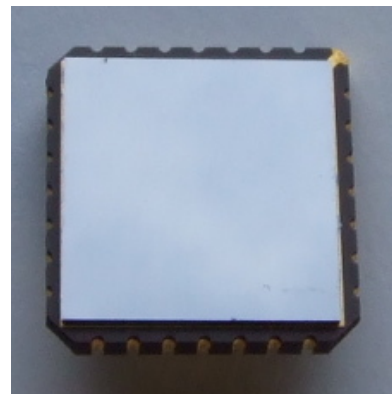
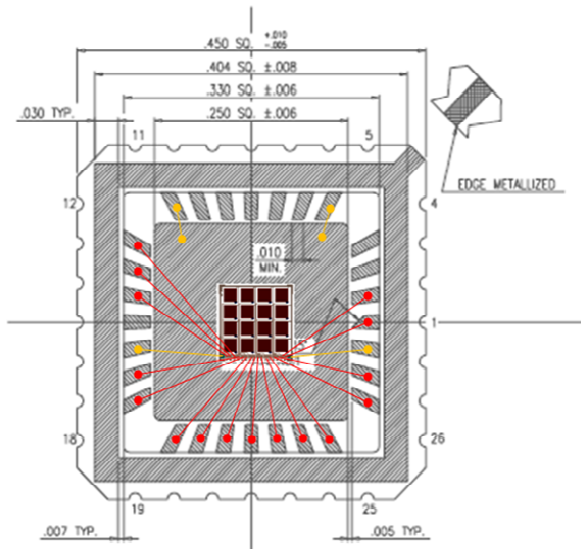
# PYLCC 4x4-F8



## DATASHEET

**PYLCC 4x4-F8** is a 4 x 4 element pyroelectric IR sensor array die packaged in a 28-pin LCC. It uses the unique thin film PZT material available only from Pyreos. The packaged array has a thinned silicon filter window bonded on to the package upper surface. This has a broad flat transmittance over the mid IR region.

**Please take ESD handling precautions**



Note: The ground pins on the LCC are common - and the recommendation is to connect all ground pins to ground.

### Parameters:

Die size / type	nom.	1.96 x 1.96 mm <sup>2</sup> ± 0.02
Element size	nom.	300 x 300 μm <sup>2</sup>
Pitch	nom.	440 μm
Responsivity, (Element only) {500K, 10Hz, 25°C, without window}	min.	11 μA/W
Element capacitance {10kHz, 1V, 25°C}	typ.	210 pF ± 10%
Element dielectric loss {10kHz, 1V, 25°C}	max.	< 1%
Operating / storage temperature	nom.	-25 ... +85°C

# PYFLLCC 4x4-F8



## 28-Pin LCC Dimensions:

Package size	nom.	.450 SQ. ± .010
Top ring size	nom.	.404 SQ. ± .008
Well size	nom.	.250 SQ. ± .006
Aperture	min.	.838 mm <sup>2</sup>
Filter 'window'	min.	Double-sided polished Si of thickness ≈400 μm (equates to 50% IR transmission)

## IR Sensor Array - 28 LCC Pin-out:

28 - LCC Pin No.	4 x 4 Array	Description
1	D4	Sensor channel
2	D3	Sensor channel
3		
4		
5	**Gnd	Metallised well plane connected
6		
7		
8		
9		
10		
11	**Gnd	Metallised well plane connected
12	A3	Sensor channel
13	A2	Sensor channel
14	A1	Sensor channel

28 - LCC Pin No.	4 x 4 Array	Description
15		
16	**Gnd	Sensor die ground connection
17	A4	Sensor channel
18	B1	Sensor channel
19	B2	Sensor channel
20	B3	Sensor channel
21	B4	Sensor channel
22	C1	Sensor channel
23	C2	Sensor channel
24	C3	Sensor channel
25	C4	Sensor channel
26	D1	Sensor channel
27	D2	Sensor channel
28	**Gnd	Sensor die ground connection

(Dark shaded pins are NOT USED)

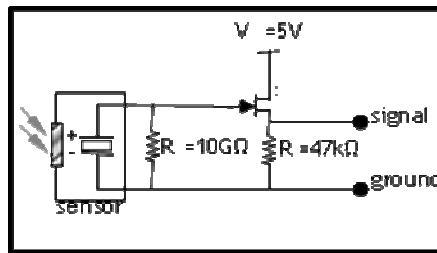
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## Voltage Mode Characteristics

The following data applies to the reference circuit below in voltage mode. All data is taken without a window at 10Hz, 500K:

### Single Element Reference Circuit:



### Electrical Data:

Responsivity	typ.	600 V/W
Noise	typ.	$1 \times 10^{-8}$ Vrms/ $\sqrt{\text{Hz}}$
Specific Detectivity	typ.	$> 1.0 \times 10^8$ cm $\sqrt{\text{Hz/W}}$

### Frequency Characteristics:

