

# Mid-Infrared Sensor Cards 1.5 - 20 $\mu$ m



## LOW POWER (-L) MID-INFRARED SENSOR CARDS

Low Power Sensor Card Models F-IRC5-L and F-IRC6-L are plastic cards each with two sensitive area which change color in response to MID-IR light sources. The choice of the area to use depends on beam power (see spec table). The sensitive zone "LOW" is green color while the "MED" area is black or orange.

A white spot appears as a result of Mid-Infrared radiation for all sensitive areas. The beam spot size on the sensor card depends on beam diameter and power. The higher the beam power, the larger the beam spot may appear on the sensor area due to dispersion. When radiation exposure stops, the initial coloring rapidly re-appears. Touching the card to a surface like an optical table helps refresh the card quickly ("Touch on table to refresh").



Model F-IRC5-L



Model F-IRC6-L

## Low Power Sensor Card Specifications

Model	F-IRC5-L		F-IRC6-L	
	"Low" Area	"Med" Area	"Low" Area	"Med" Area
Wavelength Range ( $\mu$ m)	1.5 - 5.0		5.0 - 20.0	
Sensitivity Threshold (W/cm <sup>2</sup> )	0.2	3.0	0.2	1.5
Maximum Power Density (W/cm <sup>2</sup> )	3.5	8.0	4	8.0
Active Area [in. (mm)]	1 x 1.5 (25 X 40)	1 x 1.5 (25 X 40)	1 x 1.5 (25 X 40)	1 x 1.5 (25 X 40)
Card Dimensions [in. (mm)]	2.125 x 3.3 (54 x 86)		2.125 x 3.3 (54 x 86)	

\* Measurements done at 2.0 and 10.6  $\mu$ m

### • Cover New Spectral Range

- These Sensor Cards are sensitive in the 1.5 - 20  $\mu$ m range.

### • Reliable Visualization

- The sensor area offers high performance thanks to color change with high contrast. It allows easy location of beams even in a dark room.

### • High Sensitivity and High Damage Threshold Models

- Our "-L" Low Power Model cards can detect down to 0.2 W/cm<sup>2</sup>
- Our "-H" High Power Model cards have a damage threshold up to 120 W/cm<sup>2</sup>

### • Easy to Use and Handle

- Credit card sized cards with 2 x 1.5in (25 x 40 mm) sensor areas.

### • Ideal for a Wide Field of Applications

- Use these cards to align an optical set-up or to locate an IR beam in an experimental set-up.

HIGH POWER (-H) MID-INFRARED SENSOR CARDS

High Power Sensor Card Models F-IRC5-H and F-IRC6-H are ceramic cards each with one sensitive area which changes color in response to MID-IR light sources. The sensor card could be used in two different methods (see spec table):

**Reflection Method:** For low power densities, the card is used conventionally by directly exposing the sensitive area (black or orange) to Mid-Infrared radiation.

**Transmission Method:** For high power densities, the back of the sensitive area (uncolored) is exposed to the radiation and the sensitive area on the front of the card changes color.



A white spot appears as a result of Mid-Infrared radiation for all sensitive areas. The beam spot size on the sensor card depends on beam diameter and power. The higher the beam power, the larger the beam spot may appear on the sensor area due to dispersion. When radiation is stopped, the initial coloring rapidly re-appears. Touching the card to a surface like an optical table helps refresh the card quickly ("Touch on table to refresh").

High Power Sensor Card Specifications

Model	F-IRC5-H		F-IRC6-H	
	Reflective Method	Transmission Method	Reflective Method	Transmission Method
Wavelength Range (μm)	1.5 - 5.0		5.0 - 20.0	
Card Material	Ceramic		Ceramic	
Sensitivity Threshold (W/cm <sup>2</sup> )	30	60	10	25
Maximum Power Density (W/cm <sup>2</sup> )	80	120	30	50
Active Area [in. (mm)]	2 x 1.5 (50 x 40)	2 x 1.5 (50 x 40)	2 x 1.5 (50 x 40)	2 x 1.5 (50 x 40)
Card Dimensions [in. (mm)]	2.125 x 3.3 (54 x 86)		2.125 x 3.3 (54 x 86)	

\* Measurement done at 2.0 and 10.6 μm

