FLIR Lepton® Camera Breakout Board v2.0

The FLIR Lepton® Thermal Camera Breakout Board is an easy-to-interface evaluation board to quickly connect all versions of the FLIR Lepton camera module to common platforms like Raspberry Pi® or custom hardware such as mobile development kits. It provides on-board power supplies, generated from 3 – 5.5V, and a master clock. Local power supplies, the master clock and the power-up sequence components can all be by-passed using a jumper.

Lepton sold separately or in a kit through major electronic component distributors worldwide.

www.flir.com/lepton-bob

**EASY-TO-INTERFACE EVALUATION BOARD**

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**EASE OF INTEGRATION**

- Faster time to market
- Access to SPI and I2C camera module interfaces
- Provides 25-MHz reference clock (can be by-passed)
- Power Efficient 1.2 V core voltage (can be by-passed)
- Dual Low Noise LDO for 2.8 V voltage (can be by-passed)
- 32-pin Molex camera socket for Lepton® Module

**APPLICATIONS**

- Designed for applications where SWaP, cost, and quality are critical
- Rugged and Mobile Devices
- Smart Buildings and Smart Cities
- Motion Sensor
- Gesture Recognition

**SIZE, WEIGHT AND POWER (SWAP)**

- Operating temperature 0°C to 55°C
- Input Voltage: 3 V to 5.5 V
- Space-Saving, (29.5 mm x 29.0 mm)
- Works with all FLIR Lepton® modules

**PN: 250-0577-00**

*Raspberry Pi is a trademark of the Raspberry Pi Foundation. This product is not designed or qualified for production use.*
**Specifications**

**Mechanical**

Thickness including Molex socket and jumper pins but excluding the Lepton: 15mm.

**Electrical**

Schematic: 250-0577-24_R120
Assembly drawing: 250-0577-25_R120

The Lepton breakout board comes with jumpers on J5 – J9 installed. With all jumpers installed Lepton can be operated from J2 with 3-5V on J3 pin 2*. Jumpers J5 – J9 can be removed to provide control individual voltage, master clock or power up sequence externally.

*The diode D1 on version R120 of the Lepton Breakout Board 250-0577-00 is installed with the wrong orientation which prevents powering the Lepton from J2 pin 2. However, the Lepton can be powered with 3 – 5V on J3 pin 2.

**Pin-Out**

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Function</th>
<th>Pin #</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin 1</td>
<td>GND</td>
<td>Pin 2</td>
<td>Power in 3 – 5.5V</td>
</tr>
<tr>
<td>Pin 3</td>
<td>VPROG</td>
<td>Pin 4</td>
<td>VCC28</td>
</tr>
<tr>
<td>Pin 5</td>
<td>SDA</td>
<td>Pin 6</td>
<td>VCC28 IO</td>
</tr>
<tr>
<td>Pin 7</td>
<td>SPI_CLK</td>
<td>Pin 8</td>
<td>SCL</td>
</tr>
<tr>
<td>Pin 9</td>
<td>SPI_MOSI</td>
<td>Pin 10</td>
<td>SPI_CS</td>
</tr>
<tr>
<td>Pin 11</td>
<td>GPIO0</td>
<td>Pin 12</td>
<td>SPI_MISO</td>
</tr>
<tr>
<td>Pin 13</td>
<td>GPIO2</td>
<td>Pin 14</td>
<td>GPIO1</td>
</tr>
<tr>
<td>Pin 15</td>
<td>GPIO3 / VSYNC</td>
<td>Pin 16</td>
<td>VCC12</td>
</tr>
<tr>
<td>Pin 17</td>
<td>RESET_L</td>
<td>Pin 18</td>
<td>MASTER_CLK</td>
</tr>
<tr>
<td>Pin 19</td>
<td>GND</td>
<td>Pin 20</td>
<td>PW_DWN_L</td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice. For the most up-to-date specs, go to www.flir.com