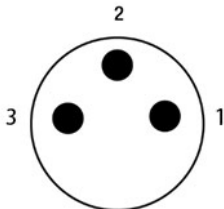
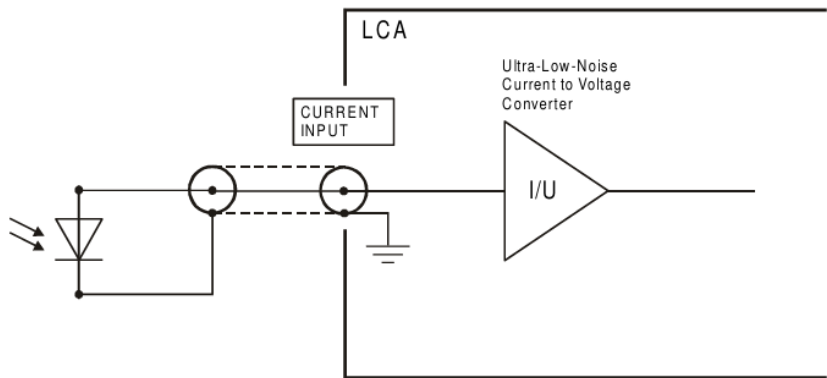
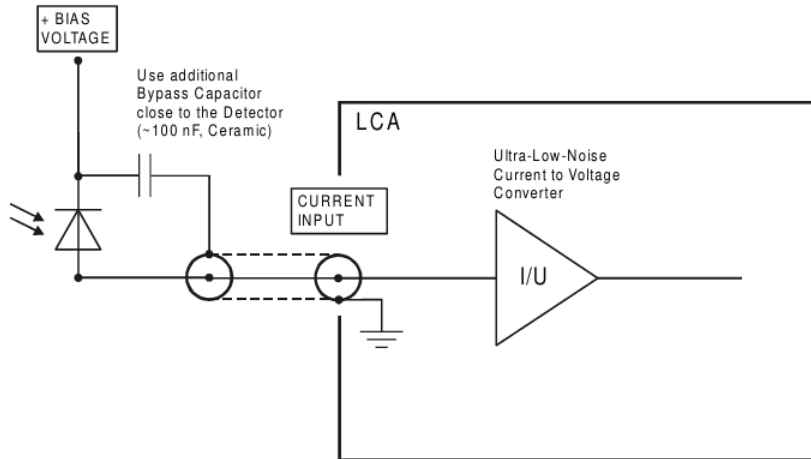


Low-Noise Current Amplifier (Transimpedance Amplifiers) LCA  
低噪声电流放大器（跨阻放大器）

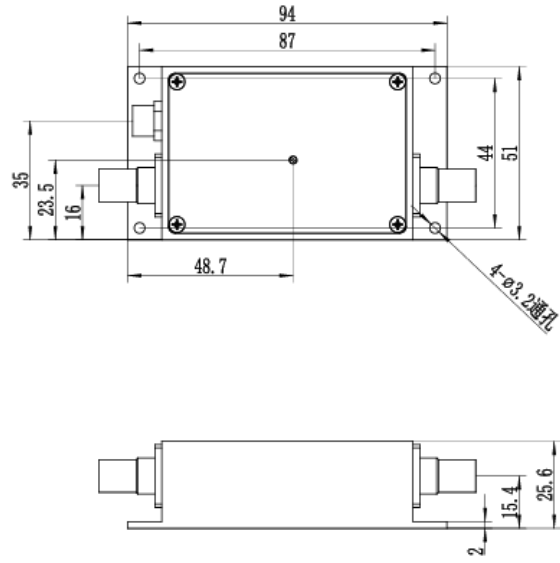
LCA-400k-10M



|      |   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|------|---|------|---|----|---|--|----------------|------|---------|--|--------------------|--|-------------------------|----|---|--|--|--|------------------|--|--------------------------|--|-----------------------------|--|---------------|--|--------------------|----|--|--|---|--|----------------------------|----|----------------------|--|------------------------------|----|---------|--|-------------|----|-------------------------------------|--|-------------------------------------|
| 特征   | <ul style="list-style-type: none"> <li>● 带宽：DC-400KHz</li> <li>● 上升/下降时间：1us</li> <li>● 增益：<math>1 \times 10^7 \text{V/A}</math> (&gt;10 k<math>\Omega</math>负载)</li> <li>● 极低噪声，等效输入噪声电流 <math>63 \text{fA}/\sqrt{\text{Hz}}</math></li> </ul>   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 应用领域 | <ul style="list-style-type: none"> <li>● 光电二极管与光电倍增管放大器</li> <li>● 光谱分析系统</li> <li>● 离子检测设备</li> <li>● 用于锁相放大器、模数转换器等的前置放大器</li> </ul>  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 规格   | <table border="0"> <tr> <td>测试条件</td> <td><math>V_s = \pm 12 \text{V}</math>, <math>T_a = 25^\circ \text{C}</math></td> </tr> <tr> <td>增益</td> <td>跨阻增益 <math>1 \times 10^7 \text{V/A}</math> (&gt;10 k<math>\Omega</math>负载)</td> </tr> <tr> <td></td> <td>增益精度 <math>\pm 3\%</math></td> </tr> <tr> <td>频率响应</td> <td>频率下限 DC</td> </tr> <tr> <td></td> <td>频率上限 400KHz (-3dB)</td> </tr> <tr> <td></td> <td>上升/下降时间 1us (10% - 90%)</td> </tr> <tr> <td>输入</td> <td>输入噪声电流 <math>63 \text{fA}/\sqrt{\text{Hz}}</math> (@10kHz)</td> </tr> <tr> <td></td> <td>输入噪声电压 <math>4.0 \text{nV}/\sqrt{\text{Hz}}</math> (@10kHz)</td> </tr> <tr> <td></td> <td>输入偏置电流 2 pA typ.</td> </tr> <tr> <td></td> <td>偏置电流补偿 <math>\pm 3 \text{nA}</math></td> </tr> <tr> <td></td> <td>最大输入电流 <math>\pm 1 \mu \text{A}</math></td> </tr> <tr> <td></td> <td>输入偏置电压 &lt; 2 mV</td> </tr> <tr> <td></td> <td>直流输入阻抗 50 <math>\Omega</math></td> </tr> <tr> <td>输出</td> <td>输出最大电压范围 <math>\pm 10 \text{V}</math> (&gt;10 k<math>\Omega</math>负载)</td> </tr> <tr> <td></td> <td>输出阻抗 50<math>\Omega</math> (最佳性能, 请使用&gt;10 k<math>\Omega</math>)</td> </tr> <tr> <td></td> <td>最大输出电流 <math>\pm 100 \text{mA}</math></td> </tr> <tr> <td>供电</td> <td>电压 <math>\pm 12 \text{V}</math></td> </tr> <tr> <td></td> <td>电流 <math>\pm 100 \text{mA}</math>, 典型值</td> </tr> <tr> <td>外壳</td> <td>重量 105g</td> </tr> <tr> <td></td> <td>材料 6061 铝合金</td> </tr> <tr> <td>温度</td> <td>存储温度 <math>-40 \dots +85^\circ \text{C}</math></td> </tr> <tr> <td></td> <td>工作温度 <math>-20 \dots +60^\circ \text{C}</math></td> </tr> </table> | 测试条件 | $V_s = \pm 12 \text{V}$ , $T_a = 25^\circ \text{C}$ | 增益 | 跨阻增益 $1 \times 10^7 \text{V/A}$ (>10 k $\Omega$ 负载) |  | 增益精度 $\pm 3\%$ | 频率响应 | 频率下限 DC |  | 频率上限 400KHz (-3dB) |  | 上升/下降时间 1us (10% - 90%) | 输入 | 输入噪声电流 $63 \text{fA}/\sqrt{\text{Hz}}$ (@10kHz) |  | 输入噪声电压 $4.0 \text{nV}/\sqrt{\text{Hz}}$ (@10kHz) |  | 输入偏置电流 2 pA typ. |  | 偏置电流补偿 $\pm 3 \text{nA}$ |  | 最大输入电流 $\pm 1 \mu \text{A}$ |  | 输入偏置电压 < 2 mV |  | 直流输入阻抗 50 $\Omega$ | 输出 | 输出最大电压范围 $\pm 10 \text{V}$ (>10 k $\Omega$ 负载) |  | 输出阻抗 50 $\Omega$ (最佳性能, 请使用>10 k $\Omega$ ) |  | 最大输出电流 $\pm 100 \text{mA}$ | 供电 | 电压 $\pm 12 \text{V}$ |  | 电流 $\pm 100 \text{mA}$ , 典型值 | 外壳 | 重量 105g |  | 材料 6061 铝合金 | 温度 | 存储温度 $-40 \dots +85^\circ \text{C}$ |  | 工作温度 $-20 \dots +60^\circ \text{C}$ |
| 测试条件 | $V_s = \pm 12 \text{V}$ , $T_a = 25^\circ \text{C}$   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 增益   | 跨阻增益 $1 \times 10^7 \text{V/A}$ (>10 k $\Omega$ 负载)   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 增益精度 $\pm 3\%$  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 频率响应 | 频率下限 DC   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 频率上限 400KHz (-3dB)  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 上升/下降时间 1us (10% - 90%)   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 输入   | 输入噪声电流 $63 \text{fA}/\sqrt{\text{Hz}}$ (@10kHz)   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 输入噪声电压 $4.0 \text{nV}/\sqrt{\text{Hz}}$ (@10kHz)  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 输入偏置电流 2 pA typ.  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 偏置电流补偿 $\pm 3 \text{nA}$  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 最大输入电流 $\pm 1 \mu \text{A}$   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 输入偏置电压 < 2 mV   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 直流输入阻抗 50 $\Omega$  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 输出   | 输出最大电压范围 $\pm 10 \text{V}$ (>10 k $\Omega$ 负载)  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 输出阻抗 50 $\Omega$ (最佳性能, 请使用>10 k $\Omega$ )   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 最大输出电流 $\pm 100 \text{mA}$  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 供电   | 电压 $\pm 12 \text{V}$  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 电流 $\pm 100 \text{mA}$ , 典型值  |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 外壳   | 重量 105g   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 材料 6061 铝合金   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
| 温度   | 存储温度 $-40 \dots +85^\circ \text{C}$   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |
|      | 工作温度 $-20 \dots +60^\circ \text{C}$   |      |   |    |   |  |                |      |         |  |                    |  |                         |    |   |  |  |  |                  |  |                          |  |                             |  |               |  |                    |    |  |  |   |  |                            |    |                      |  |                              |    |         |  |             |    |                                     |  |                                     |

|         |  |
|---------|--|
| 绝对最大额定值 | 输入电压 $\pm 5V$<br>供电电压 $\pm 20V$  |
| 连接器     | 输入                            BNC 母头<br>输出                            BNC 母头<br>电源接口                    M8 航空接头, 3 芯, 母头<br><div style="text-align: center;">  </div> <div style="margin-left: 200px;"> <p>1 = Brown (+12 V)<br/>           2 = Black (GND)<br/>           3 = Blue (-12 V)</p> </div> |
| 应用框图    | <p>光伏模式下的光电探测器偏置：用于低速应用和最小暗电流。</p>  <p>光导模式下的光电探测器偏置：用于快速应用以及如果能够容忍更多暗电流，偏置电压会降低探测器电容。</p>    |

尺寸



发货清单

| 序号 | 名称       | 规格参数              | 数量 | 备注   |
|----|----------|-------------------|----|------|
| 1  | 低噪声电流放大器 | /                 | 1  |      |
| 2  | 电源线      | 3 芯屏蔽线, M8 公头, 2m | 1  | 不含电源 |
| 3  | 射频线      | RG316-BNC-JJ, 1m  | 1  |      |