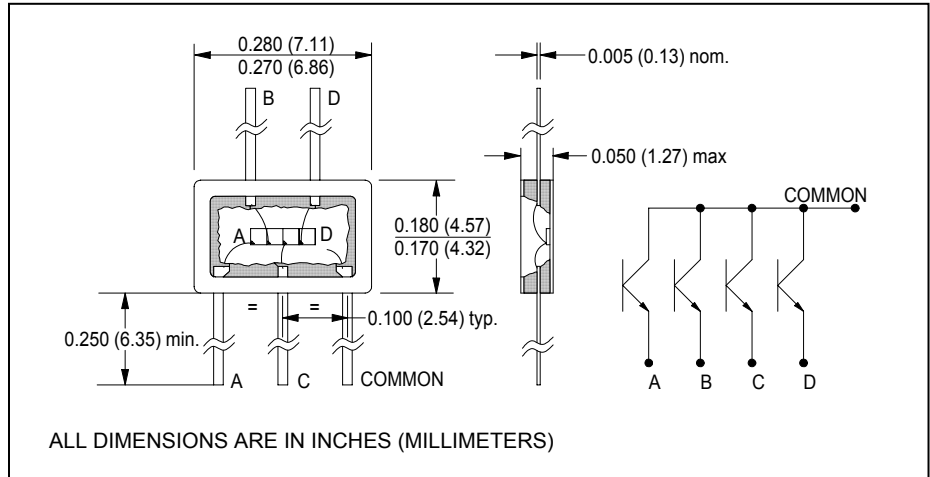
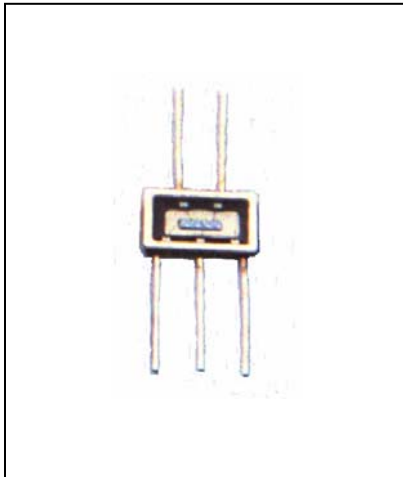


CLA101

Four Channel Phototransistor Array



September, 2001



features

- Full range of sensor chips
- Full range of emitter chips
- Miniature surface mountable package

description

The CLA101 four channel phototransistor array can be custom designed with photodiode or photo-IC chips. An emitter version is also available using same wavelength or different wavelength die. For additional information, call Clairex.

absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

| | |
|--|-----------------|
| storage temperature..... | -40°C to +100°C |
| operating temperature | -40°C to +100°C |
| lead soldering temperature ⁽¹⁾ | 260°C |
| maximum continuous current ⁽²⁾ | 50mA |
| peak forward current (1.0ms pulse width, 10% duty cycle) | 1A |
| reverse voltage | 5V |
| continuous power dissipation ⁽³⁾ | 75mW |

notes:

1. At the base of the header for 5 seconds maximum.
2. Derate linearly 0.53mA/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.
3. Derate linearly 0.80mW/°C from 25°C free air temperature to $T_A = +100^\circ\text{C}$.

| electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|--------------------------------------|-----|-----|-----|---------------|---|
| symbol | parameter | min | typ | max | units | test conditions |
| I_L | Light current ⁽⁴⁾ | 150 | - | - | μA | $E_e=1\text{mW}/\text{cm}^2, V_{CE}=5\text{V}$ |
| | Matching factor | - | - | 0.4 | - | $(I_{L\text{HIGH}}-I_{L\text{LOW}})/I_{L\text{HIGH}}$ |
| I_D | Dark current | - | - | 100 | nA | $V_{CE} = 10\text{V}, H=0$ |
| $V_{(BR)CEO}$ | Collector-emitter breakdown voltage | 40 | - | - | V | $I_{CE} = 0.1\text{mA}$ |
| $V_{(BR)ECO}$ | Emitter-collector breakdown voltage | 5.0 | - | - | V | $I_{EC} = 0.1\text{mA}$ |
| $V_{CE(SAT)}$ | Collector-emitter saturation voltage | - | - | 0.4 | V | $E_e=20\text{mW}/\text{cm}^2, I_{CE}=0.5\text{mA}$ |
| t_r, t_f | Rise and fall times | - | 3.0 | - | μs | $R_L=100\Omega, V_{CE}=5\text{V}$ |

Note: 4. Radiation source for light current testing is tungsten at 2854°K.

Clairex reserves the right to make changes at any time to improve design and to provide the best possible product.

Revised 3/15/06

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