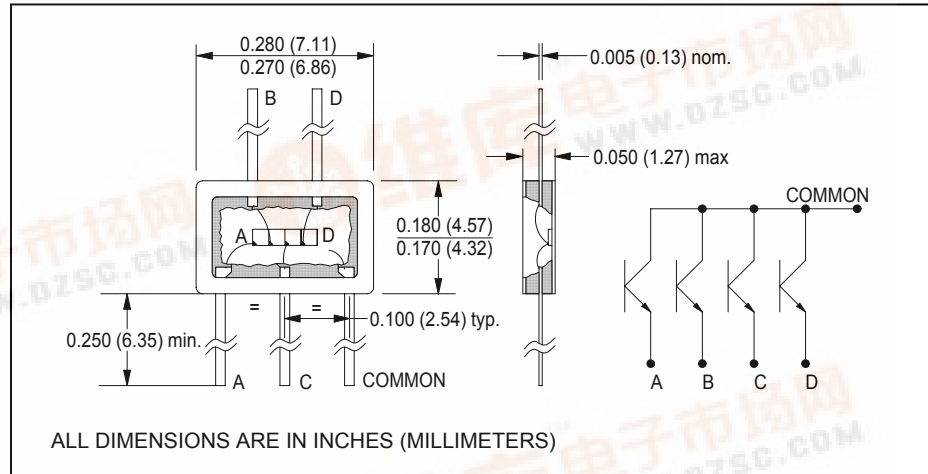


CLA101

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.