

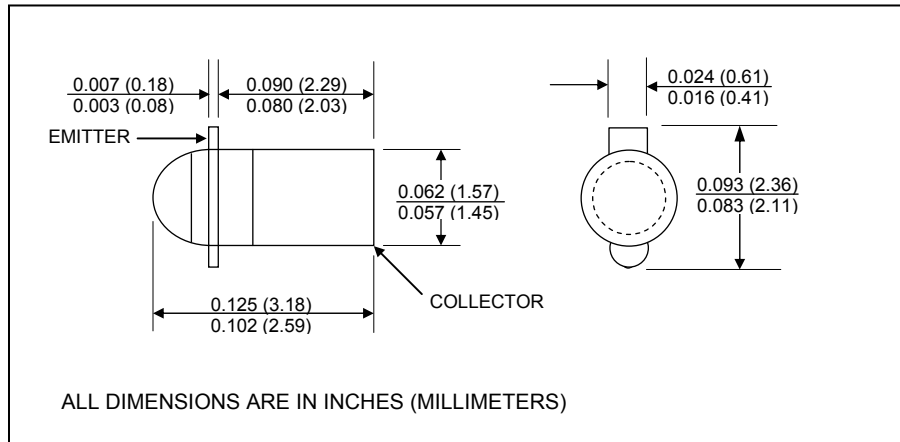
CLT250

NPN Silicon Phototransistor

PRELIMINARY



June, 2006



features

- $\pm 18^\circ$ acceptance angle
- Miniature hermetic package
- High sensitivity
- Spectrally matched to the CLE250
- RoHS compliant

description

The CLT250 is an NPN silicon phototransistor mounted in a hermetically sealed package with a glass lens. This package is ideally suited for mounting into double-sided PC boards and is capable of reliable operation over a wide temperature range.

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

storage temperature	-65°C to $+150^\circ\text{C}$
operating temperature	-65°C to $+125^\circ\text{C}$
lead soldering temperature ⁽¹⁾	260°C
collector-emitter voltage	30V
emitter-collector voltage	5V
continuous power dissipation ⁽²⁾	125mW

notes:

1. 5 seconds maximum.
2. Derate linearly $1.0\text{mW}/^\circ\text{C}$ from 25°C free air temperature to $T_A = +125^\circ\text{C}$.

electrical characteristics (at $T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
I_L	Light current ⁽³⁾	7.0	-	-	mA	$V_{CE} = 5\text{V}$, $H = 20\text{mW}/\text{cm}^2$
I_{CEO}	Collector dark current	-	-	100	nA	$V_{CE} = 10\text{V}$, $H = 0$
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	30	-	-	V	$V_{CE} = 10\text{V}$, $I_C = 100\mu\text{A}$
$V_{(BR)ECO}$	Emitter-Collector breakdown voltage	5.0	-	-	V	$V_{CE} = 10\text{V}$, $I_E = 100\mu\text{A}$
$V_{CE(SAT)}$	Collector-emitter saturation voltage	-	-	0.4	V	$I_C = 1\text{mA}$, $H = 20\text{mW}/\text{cm}^2$
Θ_{HP}	Total angle at half sensitivity points	-	36	-	deg.	
t_r, t_f	Radiation rise and fall time	-	15	-	μs	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$, $R_L = 1\text{K}\Omega$

notes: 3. The radiation source is a tungsten lamp operating at a color temperature of 2854°K .

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

Revised 4/22/06