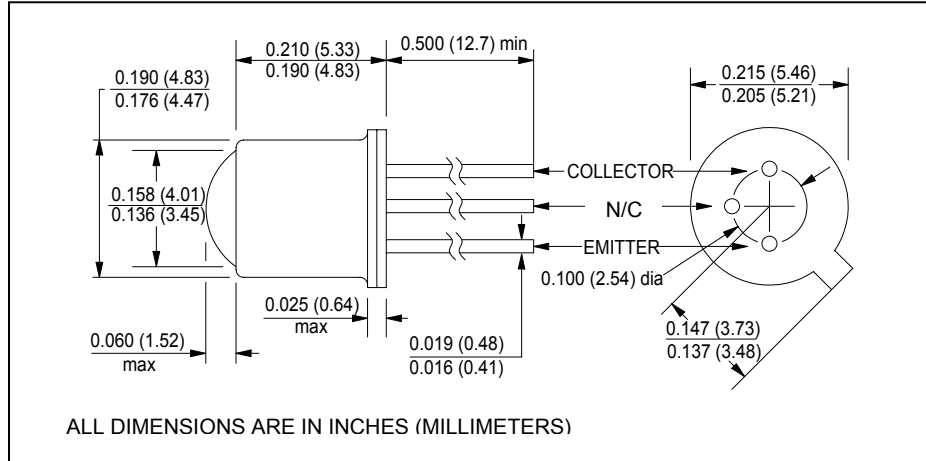
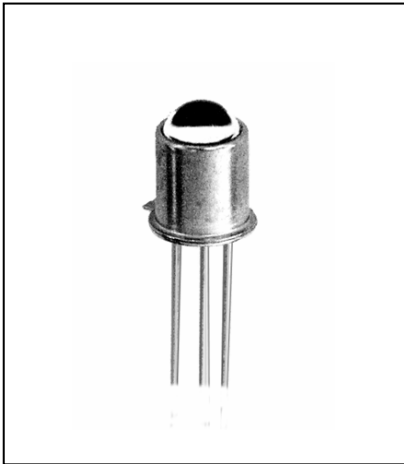


CLT135

NPN Silicon Phototransistor



July, 2001



features

- high sensitivity
- $\pm 9^\circ$ acceptance angle
- custom aspheric lensed TO-18 package
- transistor base is not bonded
- tested and characterized at 940nm
- usable throughout visible and near infrared spectrum
- RoHS compliant

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
continuous collector current	50mA
continuous power dissipation ⁽²⁾	250mW

notes:

1. $0.06''$ (1.5mm) from the header for 5 seconds maximum
2. Derate linearly $2.0\text{mW}/^\circ\text{C}$ from 25°C free air temperature to $T_A = +125^\circ\text{C}$.

description

The CLT135 is an NPN silicon phototransistor mounted in a TO-18 package which features a custom double convex glass-to-metal sealed aspheric lens. Narrow acceptance angle enables excellent on-axis coupling. The CLT135 is spectrally and mechanically matched to the CLE135 IRED. For additional information, call Clairex.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
I_L	Light current ⁽³⁾	1.0	2.5	-	mA	$V_{CE} = 5V, E_e = 0.5\text{mW}/\text{cm}^2$
I_{CEO}	Collector dark current	-	-	25	nA	$V_{CE} = 10V, E_e = 0$
$V_{(BR)CEO}$	Collector-emitter breakdown	30	-	-	V	$I_C = 100\mu\text{A}$
t_r, t_f	Output rise and fall time	-	3.0	-	μs	$I_C = 1.0\text{mA}, V_{CE}=5V, R_L=100\Omega$.
θ_{HP}	Total angle at half sensitivity points	-	18	-	deg.	

notes: 3. Radiation source is an aluminum gallium arsenide IRED operating at a peak emission wavelength of 940nm