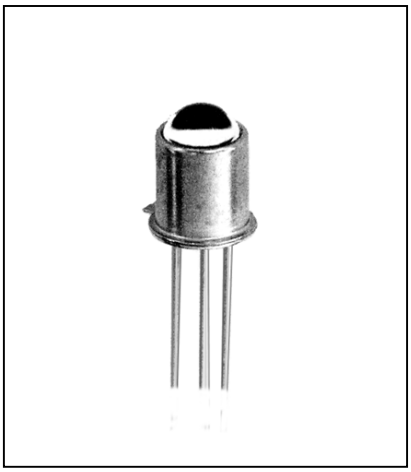
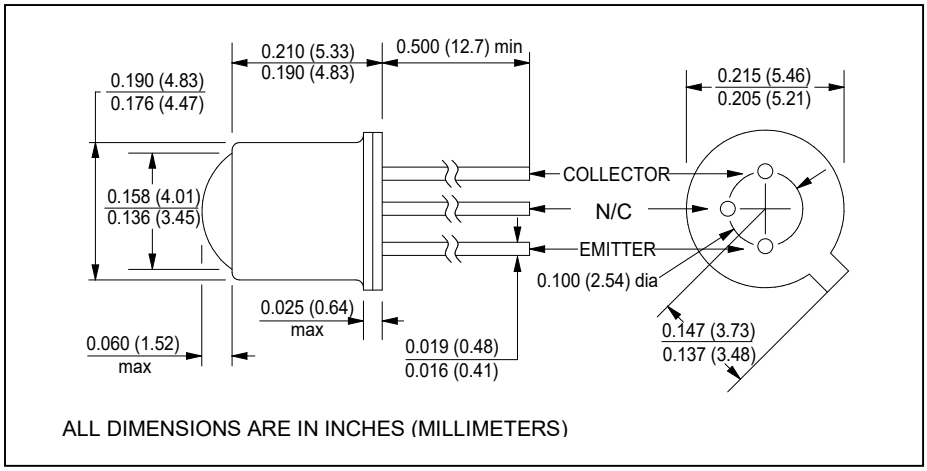
CLT135
NPN Silicon Phototransistor

CLAIREX® SEMICONDUCTOR

13-1350A





features

- high sensitivity
- ±9° acceptance angle
- tall glass lens TO-18 package
- transistor base is not bonded
- tested and characterized at 940 nm
- usable throughout visible and near infrared spectrum

description

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

absolute maximum ratings (T_A = 25°C unless otherwise stated)

storage temperature	-65°C to +150°C
operating temperature	-65°C to +125°C
lead soldering temperature[1]	260°C
collector-emitter voltage	50 V
continuous collector current	50 mA
continuous power dissipation	250 mW[2]

notes:

1. 0.06" (1.5 mm) from the header for 5 seconds maximum
2. Derate linearly 2.25 mW/°C from 25°C free air temperature to T_A = +125°C.
3. Radiation source is an AlGaAs IRED with peak emission wavelength of 940nm providing the specified radiant intensity. Intensity level is not necessarily uniform over the detector area of the unit under test.
4. The radiation source is a pulsed AlGaAs IRED with rise and fall times of ≤0.3μs.

electrical characteristics (T_A = 25°C unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
I_L	Light current[3]	1.0	-	-	mA	V_{CE} = 5 V, E_e = 500 μW/cm²
I_D	Collector dark current	-	-	100	nA	V_{CE} = 10 V, E_e = 0
$V_{(BR)CEO}$	Collector-emitter breakdown	50	-	-	V	I_C = 100 μA, E_e = 0
$V_{(BR)ECO}$	Emitter-Collector breakdown	5.0	-	-	V	I_E = 100 μA, E_e = 0
$V_{(CE)SAT}$	Collector-emitter saturation voltage	-	-	0.4	V	I_C = 0.15 mA, E_e =500 μW/cm²
t_r, t_f	Output rise and fall time[4]	-	5.0	-	μs	V_{CC} = 5 V, I_C = 0.8 mA R_L = 1 kΩ.
θ_{HP}	Total angle at half sensitivity points	-	18	-	deg.	

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