

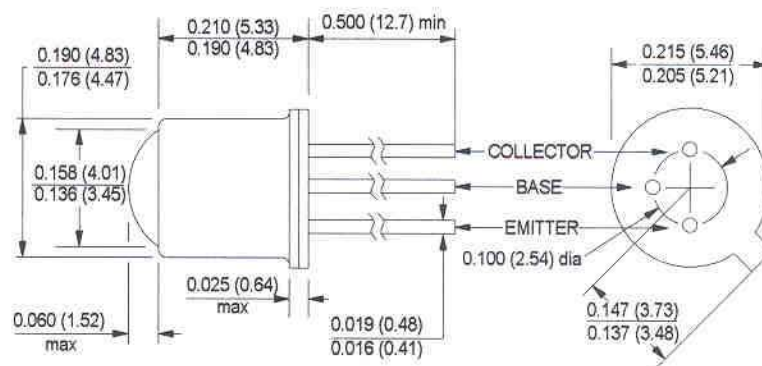
NPN Silicon Photodarlington



Clairex®
Technologies, Inc.

CLR130, CLR131, and CLR132 are exact replacements for obsolete part numbers CLR2169, CLR2170 and CLR2180.

April, 2002



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

features

- high sensitivity
- 18° acceptance angle
- custom aspheric lensed TO-18 package
- transistor base is bonded
- usable throughout visible and near infrared spectrum

absolute maximum ratings ($T_A = 25^\circ\text{C}$ 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.....	30V
continuous collector current.....	50mA
maximum continuous power dissipation.....	250mW ⁽²⁾

description

The CLR130-CLR132 series are NPN silicon photodarlington transistors mounted in TO-18 packages. Photodarlington transistors allow high sensitivity at low irradiance levels. A custom double convex glass-to-metal sealed aspheric lens provides a narrow acceptance angle for excellent on-axis coupling. These devices are mechanically and spectrally matched to the CLE130-CLE133 series IREDs. For additional information, call Clairex.

notes:

- 0.06" (1.5mm) from the header for 5 seconds maximum
- Derate linearly 2.5mW/°C from 25°C free air temperature to $T_A = +125^\circ\text{C}$.

electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions
I_L	Light current ⁽¹⁾ CLR130 CLR131 CLR132	0.5 2.0 4.0	- - -	- - -	mA mA mA	$V_{CE}=5V, E_e=0.06mW/cm^2$
I_{CEO}	Collector dark current	-	-	100	nA	$V_{CE}=10V, E_e=0$
$V_{(BR)CEO}$	Collector-emitter breakdown	30	-	-	V	$I_C=100\mu A$
t_r	Output time	-	100	-	μs	$V_{CC}=5V, R_L=100\Omega.$
t_f	Output fall time	-	150	-	μs	$V_{CC}=5V, R_L=100\Omega.$
θ_{HP}	Total angle at half sensitivity points	-	18	-	deg.	

note: 1. Radiation source for all light current testing is a 940nm IRED.

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

Clairex Technologies, Inc.
Phone: 972-422-4676

1845 Summit Ave., #404
Fax: 972-423-8628

Plano, Texas 75074-8148
www.clairex.com