

CLR130, CLR131, CLR132

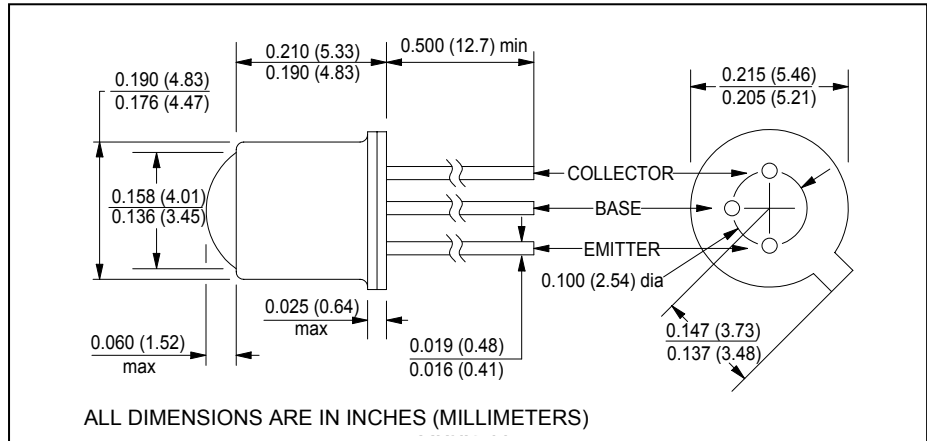
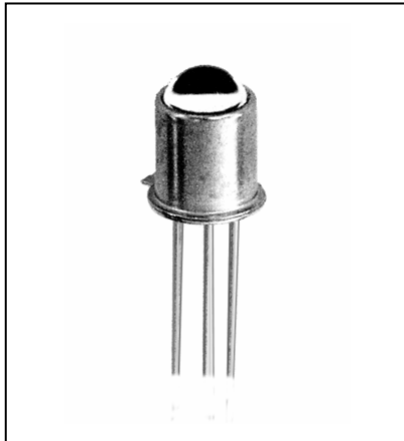
NPN Silicon Photodarlington

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



Clairex
Technologies, Inc.

April, 2002



features

- high sensitivity
- $\pm 20^\circ$ acceptance angle
- custom aspheric lensed TO-18
- transistor base is bonded
- usable throughout visible and near infrared spectrum
- RoHS compliant

description

The CLR130-CLR132 series are NPN silicon photodarlington mounted in TO-18 packages. Photodarlington 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.

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	15V
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 2.0mW/°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	0.5	-	-	mA	$V_{CE}=5V, E_e=0.06\text{mW}/\text{cm}^2$
		CLR131	2.0	-	-	mA	
		CLR132	4.0	-	-	mA	
I_{CEO}	Collector dark current	-	-	100	nA	$V_{CE}=10V, E_e=0$	
$V_{(BR)CEO}$	Collector-emitter breakdown	15	-	-	V	$I_C=100\mu\text{A}$	
t_r	Output time	-	100	-	μs	$V_{CE}=5V, R_L=100\Omega$.	
t_f	Output fall time	-	150	-	μs	$V_{CE}=5V, R_L=100\Omega$.	
θ_{HP}	Total angle at half sensitivity points	-	40	-	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.

Revised 3/16/06

Clairex Technologies, Inc.
Phone: 972-265-4900

1301 East Plano Parkway
Fax: 972-265-4949

Plano, Texas 75074-8524
www.clairex.com