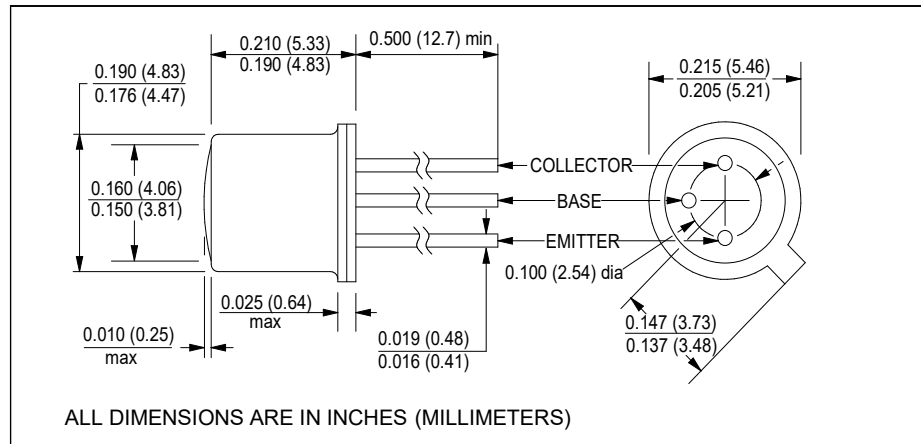


CLR130W, CLR131W, CLR132W

NPN Silicon Photodarlington



features

- high sensitivity
- $\pm 35^\circ$ acceptance angle
- TO-18 hermetically sealed package
- base is bonded

description

The CLR130W-CLR132W series are NPN silicon photodarlington mounted in TO-18 flat window packages. The wide acceptance angle provided by the flat window enables even reception over a relatively large area. Photodarlington allow high sensitivity at low irradiance levels. These devices are mechanically and spectrally matched to the CLE335 series IREDs. For additional information, contact 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	15 V
continuous collector current	50 mA
continuous power dissipation ⁽²⁾	250 mW

notes:

1. 0.06" (1.5 mm) from the header for 5 seconds maximum
2. Derate linearly 2.0 mW/°C from 25°C free air temperature to $T_A = +125^\circ\text{C}$.
3. Radiation source is an AlGaAs IRED with peak emission wavelength of 850nm 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 $\leq 0.3\mu\text{s}$.

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

symbol	parameter	min	typ	max	units	test conditions	
I_L	Light current ⁽³⁾	CLR130W	0.2	-	-	mA	$V_{CE} = 5\text{ V}$, $E_e = 60\ \mu\text{W}/\text{cm}^2$
		CLR131W	0.6	-	-	mA	
		CLR132W	1.4	-	-	mA	
I_{CEO}	Collector dark current	-	-	100	nA	$V_{CE} = 10\text{ V}$, $E_e = 0$	
$V_{(BR)CEO}$	Collector-emitter breakdown	15	-	-	V	$I_C = 100\ \mu\text{A}$, $E_e = 0$	
$V_{CE(sat)}$	Collector-emitter saturation voltage	-	-	1.1	V	$I_C = 0.15\text{ mA}$, $E_e = 60\ \mu\text{W}/\text{cm}^2$	
t_r	Output rise time ⁽⁴⁾	-	100	-	μs	$V_{CC} = 5\text{ V}$, $R_L = 100\ \Omega$.	
t_f	Output fall time ⁽⁴⁾	-	150	-	μs	$V_{CC} = 5\text{ V}$, $R_L = 100\ \Omega$.	
θ_{HP}	Total angle at half sensitivity points	-	70	-	deg.		

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