

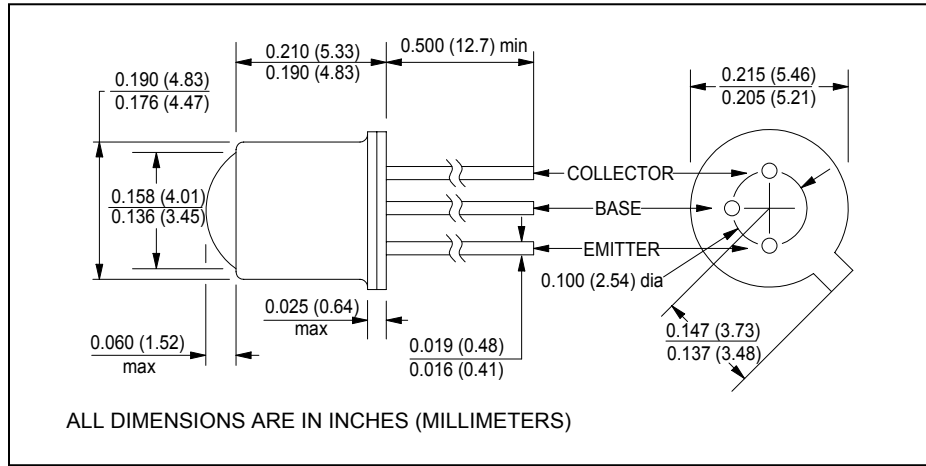
# CLT130, CLT131, CLT132, CLT133

## NPN Silicon Phototransistors

CLT130, CLT131, CLT132 and CLT133 are exact replacements for obsolete part numbers CLT2130, CLT2140, CLT2150 and CLT2160.



July, 2001



### 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<sub>A</sub> = 25°C unless otherwise stated)

storage temperature.....	-65°C to +150°C
operating temperature.....	-65°C to +125°C
lead soldering temperature <sup>(1)</sup> .....	260°C
collector-emitter voltage.....	.30V
continuous collector current.....	.50mA
maximum continuous power dissipation.....	250mW <sup>(2)</sup>

### description

The CLT130-CLT133 series are NPN silicon phototransistors mounted in TO-18 packages which feature custom double convex glass-to-metal sealed aspheric lenses. Narrow acceptance angle enables excellent on-axis coupling. These devices are mechanically and spectrally matched to the CLE130-CLE133 series IREDs. For additional information, call Clairex.

### 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<sub>A</sub> = +125°C.

### electrical characteristics (T<sub>A</sub> = 25°C unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions	
I <sub>L</sub>	Light current <sup>(1)</sup>	CLT130	0.60	-	-	mA	V <sub>CE</sub> =5V, E <sub>e</sub> =1.5mW/cm <sup>2</sup>
		CLT131	1.2	-	-	mA	V <sub>CE</sub> =5V, E <sub>e</sub> =1.5mW/cm <sup>2</sup>
		CLT132	2.4	-	-	mA	V <sub>CE</sub> =5V, E <sub>e</sub> =1.5mW/cm <sup>2</sup>
		CLT133	4.0	-	-	mA	V <sub>CE</sub> =5V, E <sub>e</sub> =1.5mW/cm <sup>2</sup>
I <sub>CEO</sub>	Collector dark current	-	-	25	nA	V <sub>CE</sub> =10V, E <sub>e</sub> =0	
V <sub>(BR)CEO</sub>	Collector-emitter breakdown	30	-	-	V	I <sub>C</sub> =100μA	
t <sub>r</sub> , t <sub>f</sub>	Output rise and fall time	-	3	-	μs	V <sub>CC</sub> =5V, R <sub>L</sub> =100Ω.	
θ <sub>HP</sub>	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.

Revised 12/01/04

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

1301 East Plano Parkway  
Fax: 972-265-4949

Plano, Texas 75074-8524  
www.clairex.com