

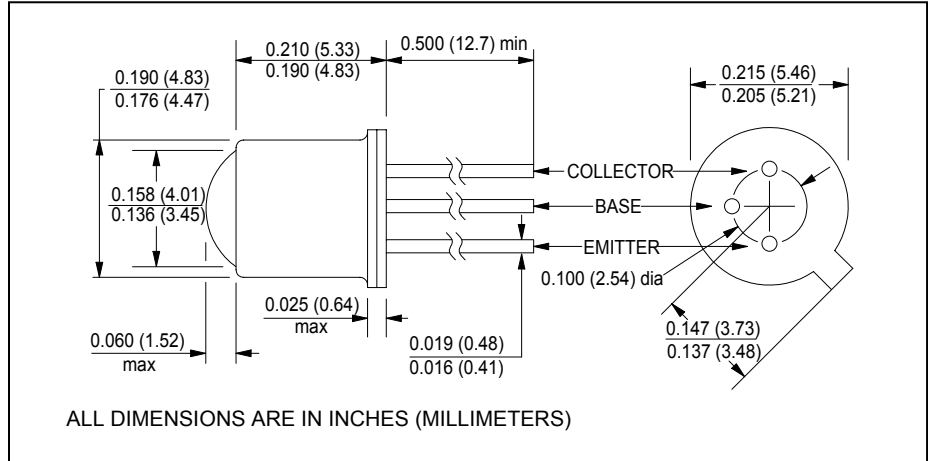
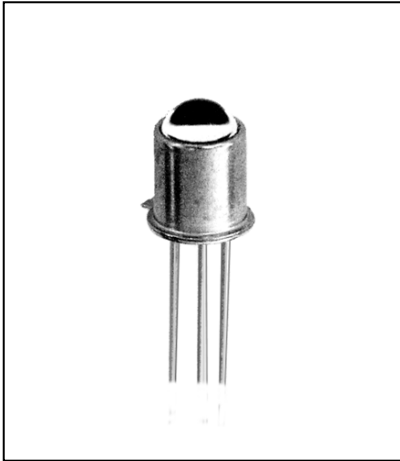
# CLT130, CLT131, CLT132, CLT133

## NPN Silicon Phototransistors

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



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### features

- high sensitivity
- $\pm 9^\circ$  acceptance angle
- custom aspheric lensed TO-18 package
- collector base is bonded
- usable throughout visible and near infrared spectrum
- RoHS compliant

### 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 of 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 <sup>(1)</sup>	260°C
collector-emitter voltage	30V
continuous collector current	50mA
continuous power dissipation <sup>(2)</sup>	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 <sup>(3)</sup>	CLT130	0.60	-	-	mA	$V_{CE}=5V, E_e=1.5\text{mW}/\text{cm}^2$
		CLT131	1.2	-	-	mA	$V_{CE}=5V, E_e=1.5\text{mW}/\text{cm}^2$
		CLT132	2.4	-	-	mA	$V_{CE}=5V, E_e=1.5\text{mW}/\text{cm}^2$
		CLT133	4.0	-	-	mA	$V_{CE}=5V, E_e=1.5\text{mW}/\text{cm}^2$
$I_{CEO}$	Collector dark current	-	-	25	nA	$V_{CE}=10V, E_e=0$	
$V_{(BR)CEO}$	Collector-emitter breakdown	30	-	-	V	$I_C=100\mu\text{A}$	
$t_r, t_f$	Output rise and fall time	-	5.0	-	$\mu\text{s}$	$I_C=1\text{mA}, V_{CE}=5V, R_L=1\text{k}\Omega$	
$\theta_{HP}$	Total angle at half sensitivity points	-	18	-	deg.		

note: 3. 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.

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