

CLT130W, CLT131W, CLT132W

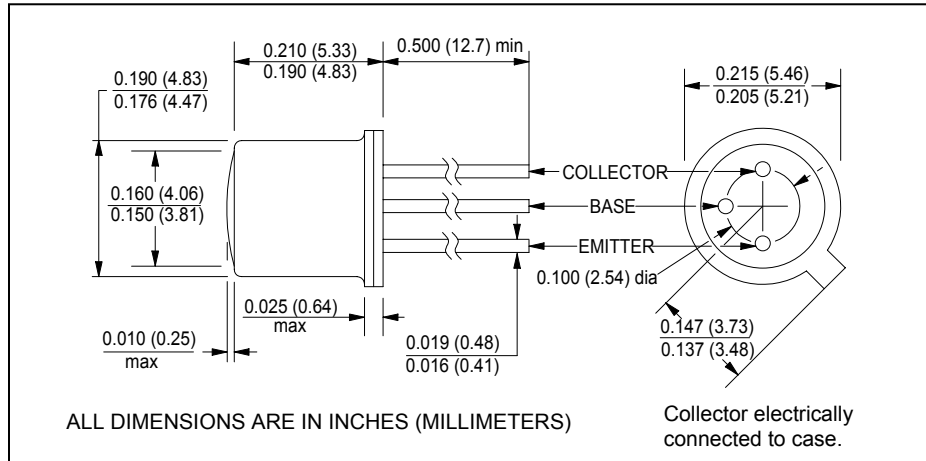
NPN Silicon Phototransistors

The CLT130W, CLT131W and CLT132W are exact replacements for obsolete part numbers CLT2020, CLT2030 and CLT2035.



Clairex
Technologies, Inc.

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features

- high sensitivity
- 70° acceptance angle
- TO-18 hermetically sealed package
- transistor base is bonded

description

The CLT130W, CLT131W and CLT132W are silicon NPN planar epitaxial phototransistors mounted in TO-18 flat window packages. The wide acceptance angle provided by the flat window enables even reception over a relatively large area. For additional information, call Clairex.

absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise stated)

storage temperature.....	-65°C to $+200^\circ\text{C}$
operating temperature.....	-65°C to $+150^\circ\text{C}$
lead soldering temperature ⁽¹⁾	260°C
collector-emitter voltage.....	30V
continuous collector current.....	50mA ⁽²⁾
maximum continuous power dissipation.....	250mW ⁽³⁾

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. 200mA when pulsed at 300 μs , 2% duty cycle.
3. Derate linearly 2.0mW/ $^\circ\text{C}$ from 25°C free air temperature to $T_A = +150^\circ\text{C}$.

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

symbol	parameter	min	typ	max	units	test conditions
I_L	Light current ⁽¹⁾					
	CLT130W	0.4	-	-	mA	$V_{CE}=5V$, $E_e=5\text{mW/cm}^2$
	CLT131W	1.0	-	-	mA	$V_{CE}=5V$, $E_e=5\text{mW/cm}^2$
	CLT132W	2.5	-	-	mA	$V_{CE}=5V$, $E_e=5\text{mW/cm}^2$
I_{CEO}	Collector dark current					
	CLT130W	-	-	25	nA	$V_{CE}=10V$, $E_e=0$
	CLT131W	-	-	25	nA	$V_{CE}=10V$, $E_e=0$
	CLT132W	-	-	100	nA	$V_{CE}=10V$, $E_e=0$
$V_{(BR)CEO}$	Collector-emitter breakdown	30	-	-	V	$I_C=100\mu\text{A}$
$V_{(BR)CBO}$	Collector-base breakdown	60	-	-	V	$I_C=100\mu\text{A}$
$V_{(BR)ECO}$	Emitter-collector breakdown	5	-	-	V	$I_C=100\mu\text{A}$
$V_{CE(sat)}$	Collector-emitter saturation voltage	-	-	0.30	V	$I_C=10\text{mA}$, $I_B=0.5\text{mA}$, $E_e=0$
t_r , t_f	Output rise and fall time ⁽²⁾	-	3	-	μs	$I_C=1.0\text{mA}$
θ_{HP}	Total angle at half sensitivity points	-	70	-	deg.	

- notes: 1. Radiation source is a frosted tungsten incandescent lamp operating at 2854K or an equivalent source.
2. $V_{CC}=5V$, $R_L=100\Omega$. The light source is a pulsed gallium arsenide IRED with rise and fall times of $\leq 0.3\mu\text{s}$.

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

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