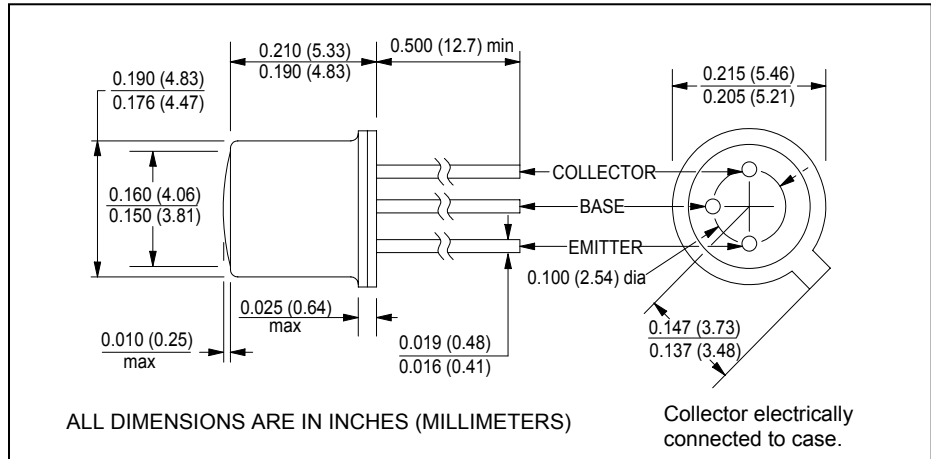


NPN Silicon Phototransistors



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

July, 2001



features

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

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

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

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

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum.
2. 200mA when pulsed at 1.0ms, 10% duty cycle.
3. Derate linearly 1.6mW/°C from 25°C free air temperature to $T_A = +150^{\circ}\text{C}$.

electrical characteristics (T_A = 25°C unless otherwise noted)

symbol	parameter	min	typ	max	units	test conditions	
I _L	Light current ⁽⁴⁾	CLT130W	0.4	-	-	mA	V _{CE} =5V, E _e =5.0mW/cm ²
		CLT131W	1.0	-	-	mA	V _{CE} =5V, E _e =5.0mW/cm ²
		CLT132W	2.5	-	-	mA	V _{CE} =5V, E _e =5.0mW/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 =100μA, E _e =0	
V _{(BR)CBO}	Collector-base breakdown	5.0	-	-	V	I _C =100μA, E _e =0	
V _{(BR)ECO}	Emitter-collector breakdown	5.0	-	-	V	I _E =100μA, E _e =0	
V _{CE(sat)}	Collector-emitter saturation voltage	-	-	0.30	V	I _C =0.4mA, E _e =5.0mW/cm ²	
t _r , t _f	Output rise and fall time ⁽⁵⁾	-	3.0	-	μs	V _{CC} =5V, R _L =1KΩ	
θ _{HP}	Total angle at half sensitivity points	-	70	-	deg.		

- notes:**
4. Radiation source for all light current testing is a 850nm IRED.
 5. The radiation source is a pulsed gallium arsenide IRED with rise and fall times of $\leq 0.3\mu s$.

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

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