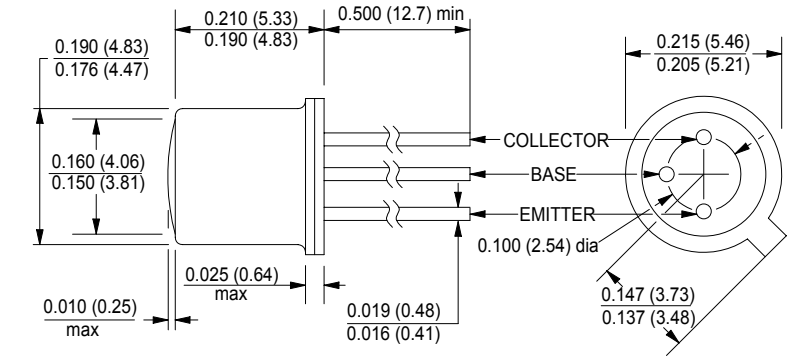
CLT130W, CLT131W, CLT132W

NPN Silicon Phototransistors

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

July, 2001



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

Collector electrically connected to case.

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°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.....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 300µs, 2% duty cycle.
3. Derate linearly 1.6mW/°C from 25°C free air temperature to T_A = +150°C.

electrical characteristics (T_A = 25°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=5mW/cm^2
		CLT131W	1.0	-	-	mA	V_{CE}=5V, E_e=5mW/cm^2
		CLT132W	2.5	-	-	mA	V_{CE}=5V, E_e=5mW/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=100µA
$V_{(BR)CBO}$	Collector-base breakdown		60	-	-	V	I_C=100µA
$V_{(BR)ECO}$	Emitter-collector breakdown		5	-	-	V	I_C=100µA
$V_{CE(sat)}$	Collector-emitter saturation voltage		-	-	0.30	V	I_C=10mA, I_B=0.5mA, E_e=0
t_r, t_f	Output rise and fall time[2]		-	3	-	µs	I_C=1.0mA
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=100Ω. The light source is a pulsed gallium arsenide IRED with rise and fall times of ≤0.3µs.

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