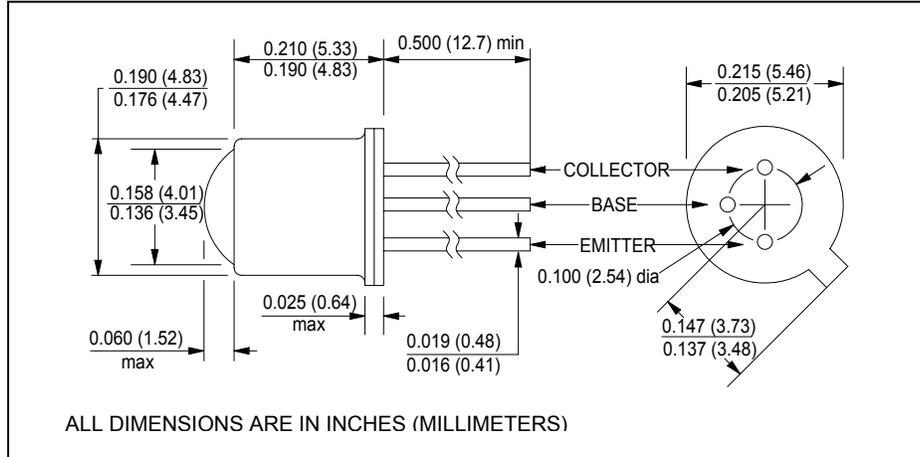
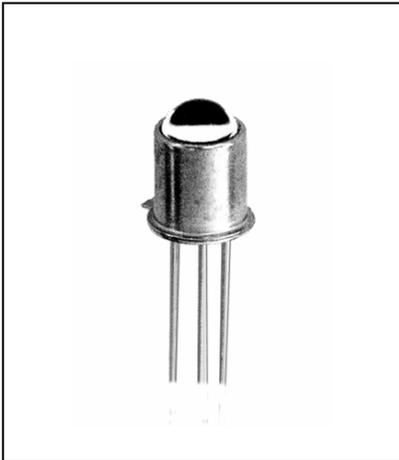


CLT135, CLT135A

NPN Silicon Phototransistors



July, 2001



features

- high sensitivity
- 18° acceptance angle
- custom aspheric lensed TO-18 package
- transistor base is not bonded
- tested and characterized at 940nm
- usable throughout visible and near infrared spectrum

description

The CLT135/CLT135A 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. The CLT135/CLT135A are mechanically and spectrally matched to the CLE135 IRED. 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 ⁽¹⁾	260°C
collector-emitter voltage.....	.25V
continuous collector current.....	.50mA
maximum continuous power dissipation.....	250mW ⁽²⁾

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 ⁽¹⁾	CLT135A	100	-	-	μA	$V_{CE}=5\text{V}, E_e=20\mu\text{W}/\text{cm}^2$
		CLT135A	-	12	-	mA	$V_{CE}=5\text{V}, E_e=1\text{mW}/\text{cm}^2$
		CLT135	10	-	-	μA	$V_{CE}=5\text{V}, E_e=20\mu\text{W}/\text{cm}^2$
		CLT135	-	5.0	-	mA	$V_{CE}=5\text{V}, E_e=1\text{mW}/\text{cm}^2$
I_{CEO}	Collector dark current		-	-	25	nA	$V_{CE}=10\text{V}, E_e=0$
$V_{(BR)CEO}$	Collector-emitter breakdown		25	-	-	V	$I_C=100\mu\text{A}$
t_r, t_f	Output rise and fall time ⁽²⁾		-	3.0	-	μs	$I_C=1.0\text{mA}$
θ_{HP}	Total angle at half sensitivity points		-	18	-	deg.	

notes:

1. Radiation source is a CLE135 IRED operating at a peak emission wavelength of 940nm.
2. $V_{CC}=5\text{V}, R_L=100\Omega$.

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

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