

# CLD240 Series

## Silicon PIN Photodiodes

CLD240 replaces CLD142 and CLD142R  
 CLD240E replaces CLD140  
 CLD240W replaces CLD141 and CLD141R

## UPGRADED SERIES



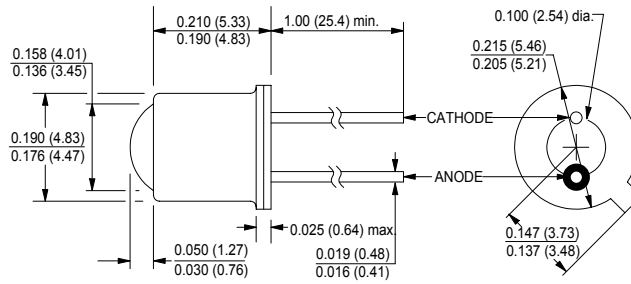
May, 2005

### features

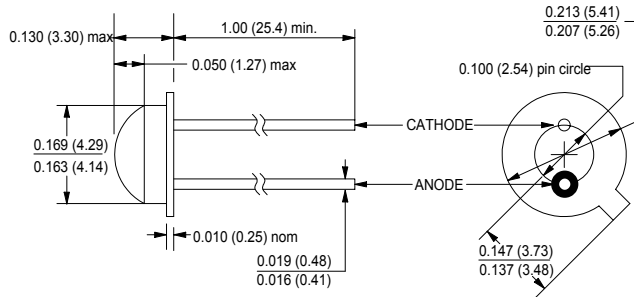
- TO-46 header with three lens options
- cathode connected to case
- large photosensitive area
- usable for visible through near-IR

### description

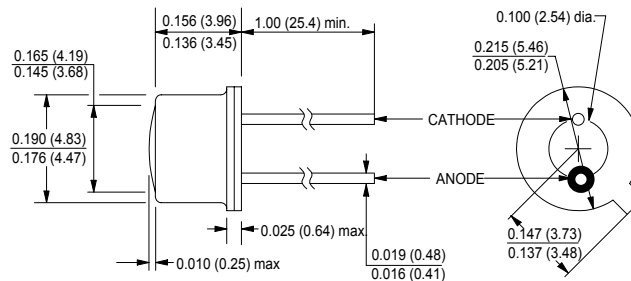
The CLD240 series are new, direct replacements for the older CLD140 series and feature larger (0.060" x 0.060") active area silicon PIN photodiode chips. Also featured are faster switching and lower junction capacitance. Three different lensing options are offered which satisfy the majority of application requirements. Contact Clairex for other packaging options.



**CLD240**



**CLD240E**



**CLD240W**

ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)

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

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Clairex Technologies, Inc.  
 Phone: 972-265-4900

1301 East Plano Parkway  
 Fax: 972-265-4949

Plano, Texas 75074-8524  
 www.clairex.com

# CLD240 Series

## Silicon PIN Photodiodes



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

storage and operating temperature

CLD240 and CLD240W .....  $-65^\circ\text{C}$  to  $+150^\circ\text{C}$

CLD240E .....  $-40^\circ\text{C}$  to  $+125^\circ\text{C}$

lead soldering temperature<sup>(1)</sup> .....  $260^\circ\text{C}$

reverse voltage .....  $60\text{V}$

**note:**

1. 0.06" (1.5mm) from the header for 5 seconds maximum.

electrical characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
<b>CLD240 Series</b>						
$I_D$	Dark current	-	-	10	nA	$V_R = 20\text{V}, E_e = 0$
		-	-	10	nA	$V_F = 100\text{mV}, E_e = 0$
$C_J$	Junction capacitance	-	14	-	pF	$V_{\text{BIAS}} = 0\text{V}, f = 1\text{MHz}, E_e = 0$
$V_{\text{BR}}$	Breakdown voltage	60	-	-	V	$I_R = 30\mu\text{A}, E_e = 0$
$t_r, t_f$	Output rise and fall time	-	15	20	ns	$R_L = 1\text{K}\Omega$
<b>CLD240</b>						
$I_{\text{SC}}$	Short-circuit current <sup>(2)</sup>	30	40	-	$\mu\text{A}$	$V_{\text{BIAS}} = 0\text{V}$
$\theta_{\text{HP}}$	Total angle at half sensitivity points	-	14	-	deg.	
<b>CLD240E</b>						
$I_{\text{SC}}$	Short-circuit current <sup>(2)</sup>	10	13	-	$\mu\text{A}$	$V_{\text{BIAS}} = 0\text{V}$
$\theta_{\text{HP}}$	Total angle at half sensitivity points	-	80	-	deg.	
<b>CLD240W</b>						
$I_{\text{SC}}$	Short-circuit current <sup>(2)</sup>	10	13	-	$\mu\text{A}$	$V_{\text{BIAS}} = 0\text{V}$
$\theta_{\text{HP}}$	Total angle at half sensitivity points	-	70	-	deg.	

**note:** 2.  $E_e = 1\text{mW}/\text{cm}^2, \lambda = 850\text{nm}$ .

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