

CLE335, CLE330E, CLE330W

850nm Super Efficient AlGaAs IREDS



features

- TO-46 header with three lens options
- cathode connected to case
- exceptionally high power output
- different package styles provide flexible design options
- RoHS compliant

description

The CLE335 series of products are high efficiency, high speed AlGaAs infrared emitting diodes. Output power typically exceeds standard AlGaAs emitters by 50%. The chip backside is N type material resulting in the case being common to the cathode. Three different lensing options are offered which satisfy the majority of application requirements. Contact Clairex for other package options.

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

storage temperature	CLE335 and CLE330W	-65°C to +150°C
	CLE330E	-65°C to +100°C
operating temperature	CLE335 and CLE330W	-65°C to +150°C
	CLE330E	-65°C to +100°C
lead soldering temperature ⁽¹⁾		260°C
continuous forward current ⁽²⁾		100mA
peak forward current (1.0ms pulse width, 10% duty cycle)		1A
reverse voltage		5V
continuous power dissipation ⁽³⁾		200mW

notes:

1. 0.06" (1.5mm) from the header for 5 seconds maximum
2. Derate linearly 0.64mA/°C from 25°C free air temperature to $T_A = +150^\circ\text{C}$ or 1.06mA/°C to $T_A = +100^\circ\text{C}$ (CLE330E).
3. Derate linearly 1.28mW/°C from 25°C free air temperature to $T_A = +150^\circ\text{C}$ or 2.13mW/°C to $T_A = +100^\circ\text{C}$ (CLE330E).

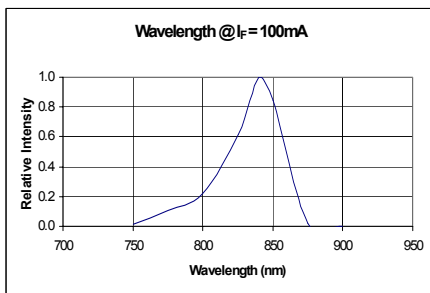
electrical characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
symbol	parameter	min	typ	max	units	test conditions
CLE335 Series						
V_F	Forward voltage	-	1.7	1.9	V	$I_F = 100\text{mA}$
I_R	Reverse current	-	-	10	μA	$V_R = 5\text{V}$
λ_p	Peak wavelength	-	850	-	nm	$I_F = 100\text{mA}$
BW	Spectral bandwidth	-	50	-	nm	$I_F = 20\text{mA}$
t_r	Output rise time	-	11	-	ns	$I_F = 100\text{mA}$, $f = 1\text{kHz}$, D.C.=50%
t_f	Output fall time	-	7.0	-	ns	$I_F = 100\text{mA}$, $f = 1\text{kHz}$, D.C.=50%
CLE330E						
P_O	Total output power	11	25	-	mW	$I_F = 100\text{mA}$
P_O	Total output power	2.0	3.0	-	mW	$I_F = 20\text{mA}$
θ_{HP}	Emission angle at half power points	-	80	-	deg.	$I_F = 20\text{mA}$
CLE330W						
P_O	Total output power	10	20	-	mW	$I_F = 100\text{mA}$
P_O	Total output power	2.0	3.0	-	mW	$I_F = 20\text{mA}$
θ_{HP}	Emission angle at half power points	-	70	-	deg.	$I_F = 20\text{mA}$
CLE335						
P_O	Total output power	10	20	-	mW	$I_F = 100\text{mA}$
E_e	Irradiance ⁽⁴⁾	2.5	3.5	-	mW/cm^2	$I_F = 100\text{mA}$
θ_{HP}	Emission angle at half power points	-	22	-	deg.	$I_F = 20\text{mA}$

note: 4. E_e is a measure of irradiance (power/unit area) within a 0.444" (1.128cm) diameter area, centered on the mechanical axis of the device and spaced 2.54" (6.45cm) from the lens side of the tab. This is geometrically equivalent to a 10° cone.

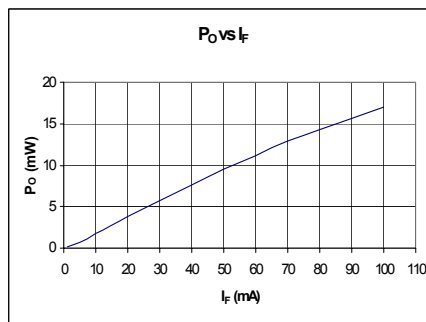
Clairex reserves the right to make changes at any time to improve design and to provide the best possible product.

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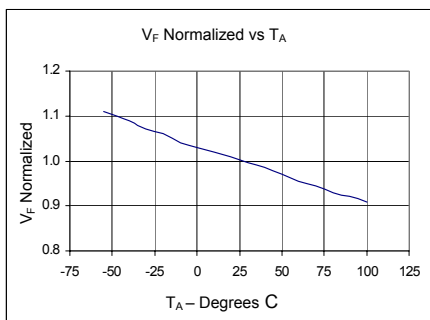
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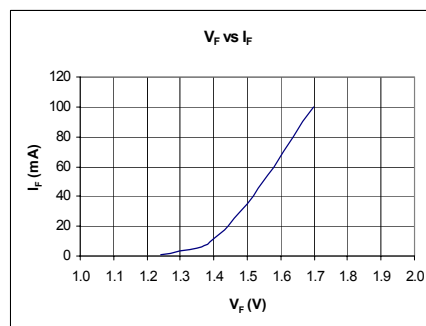
All Products



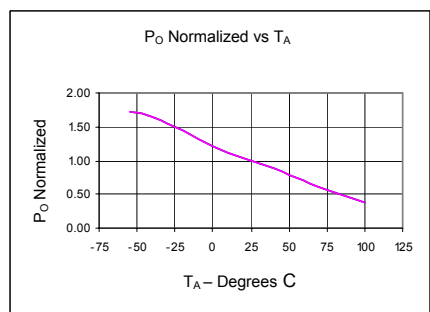
All Products



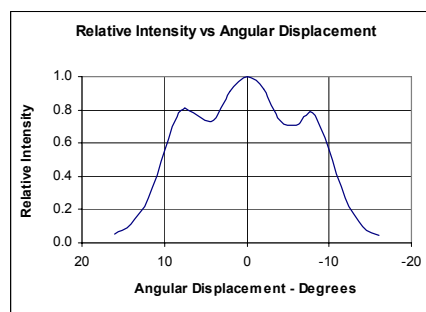
All Products



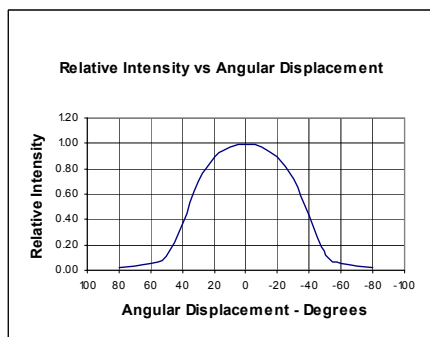
All Products



All Products



CLE335



CLE330E and CLE330W

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