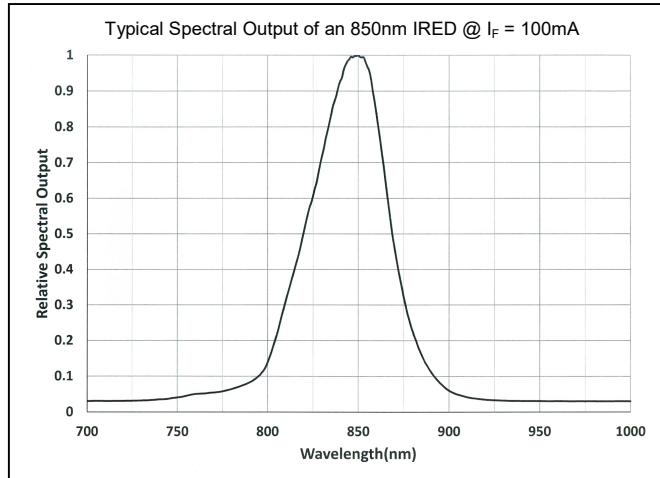
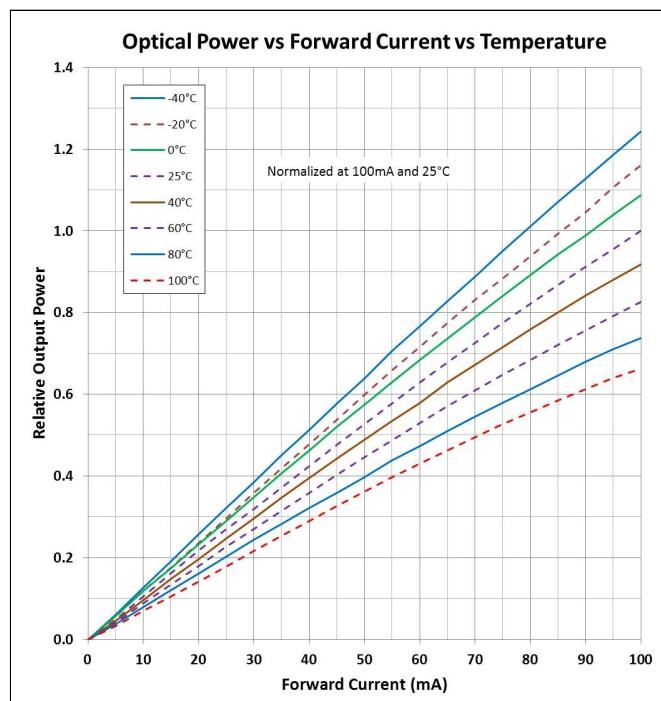
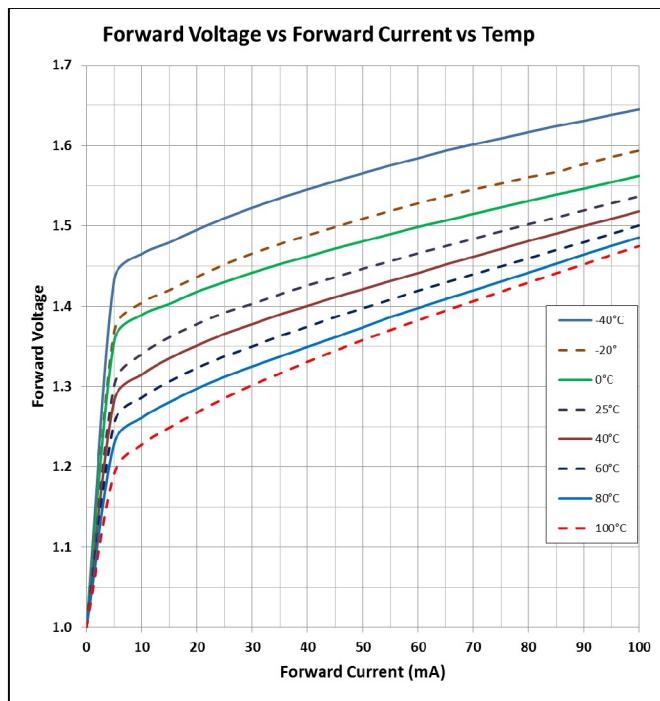


CLE335**High-efficiency AlGaAs IRED****CLAIRESX®
SEMICONDUCTOR**

12-3350A

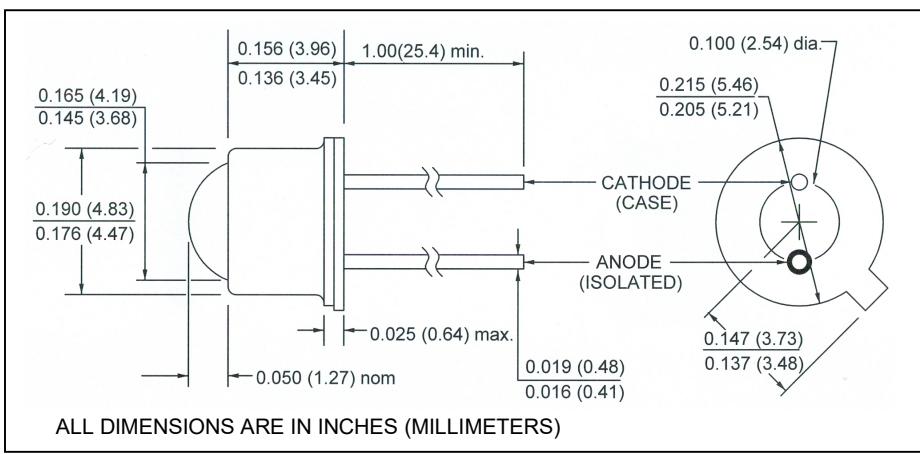


Clairex reserves the right to make changes at any time to improve design and to provide the best possible product.

Clairex Technologies, Inc.
dba Clairex Semiconductor

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**features**

- 150°C operating temperature
- 50% higher power output
- 850 nm peak wavelength
- cathode connected to case
- "P" side up

description

The CLE335 is an advanced, high-efficiency double hetero-junction, high speed AlGaAs infrared emitting diode. Output power exceeds standard AlGaAs Si-doped amphoteric-junction emitters by 50%. Degradation is less at 150°C than Si-doped amphoteric-junction emitters at 100°C. Contact Clairex for additional information.

absolute maximum ratings (T_A = 25°C unless otherwise stated)

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

notes:

1. 0.06" (1.5 mm) from the header for 5 seconds maximum.
2. Derate linearly 0.72 mA/°C from 25°C free air temperature to T_A = +150°C.
3. Derate linearly 1.44 mW/°C from 25°C free air temperature to T_A = +150°C.
4. Ø_e is a measurement of total radiant flux within a 0.444" (1.128 cm) detector that is centered on the mechanical axis of the device at a distance of 0.337" (0.86 cm) from the lens side of the tab to the active area of the detector.
5. E_e, radiant incidence is the flux per solid angle from a sensing surface. Distance from the lens side of the tab to the active area of the detector is 2.54" (6.45 cm). The diameter of the sensing surface is 0.444" (1.128 cm) (area = 1.0 cm²). This is geometrically equivalent to a 10° cone.
6. f = 1 kHz, Duty Cycle. = 50%.

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

symbol	parameter	min	typ	max	units	test conditions
Ø _e	Total radiant flux ⁽⁴⁾	-	20	-	mW	I _F = 100 mA
E _e	Irradiance ⁽⁵⁾	2.5	3.5	-	mW/cm ²	I _F = 100 mA
V _F	Forward voltage	-	1.7	1.9	V	I _F = 100 mA
I _R	Reverse current	-	-	10	µA	V _R = 3 V
λ _P	Peak emission wavelength	-	850	-	nm	I _F = 100 mA
BW	Spectral bandwidth at half power points	-	40	-	nm	I _F = 100 mA
Θ _{HP}	Emission angle at half power points	-	22	-	deg.	I _F = 100 mA
t _r	Radiation rise time	-	20	-	ns	I _{F(PK)} = 100 mA ⁽⁶⁾
t _f	Radiation fall time	-	40	-	ns	I _{F(PK)} = 100 mA ⁽⁶⁾

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