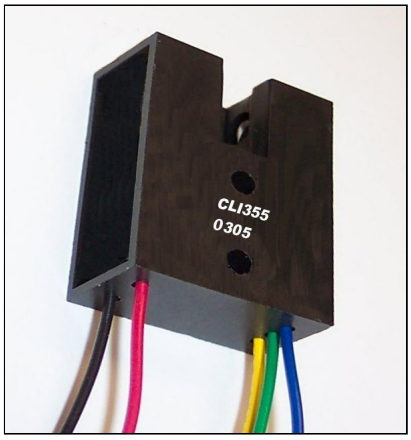
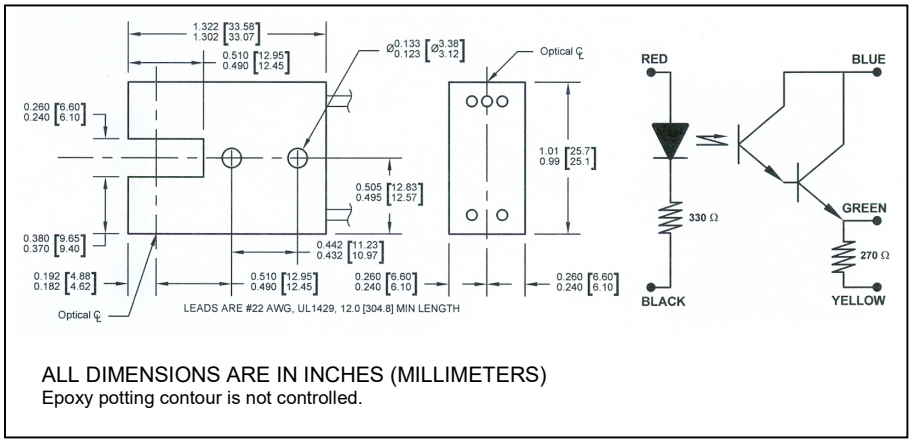
CLI355

IRED - Photodarlington Photointerrupter

CLAIREX® SEMICONDUCTOR

18-3550A





ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
Epoxy potting contour is not controlled.

features

- rugged VALOX® housing
- narrow beam alignment
- high sensor current level

description

The CLI355 consists of an IRED and a photodarlington secured in place with black epoxy backfill. This ensures maximum environmental protection and precise alignment when exposed to extreme conditions. Also contained is a 330Ω resistor in the IRED circuit and a 270Ω emitter load resistor. Featured are 12 inch leads and two holes for bracket mounting in any position. Contact Clairex for assistance.

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

storage and operating temperature.....-55°C to +100°C

IRED

continuous forward DC current.....60 mA
reverse DC voltage.....3 V
power dissipation(1).....100 mW

PHOTODARLINGTON

collector-emitter voltage.....30 V
maximum continuous collector current(2).....100 mA
power dissipation(3).....200 mW

notes:

1. Derate linearly 1.20 mW/°C from 25°C free air temperature to T_A = +100°C.
2. 200 mA when pulsed at 300 µs, 2% duty cycle.
3. Derate linearly 2.40 mW/°C from 25°C free air temperature to T_A = +100°C.
4. I_F = 0 indicates light path is blocked by an opaque object.

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

symbol	parameter	min	typ	max	units	test conditions
Input IRED						
V_F	Forward voltage	-	-	1.5	V	I_F = 16 mA
I_R	Reverse current	-	-	10	µA	V_R = 3 V
Output Photodarlington						
I_D	Collector-emitter dark current	-	-	100	nA	I_F = 0(4), V_{CE} = 10 V
Coupled						
$V_{CE(sat)}$	Saturation voltage	-	-	1.2	V	I_F = 10 mA, I_C = 4 mA
I_O	Sensor output current	12	-	-	mA	I_F = 10 mA, V_{CE} = 5 V
V_O	Voltage output across 270Ω resistor	3.2	-	-	V	I_F = 10 mA, V_{CE} = 5 V
V_{OFF}	Voltage output across 270Ω resistor	-	-	0.4	V	I_F = 0(4), V_{CE} = 5 V
t_r, t_f	Output rise and fall time	-	300	-	µsec	I_C = 2 mA, V_{CC} = 10 V, R_L =100Ω

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