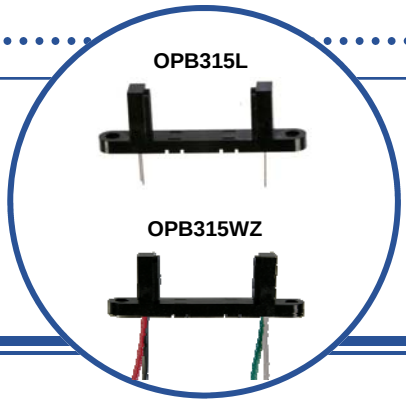
Slotted Optical Switch
OPB315 Series

TT electronics
OPTEK Technology



Features:

- Lateral package
- Opaque black plastic
- 850 nm wavelength
- Choice of leads or wires

Description:

Each slotted optical switch in this series consists of an infrared emitting diode (LED) and a NPN silicon phototransistor mounted on opposite sides of a 0.90” (22.9 mm) wide slot in an opaque black plastic package.

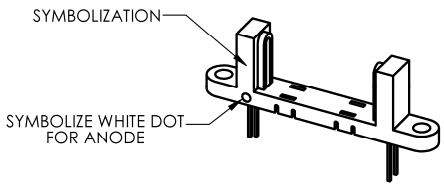
The **OPB315L** has 0.25” minimum leads, while the **OPB315WZ** has a minimum of 24” (610 mm) 26 AWG wires.

Phototransistor switching takes place whenever an opaque object passes through the slot.

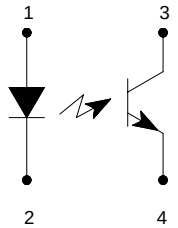
Applications:

- Non-contact object sensing
- Assembly line automation
- Machine automation
- Equipment security
- Machine safety

Ordering Information					
Part Number	**LED Peak Wavelength**	**Sensor**	**Slot Width / Depth**	**Aperture Emitter / Sensor**	**Wire or Lead Length / Gage**
OPB315L	850 nm	Transistor	0.90"/0.46”	0.03” R / 0.03” R	0.25” / N/A
OPB315WZ					24” min/ 26 AWG wires

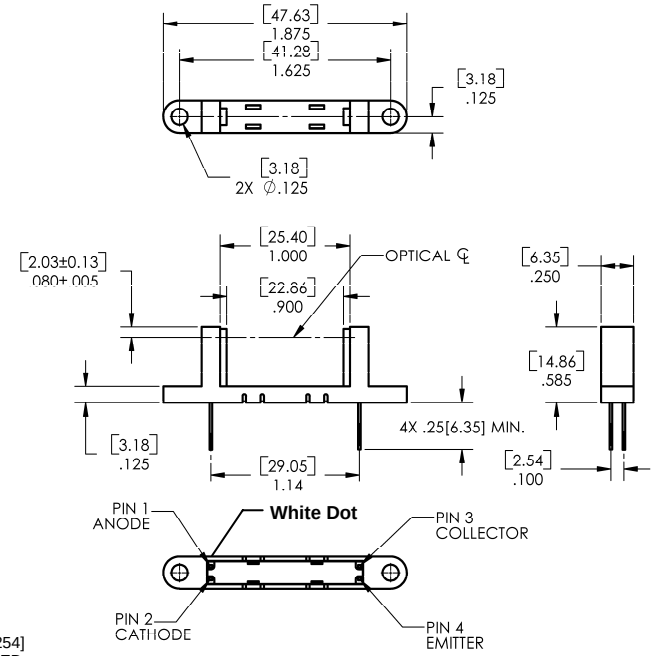


OPB315L



Pin #	LED	Pin #	Transistor
1	Anode	3	Collector
2	Cathode	4	Emitter

OPB315L



NOTES:
1. TOLERANCES ARE ± 0.010 [0.254] UNLESS OTHERWISE SPECIFIED.

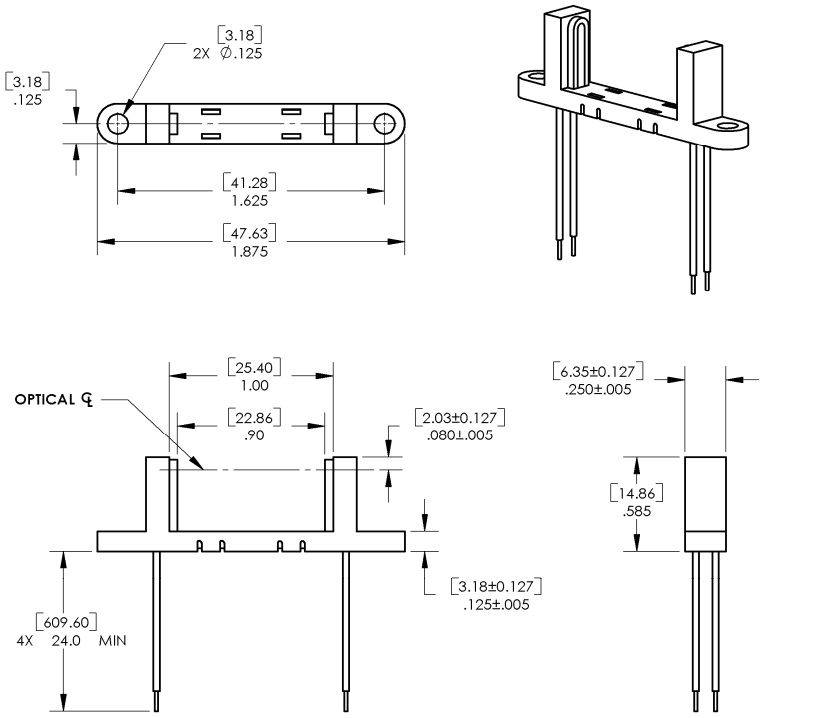
DIMENSIONS ARE IN: [MILLIMETERS] INCHES

RoHS

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

OPTEK Technology Inc. — 1645 Wallace Drive, Carrollton, Texas 75006
Phone: (972) 323-2200 or (800) 341-4747 FAX: (972) 323-2396 sensors@optekinc.com www.optekinc.com

OPB315WZ



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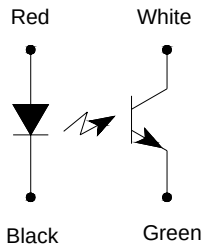
DIMENSIONS ARE IN: **[MILLIMETERS] INCHES**

OPB315WZ



Pin #/ Color	LED	Pin #/ Color	Transistor
Black	Cathode	White	Collector
Red	Anode	Green	Emitter

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Absolute Maximum Ratings (T_A=25° C unless otherwise noted)

Storage Temperature Range	-40° C to +80° C
Operating Temperature Range	-40° C to +80° C
Reverse Voltage	2.0 V
Continuous Forward Current	50 mA
Peak Forward Current [measured at 1 µs pulse width and 300 pps]	1.0 A
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]	260° C(1)(2)
Power Dissipation (Input Diode)	100 mW
Power Dissipation (Output Phototransistor)	100 mW

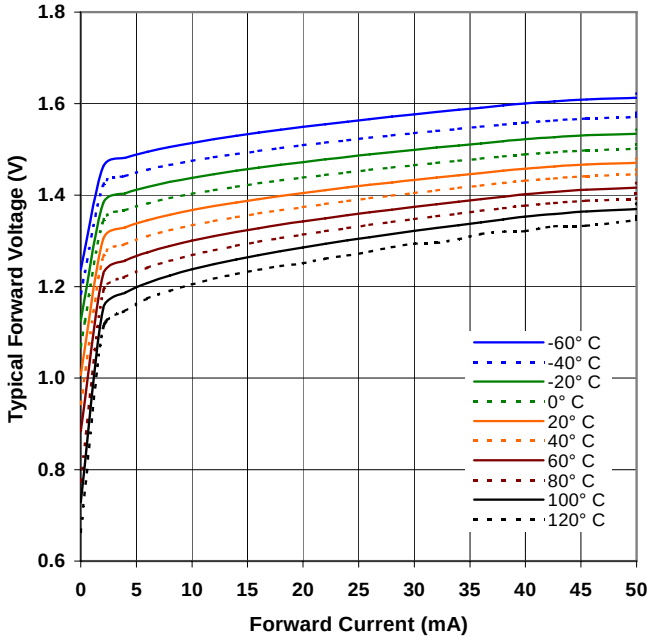
Electrical Characteristics (T_A = 25°C unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode						
V_F	Forward Voltage	-	1.4	1.7	V	I_F = 20 mA
I_R	Reverse Current	-	-	100	µA	V_R = 2 V
Output Phototransistor (see OP550 for additional information)						
$V_{(BR)(CEO)}$	Collector-Emitter Breakdown Voltage	30	-	-	V	I_{CE} = 100 µA, I_F = 0 mA
$V_{(BR)(ECO)}$	Emitter-Collector Breakdown Voltage	5.0	-	-	V	I_{EC} = 100 µA, I_F = 0 mA, E_E = 0
I_{CEO}	Collector-Emitter Leakage Current	-	-	100	nA	V_{CE} = 10.0 V, I_F = 0 mA, E_E = 0
Coupled						
$I_{C(ON)}$	On-State Collector Current	0.5	1.0	-	mA	V_{CE} = 0.4 V, I_F = 20 mA
$V_{CE(SAT)}$	Collector-Emitter	-	-	0.4	V	I_C = 500 µA, I_F = 20 mA

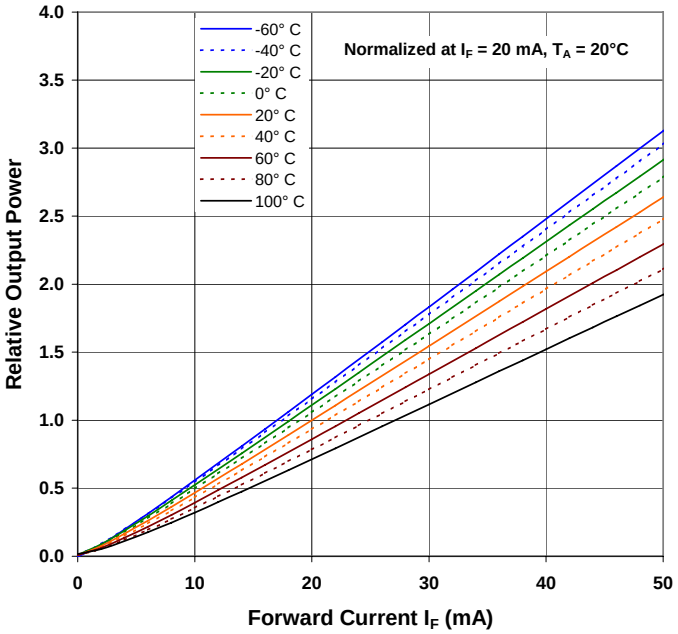
Notes:
1. RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
2. Derate linearly 1.33 mW/° C above 25° C.

OPB315

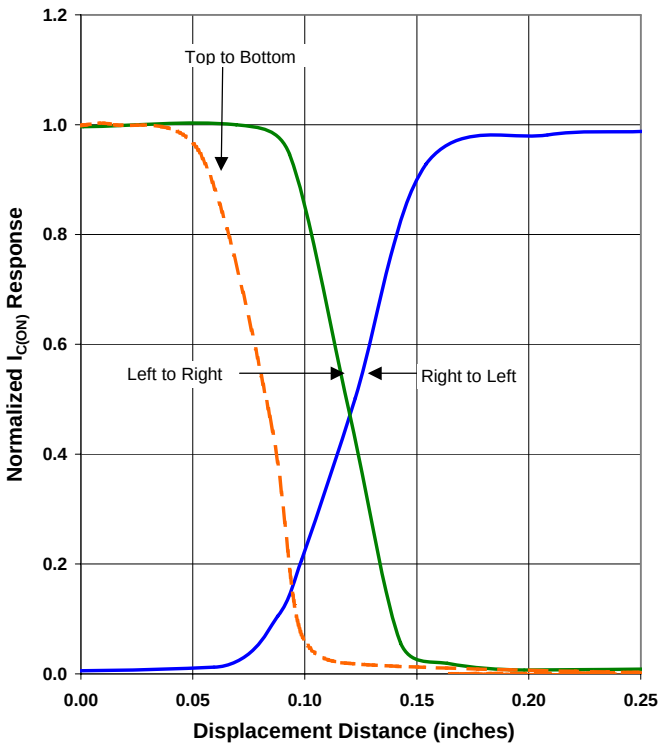
Forward Voltage vs Forward Current vs Temperature



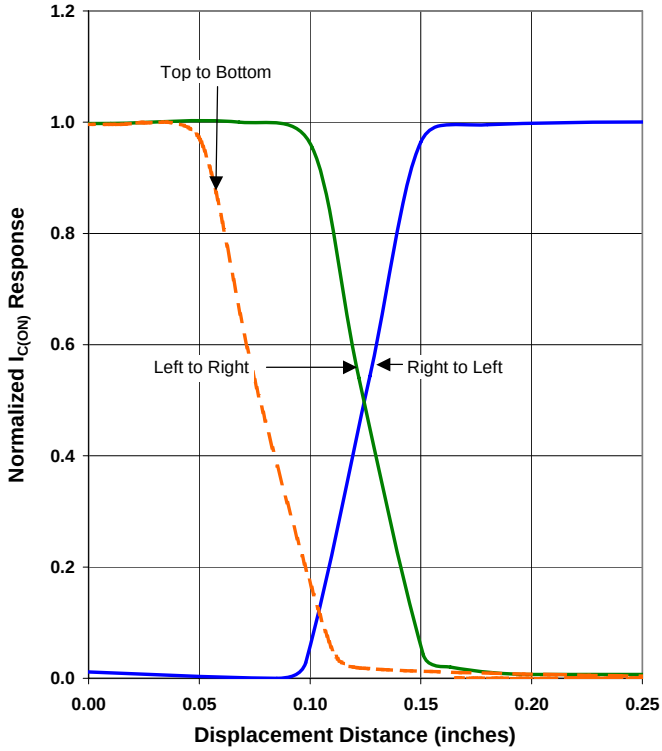
Optical Power vs Forward Current vs Temperature



OPB315 - Flag Next to Emitter



OPB315 - Flag Next to Sensor



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