

Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Storage and Operating Temperature Range	-40°C to +100° C
Lead Soldering Temperature [1/16 inch (1.6mm) from the case for 5 sec. with soldering iron] ⁽¹⁾	260° C

Input Diode

Forward DC Current	50 mA
Peak Forward Current (1 μs pulse width, 300 pps)	3 A
Reverse DC Voltage	3 V
Power Dissipation ⁽²⁾	100 mW

Output Photodiode (OPB621)

Reverse Breakdown Voltage	60 V
Power Dissipation	100 mW

Output Phototransistor (OPB610, OPB620)

Collector-Emitter Voltage	24 V
Emitter-Collector Voltage	10 mA
Collector DC Current	30 mA
Power Dissipation ⁽³⁾	200 mW

Electrical Characteristics ($T_A = 25^{\circ}\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
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Input Diode (See OP240 for additional information)

V_F	Forward Voltage OPB610, OPB620 OPB621	- 1.15	- -	1.6 1.45	V V	$I_F = 10 \text{ mA}$ $I_F = 10 \text{ mA}$
I_R	Reverse Current	-	-	100	μA	$V_R = 3 \text{ V}$

Output Phototransistor (OPB610, OPB620) (See OP505 for additional information)

$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	24	-	-	V	$I_C = 100 \mu\text{A}$
BV_{ECO}	Emitter-Collector Breakdown Voltage	0.4	-	-	V	$I_{CE} = 100 \mu\text{A}$
I_{CEO}	Collector-Emitter Dark Current	-	-	100	nA	$V_{CE} = 5 \text{ V}$

Output Photodiode (OPB611, OPB621) (See OP999 for additional information)

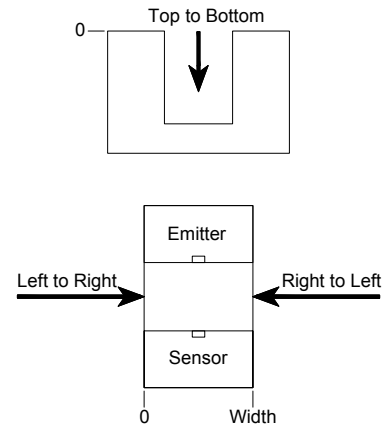
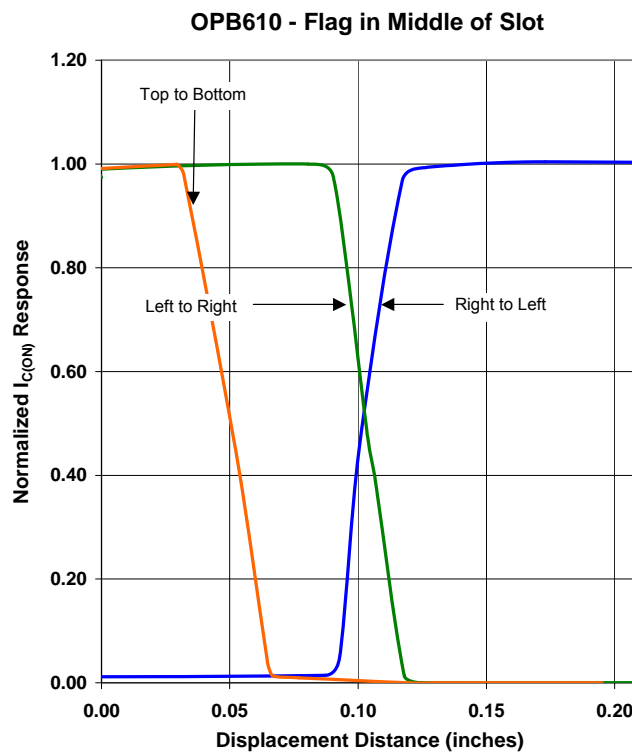
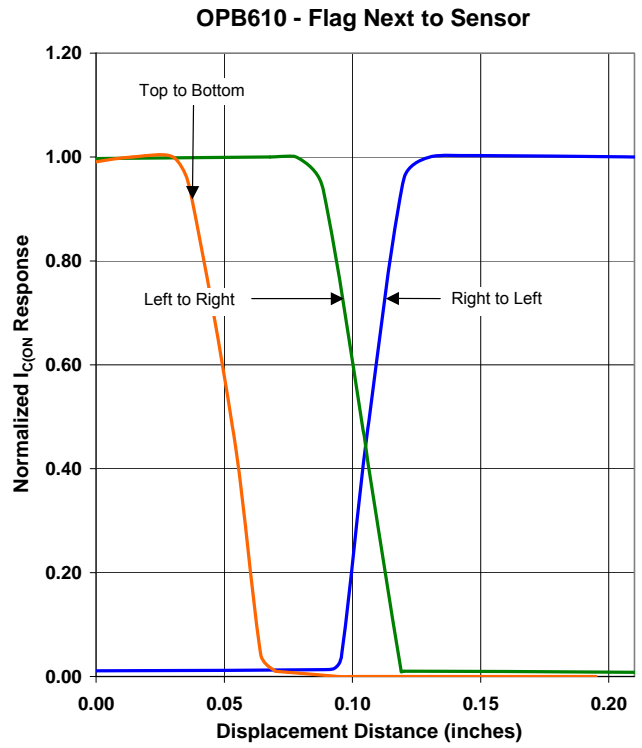
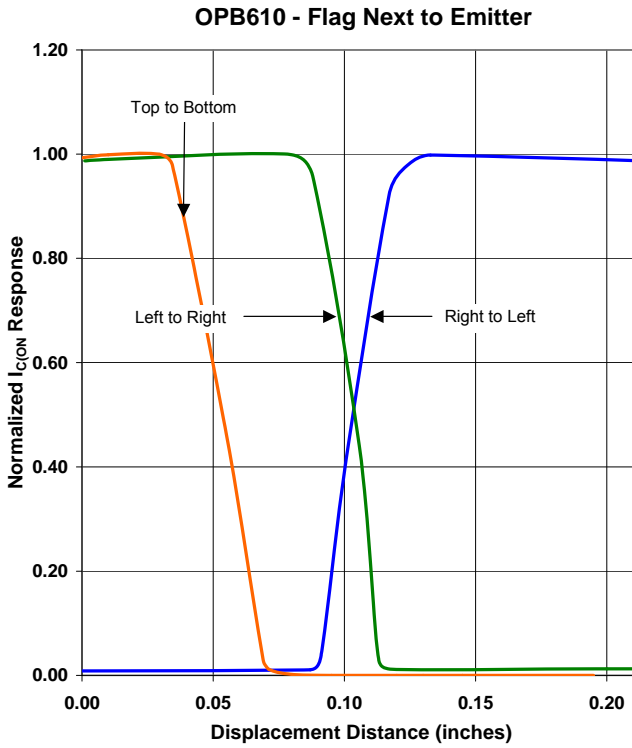
I_D	Dark Current	-	-	65	nA	$V_R = 30 \text{ V}, E_E = 0 \text{ mW}$
$V_{(BR)R}$	Reverse Breakdown Voltage	60	-	-	V	$I_R = 100 \mu\text{A}, E_E = 0 \text{ mW}$
V_F	Forward Voltage	-	-	1.0	V	$I_F = 1 \text{ mA}, E_E = 0 \text{ mW}$

Combined

V_{SAT}	Collector-Emitter Saturation Voltage OPB610, OPB620	-	-	0.4	V	$I_F = 5 \text{ mA}, I_C = 100 \mu\text{A}$
$I_{C(ON)}$	On-State Collector/Diode Current OPB610, OPB620 OPB611, OPB621	1 9	- -	- 90	mA μA	$I_F = 5 \text{ mA}, V_{CE} = 5 \text{ V}$ (gap unblocked) $V_R = 5 \text{ V}, I_F = 20 \text{ mA}$ (gap unblocked)

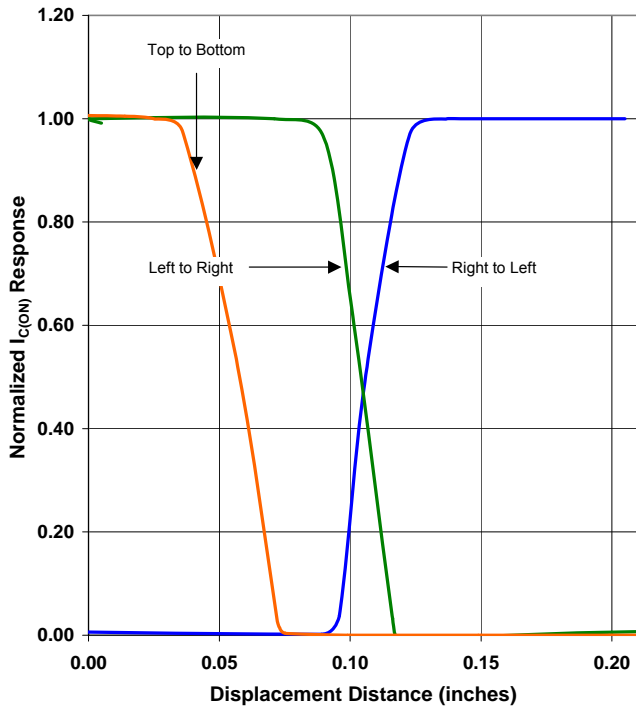
Notes:

- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering. A maximum of 20 grams force may be applied to leads when soldering.
- (2) Derate linearly 1.33 mW/°C above 25 ° C.
- (3) Derate linearly 2.0 mW/°C above 25 ° C.
- (4) Plastic body is soluble in chlorinated hydrocarbons and keytones. It is recommended that a trial exposure to flux & cleaning chemicals is performed to ensure sensor is not damaged.

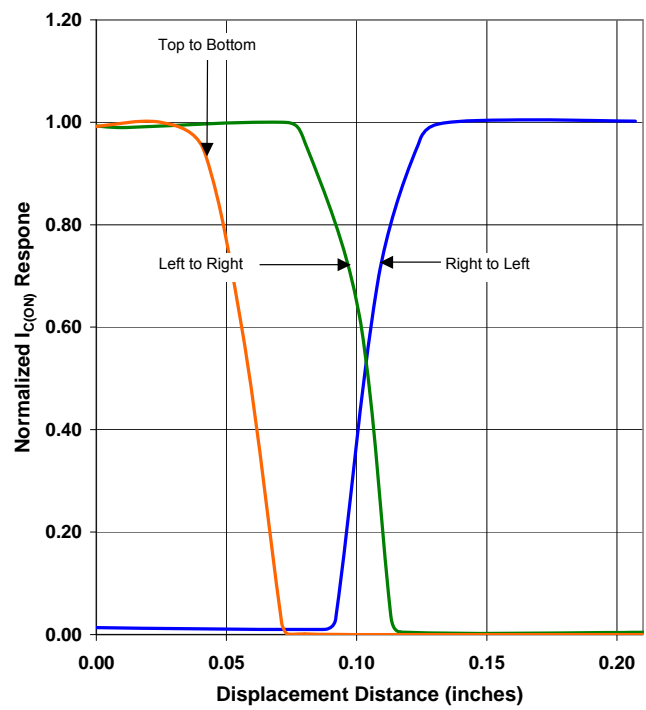


OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

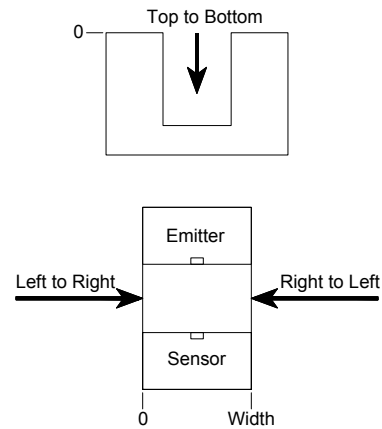
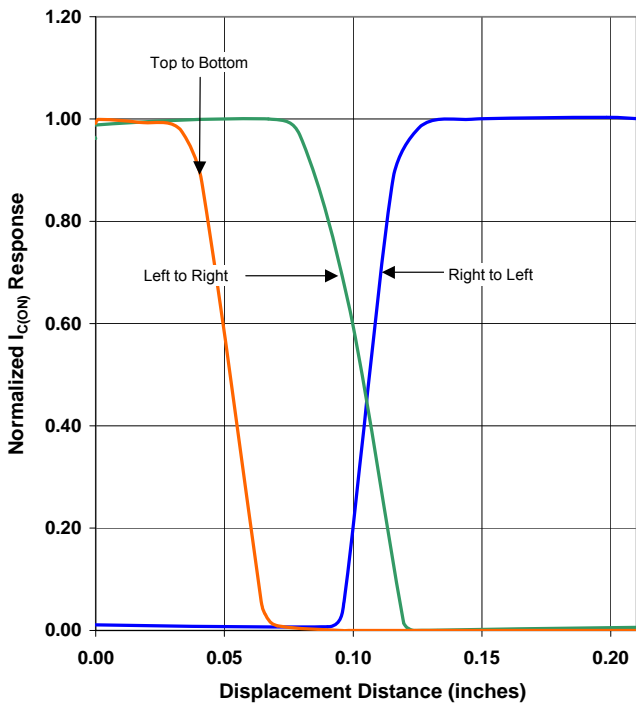
OPB620 - Flag Next to Emitter



OPB620 - Flag Next to Sensor



OPB620 - Flag in Middle of Slot



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