

Slotted Optical Switch

OPB610, OPB611, OPB620, OPB621



Electrical Specifications

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

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
--------	-----------	-----	-----	-----	-------	-----------------

Input Diode (See OP240 for additional information)

V_F	Forward Voltage OPB610, OPB620 OPB621	-	-	1.6	V	$I_F = 10\text{ mA}$
		1.15	-	1.45	V	$I_F = 10\text{ mA}$
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	-	-	mA	$I_F = 5\text{ mA}, V_{CE} = 5\text{ V}$ (gap unblocked)
		9	-	90	μA	$V_R = 5\text{ V}, I_F = 20\text{ mA}$ (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/ $^\circ\text{C}$ above 25 $^\circ\text{C}$.
- (3) Derate linearly 2.0 mW/ $^\circ\text{C}$ above 25 $^\circ\text{C}$.
- (4) Plastic body is soluble in chlorinated hydrocarbons and ketones. It is recommended that a trial exposure to flux & cleaning chemicals is performed to ensure sensor is not damaged.

General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | OPTEK Technology
1645 Wallace Drive, Carrollton, TX 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | www.optekinc.com

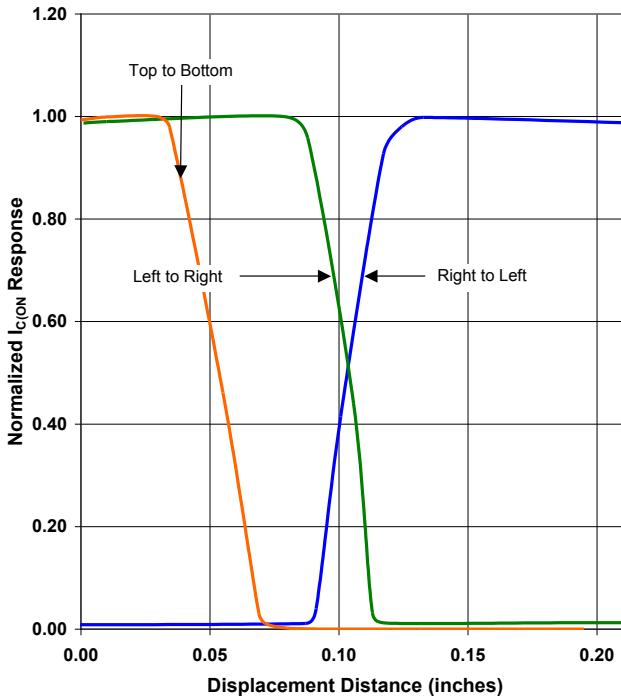
Slotted Optical Switch

OPB610, OPB611, OPB620, OPB621

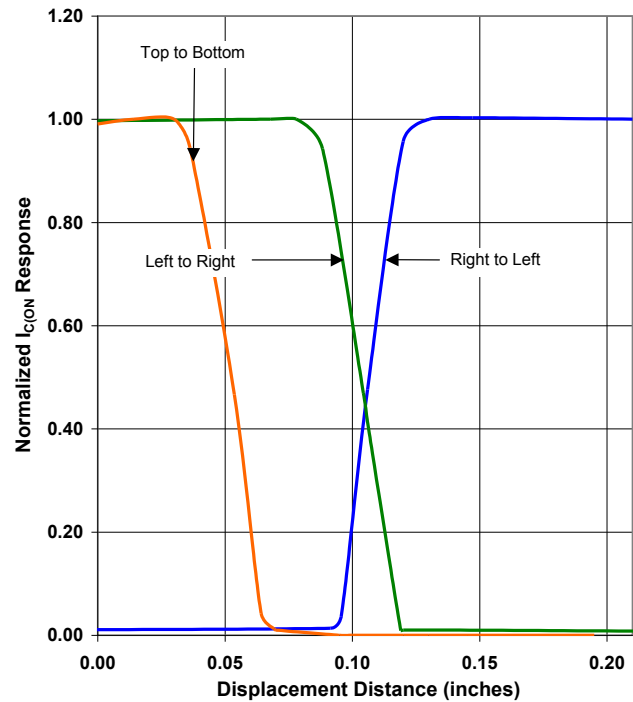


Performance

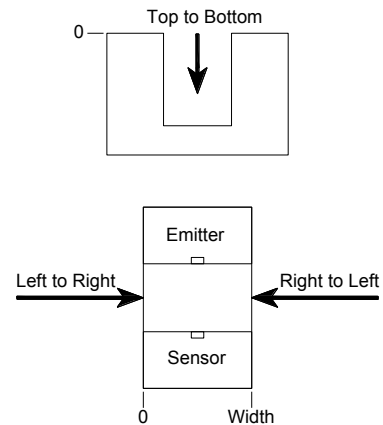
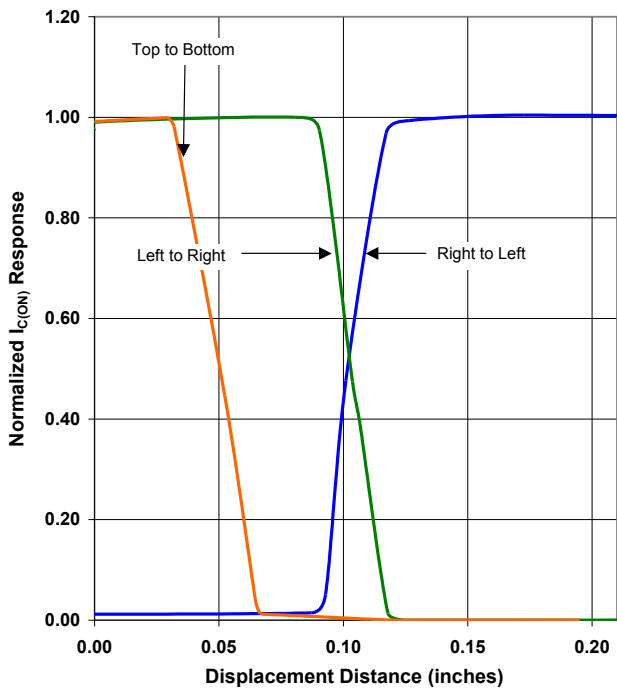
OPB610 - Flag Next to Emitter



OPB610 - Flag Next to Sensor



OPB610 - Flag in Middle of Slot



General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

TT Electronics | OPTEK Technology
1645 Wallace Drive, Carrollton, TX 75006 | Ph: +1 972 323 2200
www.ttelectronics.com | www.optekinc.com