

# Photologic<sup>®</sup> Slotted Optical Switch “Wide Gap” Series



## OPB900 through OPB913 Series (L, W\_Z)

### Electrical Characteristics (T<sub>A</sub> = -40°C to + 70° Unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
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#### Input Diode (See OP240B for more information — for reference only)

V <sub>F</sub>	Forward Voltage	-	-	1.7	V	I <sub>F</sub> = 20 mA, T <sub>A</sub> = 25° C
I <sub>R</sub>	Reverse Current	-	-	100	µA	V <sub>R</sub> = 2 V, T <sub>A</sub> = 25° C

#### Output Photologic<sup>®</sup> Sensor (See OPL560 for more information — for reference only)

V <sub>CC</sub>	Operating D.C. Supply Voltage	4.75	-	5.25	V	
I <sub>CCL</sub>	Low Level Supply Current: Buffered Totem-Pole Output Buffered Open-Collector Output	-	-	15	mA	V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 0 mA <sup>(1)</sup>
	Inverted Totem-Pole Output Inverted Open-Collector Output	-	-	15	mA	V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 20 mA <sup>(1)</sup>
I <sub>CCH</sub>	High Level Supply Current: Buffered Totem-Pole Output Buffered Open-Collector Output	-	-	15	mA	V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 20 mA <sup>(1)</sup>
	Inverted Totem-Pole Output Inverted Open-Collector Output	-	-	15	mA	V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 0 mA <sup>(1)</sup>
V <sub>OL</sub>	Low Level Output Voltage: Buffered Totem-Pole Output Buffered Open-Collector Output	-	-	0.4	V	V <sub>CC</sub> = 4.75 V, I <sub>OL</sub> = 12.8 mA, I <sub>F</sub> = 0 mA <sup>(1)</sup>
	Inverted Totem-Pole Output Inverted Open-Collector Output	-	-	0.4	V	V <sub>CC</sub> = 4.75 V, I <sub>OL</sub> = 12.8 mA, I <sub>F</sub> = 20 mA <sup>(1)</sup>
V <sub>OH</sub>	High Level Output Voltage: Buffered Totem-Pole Output	2.4	-	-	V	V <sub>CC</sub> = 4.75 V, I <sub>OH</sub> = -800 µA, I <sub>F</sub> = 20 mA <sup>(1)</sup>
	Inverted Totem-Pole Output	2.4	-	-	V	V <sub>CC</sub> = 4.75 V, I <sub>OH</sub> = -800 µA, I <sub>F</sub> = 0 mA <sup>(1)</sup>
I <sub>OH</sub>	High Level Output Current: Buffered Open-Collector Output	-	-	100	µA	V <sub>CC</sub> = 4.75 V, V <sub>OH</sub> = 30 V, T <sub>A</sub> = 25° C
	Inverted Open-Collector Output	-	-	100	µA	V <sub>CC</sub> = 4.75 V, V <sub>OH</sub> = 30 V, T <sub>A</sub> = 25° C
I <sub>F</sub> (+)	LED Positive-Going Threshold Current	-	-	20	mA	V <sub>CC</sub> = 5 V, T <sub>A</sub> = 25° C
I <sub>F</sub> (+)/I <sub>F</sub> (-)	Hysteresis	-	2	-	-	V <sub>CC</sub> = 5 V
I <sub>OS</sub>	Short Circuit Output Current: Buffered Totem-Pole Output	-30	-	-100	mA	V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 20 mA Output = GND
	Inverted Totem-Pole Output	-30	-	-100	mA	V <sub>CC</sub> = 5.25 V, I <sub>F</sub> = 0 mA Output = GND
t <sub>r</sub> , t <sub>f</sub>	Output Rise Time, Output Fall Time	-	70	-	ns	V <sub>CC</sub> = 5 V, T <sub>A</sub> = 25° C I <sub>F</sub> = 0 or 20 mA
t <sub>PLH</sub> , t <sub>PHL</sub>	Propagation Delay Low-High and High-Low	-	5	-	µs	R <sub>L</sub> = 8 TTL Loads (Totem-Pole) R <sub>L</sub> = 360 Ω (Open-Collector)

#### Notes:

(1) Normal application would be with light source blocked, simulated by I<sub>F</sub> = 0 mA.

#### 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.

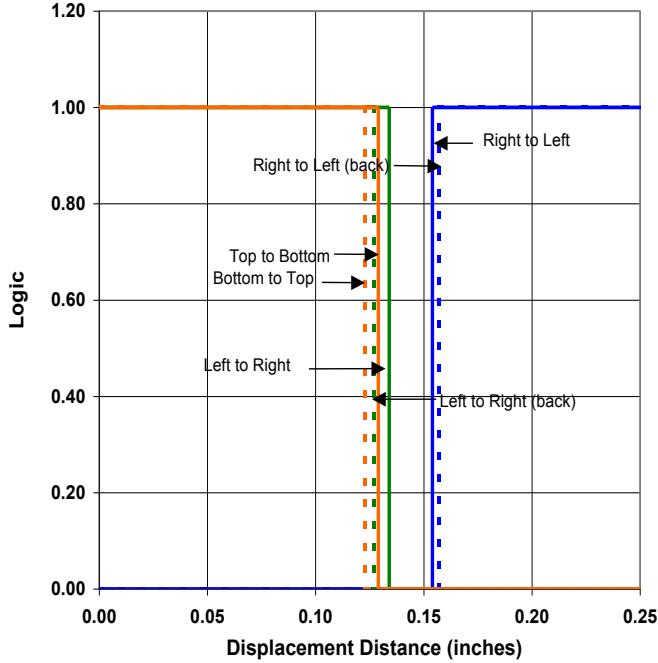
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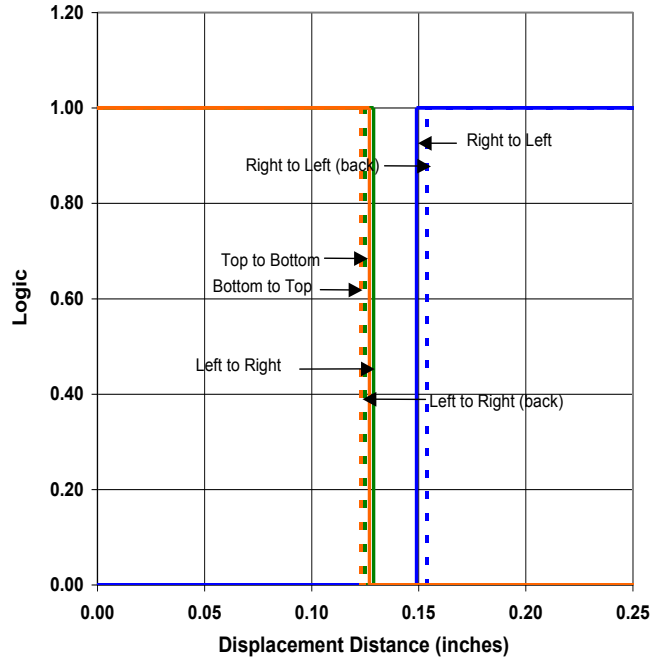
OPB900 through OPB913 Series (L, W\_Z)



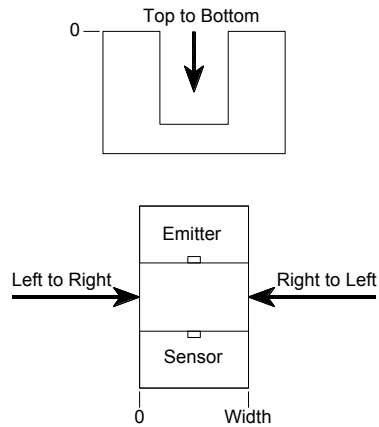
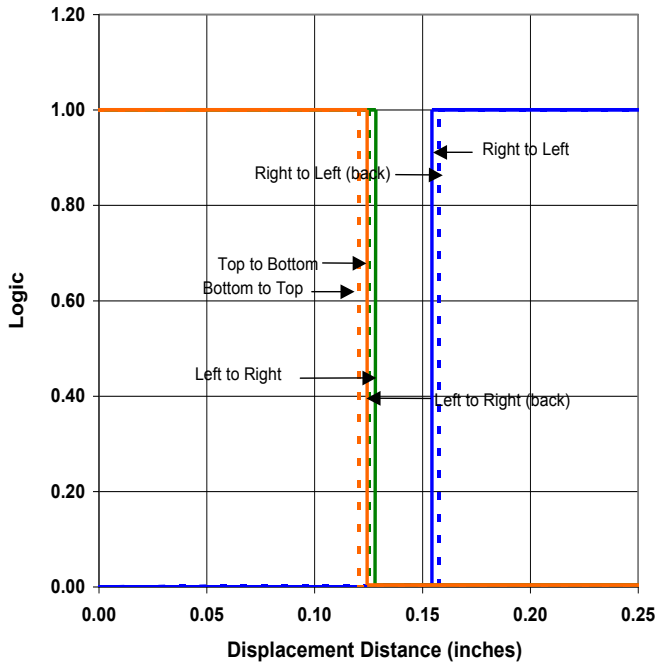
**OPB900 - Flag Next to Emitter**



**OPB900 - Flag Next to Sensor**



**OPB900 - Flag in Middle of Slot**



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