



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

Storage & Operating Temperature Range	-40° C to +85° C
Lead Soldering Temperature [1/16 inch (1.6mm) from the case for 5 sec. with soldering iron] <sup>(1)</sup>	260° C

**Input Diode**

Forward DC Current	50 mA
Peak Forward Current (1 $\mu\text{s}$ pulse width, 300 pps)	3 A
Reverse DC Voltage	2 V
Power Dissipation <sup>(2)</sup>	100 mW

**Output Phototransistor**

Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Collector DC Current	30 mA
Power Dissipation <sup>(2)</sup>	100 mW

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

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

**Input Diode**

$V_F$	Forward Voltage	-	-	1.8	V	$I_F = 20 \text{ mA}$
$I_R$	Reverse Current	-	-	100	$\mu\text{A}$	$V_R = 2.0 \text{ V}$

**Output Phototransistor**

$V_{(BR)(CEO)}$	Collector-Emitter Breakdown Voltage	30	-	-	V	$I_C = 100 \mu\text{A}, I_F = 0, E_E = 0$
$V_{(BR)(ECO)}$	Emitter-Collector Breakdown Voltage	5	-	-	V	$I_E = 100 \mu\text{A}, I_F = 0, E_E = 0$
$I_{CEO}$	Collector-Emitter Leakage Current	-	-	100	nA	$V_{CE} = 10 \text{ V}, I_F = 0, E_E = 0$

**Coupled**

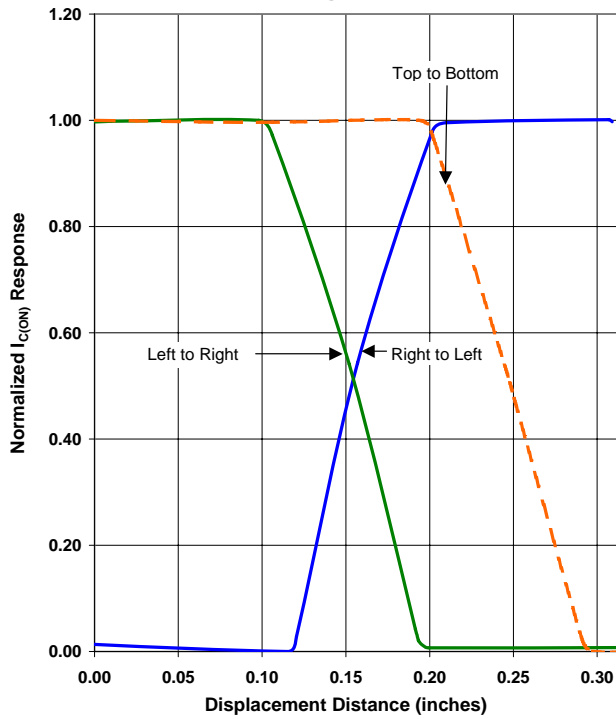
$I_{C(ON)}$	On-State Collector Current	0.5	-	12.0	mA	$V_{CE} = 5 \text{ V}, I_F = 40 \text{ mA}$
$V_{CE(SAT)}$	Collector-Emitter Saturation Voltage	-	-	0.4	V	$I_C = 250 \mu\text{A}, I_F = 40 \text{ mA}$

Notes:

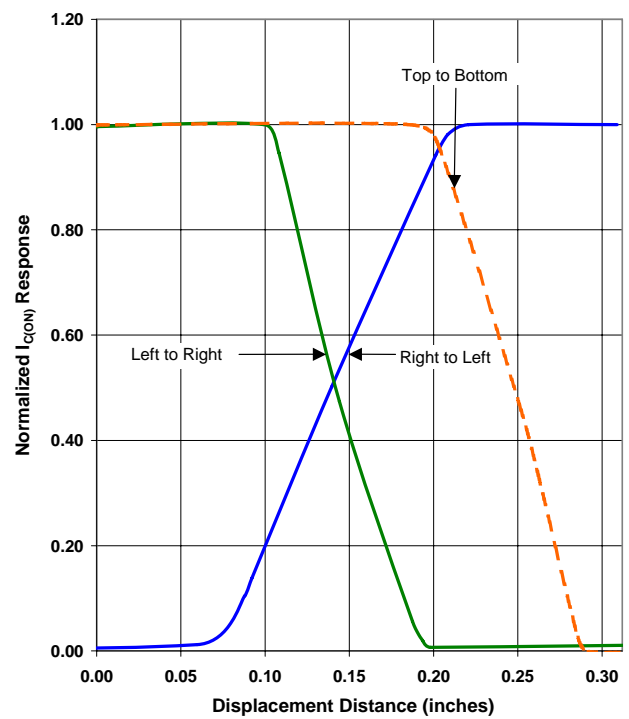
- (1) RMA flux is recommended. Duration can be extended to 10 seconds maximum when flow soldering.
- (2) Derate linearly 1.67 mW/°C above 25° C.
- (3) All parameters tested using pulse techniques.
- (4) Methanol or isopropanol are recommended as cleaning agents. Plastic housing is soluble in chlorinated hydrocarbons and ketones. Spray and wipe. Do not submerge.
- (5) Polarity is denoted by color the wires: LED (Anode—Red, Cathode—Black); Phototransistor (Collector—White, Emitter—Green).

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

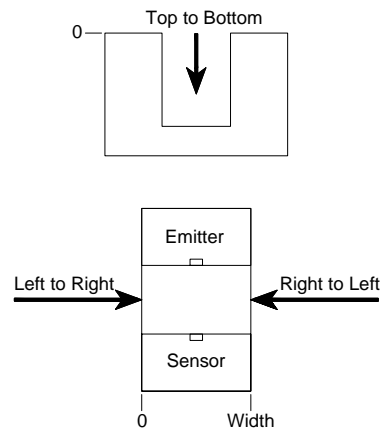
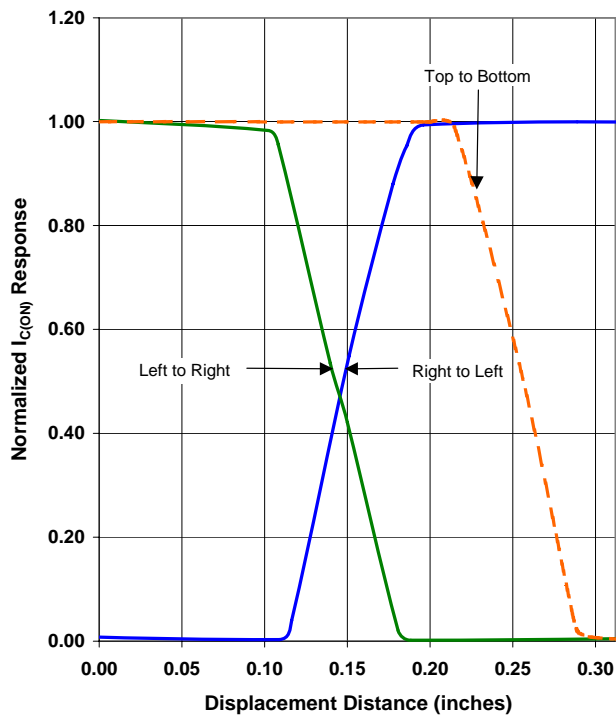
**OPB819 - Flag Next to Emitter**



**OPB819 - Flag Next to Sensor**



**OPB819 - Flag in Middle of Slot**



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