

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

Storage Temperature Range (note 3)	-40° C to +80° C
Operating Temperature Range (note 3)	-20° C to +75° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 seconds with soldering iron]	260° C ⁽¹⁾
Power Dissipation ⁽²⁾	100 mW

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

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

V_F	On-State Collector Current	1.2	-	2.3	V	$I_F = 20\text{ mA}$
I_R	Collector-Dark Current	-	-	80	μA	$V_R = 3.0\text{ V}$

Photologic® Sensor (See OP550 for additional information)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
V_{CC}	Operating Supply Voltage	4.5	-	16	V	-
	Peak-to-Peak V_{CC} Ripple Necessary to Cause False Triggering of Output	-	-	2	V	$V_{CC} = 5\text{ V DC}$, $f = \text{DC to } 50\text{ MHz}$
I_{CC}	Supply Current ⁽⁴⁾	-	8	15	mA	$E_E = 0\text{ or } 3\text{ mW/cm}^2$, $V_{CC} = 5.5\text{ V}$
$E_{eT(+)}$	Positive-Going Threshold Irradiance ⁽²⁾	.25	-	2.4	mW/cm^2	$V_{CC} = 5\text{ V}$, $T_A = 25^\circ\text{ C}$
$E_{eT(+)} / E_{eT(-)}$	Hysteresis Ratio	1.50	2	2.5	-	-
V_{OH}	Operating Supply Voltage	$V_{CC} - 2.1$	-	-	V	$I_{OH} = -1\ \mu\text{A}$, $E_E = 1\text{ mW/cm}^2$
V_{OL}	Low Level Output Voltage	-	0.25	0.4	V	$V_{CC} = 4.5\text{ V}$, $I_{OL} = 12.8\text{ mA}$, $E_E = 0$
I_{OS}	Short Circuit Output Current	-20	-55	-100	mA	$V_{CC} = 5.5\text{ V}$, Output = GND, $E_E = 3\text{ mW/cm}^2$
I_{OH}	High Level Output Current ⁽²⁾	-	1	100	μA	$V_{CC} = 4.5\text{ V}$, $V_{OH} = 30\text{ V}$, $E_E = 3\text{ mW/cm}^2$
T_R & T_F	Output Rise & Fall Time	-	25	70	ns	$V_{CC} = 5\text{ V}$, $T_A = 25^\circ\text{ C}$, $E_E = 0\text{ or } 3\text{ mW/cm}^2$, $f = 10\text{ kHz}$, DC = 50% $R_L = 8\text{ TTL loads}$
$tp_{E_{eT}(+)}$	Propagation Delay Positive-Going	-	2.5	5.0	μs	$V_{CC} = 5\text{ V}$, $T_A = 25^\circ\text{ C}$, $E_E = 0\text{ or } 3\text{ mW/cm}^2$, $R_L = 8\text{ TTL loads}$, $f = 10\text{ kHz}$, DC = 50%
$tp_{E_{eT}(-)}$	Propagation Delay Negative-Going	-	2.5	5.0	μs	$V_{CC} = 5\text{ V}$, $T_A = 25^\circ\text{ C}$, $E_E = 0\text{ or } 3\text{ mW/cm}^2$, $R_L = 360\ \Omega$, $f = 10\text{ kHz}$, DC = 50%
t_{PLH} , T_{PHL}	Propagation Delay (Low-High/High-Low)	-	5.0	-	μs	DC = 50%, $R_L = 10\text{ TTL Loads}$

Notes:

- (1) Derate linearly 2.5 mW/° C above 25° C for all devices in the OPL550, OPL551, OPL560, OPL561, OPL562 and OPL563 series.
- (2) Irradiance measurements are made with $\lambda_i = 935\text{ nm}$.
- (3) Storage and Operating temperature values are based on the plastic optical interface temperature ratings. Please reference UL1577 and UL file AVLVZ.E89328

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

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