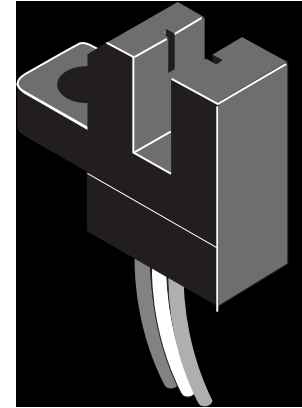
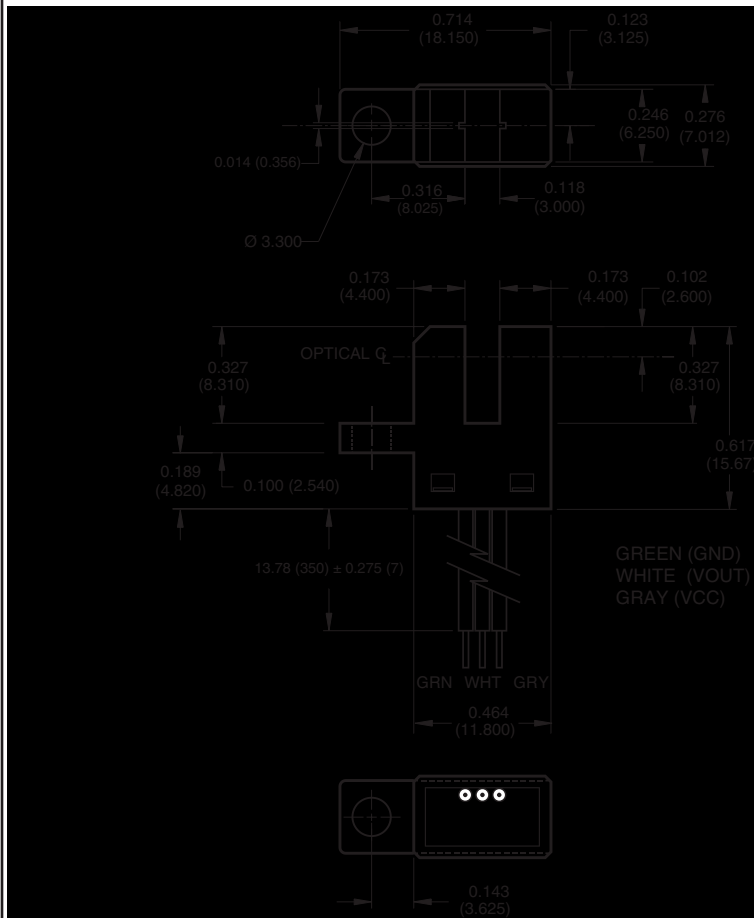


# OPTOLOGIC® OPTICAL INTERRUPTER SWITCH

QVE00112

## PACKAGE DIMENSIONS



### NOTES:

1. Dimensions for all drawings are in inches (millimeters).
2. Tolerance of  $\pm .010$  (.25) on all non-nominal dimensions unless otherwise specified.
3. Wire gauge: 24 AWG, 7 strand, pre-tinned copper.

## FEATURES

- No contact switching
- Mounting tab
- Wire leads for remote connection
- 3 mm slot
- Output configuration: Inverter open-collector
- TTL/CMOS compatible output
- Aperture width: .014"

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise specified)			
Parameter	Symbol	Rating	Units
Operating Temperature	$T_{OPR}$	-40 to +85	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 to +85	$^\circ\text{C}$
Soldering Temperature (Iron) <sup>(2,3,4)</sup>	$T_{SOL-I}$	240 for 5 sec	$^\circ\text{C}$
<b>EMITTER</b>			
Continuous Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation <sup>(1)</sup>	$P_D$	100	mW
<b>SENSOR</b>			
Output Current	$I_O$	50	mA
Supply Voltage	$V_{CC}$	16	V
Output Voltage	$V_D$	30	V
Power Dissipation <sup>(2)</sup>	$P_D$	150	mW

**NOTES** (Applies to Max Ratings and Characteristics Tables.)

1. Derate power dissipation linearly 1.67 mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$ .
2. Derate power dissipation linearly 2.50 mW/ $^\circ\text{C}$  above 25 $^\circ\text{C}$ .
3. RMA flux is recommended.
4. Methanol or isopropyl alcohols are recommended as cleaning agents.

<b>ELECTRICAL/OPTICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ )						
PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Operating Supply Voltage		$V_{CC}$	4.5	—	5.5	V
<b>INPUT DIODE</b>						
Forward Voltage	$I_F = 20\text{ mA}$	$V_F$	—	—	1.7	V
Reverse Leakage Current	$V_R = 5\text{ V}$	$I_R$	—	—	10	$\mu\text{A}$
<b>COUPLED</b>						
Operating Supply Current	$V_{CC} = 16\text{ V}$	$I_{CC}$	—	—	12	mA
Low Level Output Voltage	$V_{CC} = 5\text{ V}, R_L = 360\ \Omega$	$V_{OL}$	—	—	0.4	V
High Level Output Current	$V_{CC} = 5\text{ V}, V_{OH} = 30\text{ V}$ (Light Path Blocked)	$I_{OH}$	—	—	100	$\mu\text{A}$
Hysteresis Ratio			—	1.2	—	
Propagation Delay	$V_{CC} = 5\text{ V}, R_L = 360\ \Omega$	$t_{PLH}, t_{PHL}$	—	5	—	$\mu\text{s}$
Output Rise and Fall Time	$V_{CC} = 5\text{ V}, R_L = 360\ \Omega$	$t_r, t_f$	—	70	—	ns

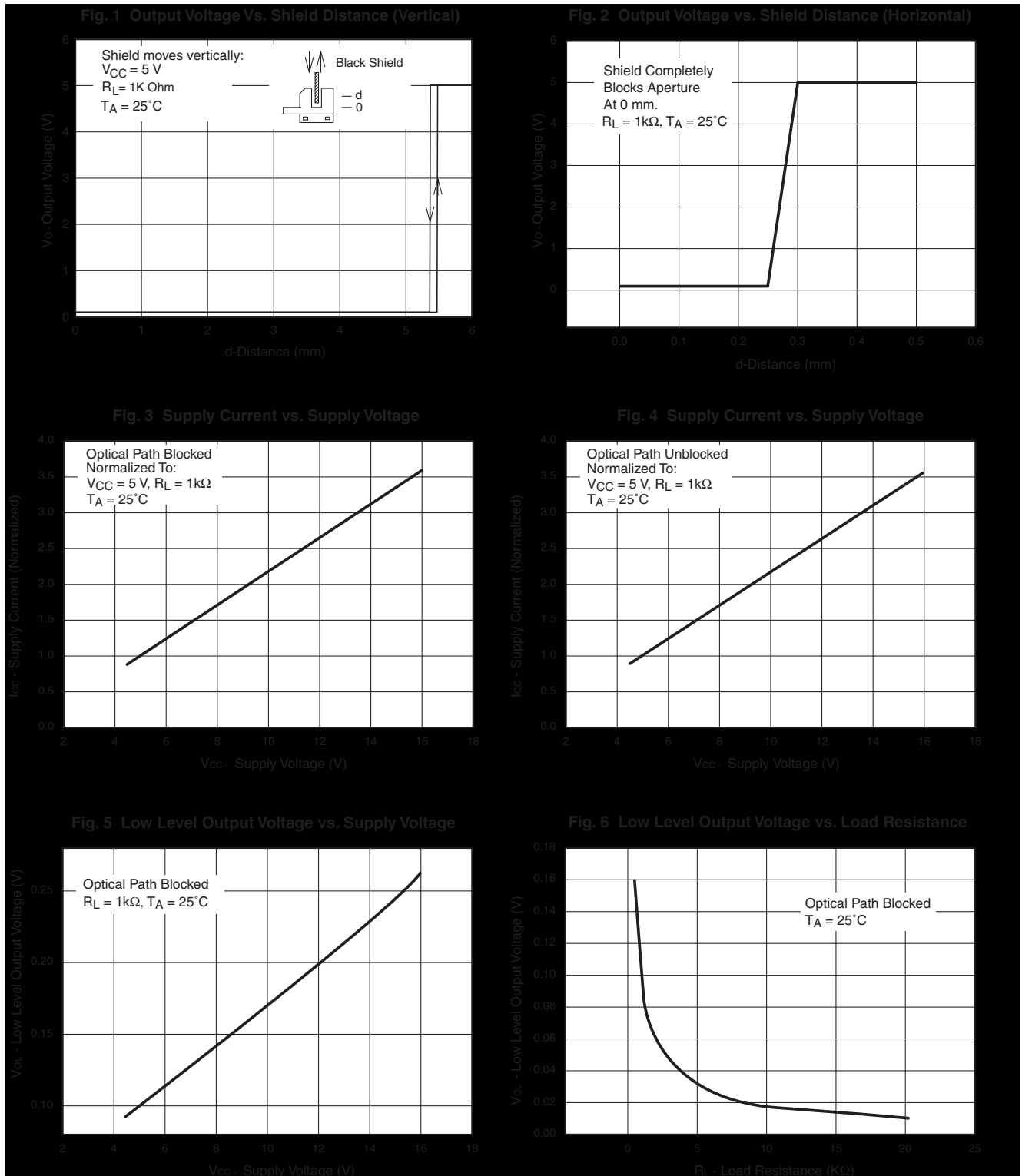


Fig. 7 Schematic

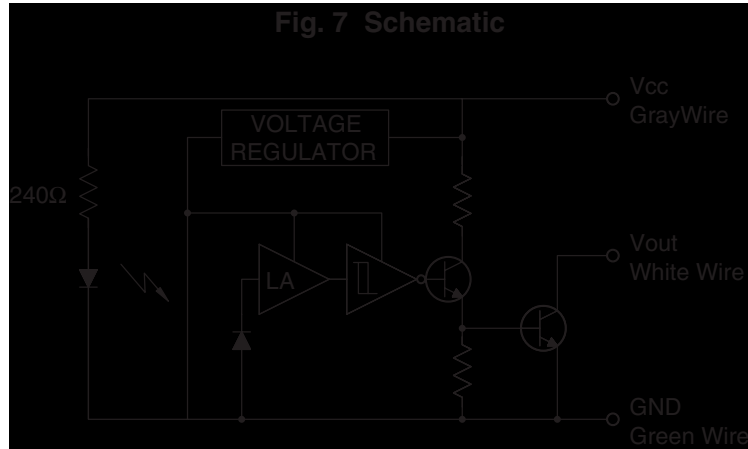
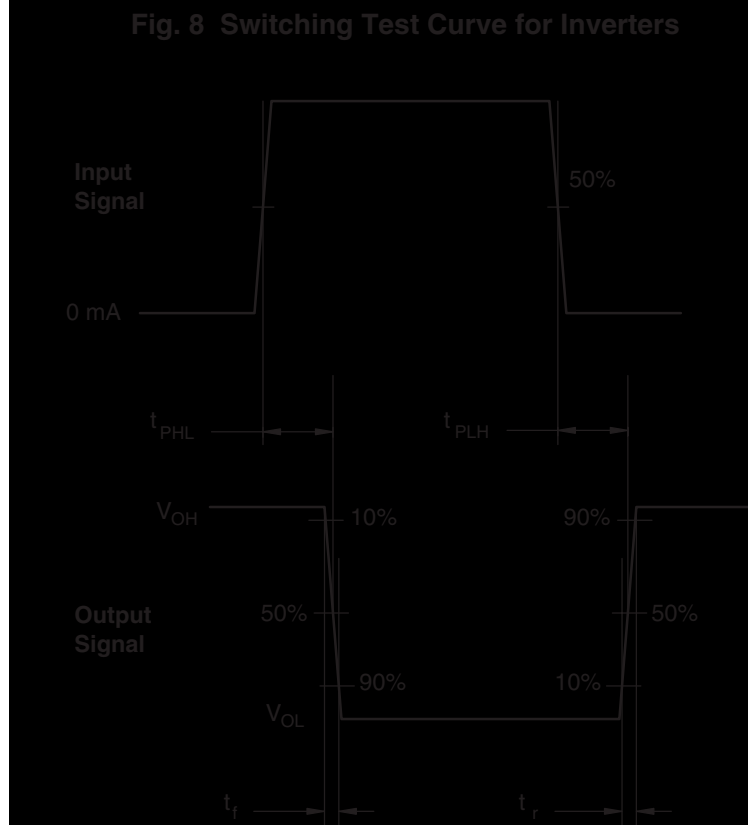


Fig. 8 Switching Test Curve for Inverters



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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.