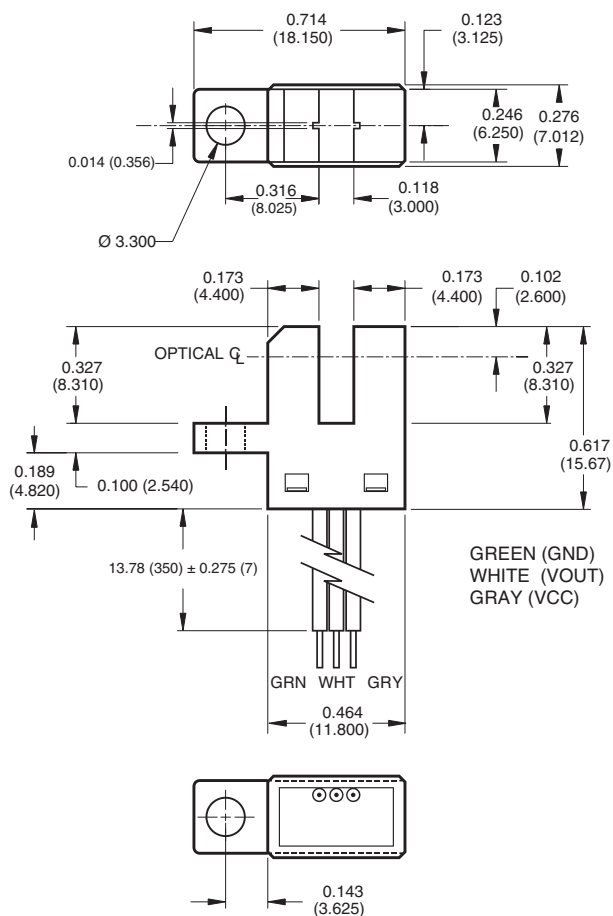


QVE00112

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"

QVE00112

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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) ^(2,3,4)	T_{SOL-I}	240 for 5 sec	$^\circ\text{C}$
EMITTER			
Continuous Forward Current	I_F	50	mA
Reverse Voltage	V_R	5	V
Power Dissipation ⁽¹⁾	P_D	100	mW
SENSOR			
Output Current	I_O	50	mA
Supply Voltage	V_{CC}	16	V
Output Voltage	V_D	30	V
Power Dissipation ⁽²⁾	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°C .
2. Derate power dissipation linearly 2.50 mW/ $^\circ\text{C}$ above 25°C .
3. RMA flux is recommended.
4. Methanol or isopropyl alcohols are recommended as cleaning agents.

ELECTRICAL/OPTICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$)

PARAMETER	TEST CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNITS
Operating Supply Voltage		V_{CC}	4.5	—	5.5	V
INPUT DIODE						
Forward Voltage	$I_F = 20\text{ mA}$	V_F	—	—	1.7	V
Reverse Leakage Current	$V_R = 5\text{ V}$	I_R	—	—	10	μA
COUPLED						
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	μA
Hysteresis Ratio			—	1.2	—	
Propagation Delay	$V_{CC} = 5\text{ V}, R_L = 360\ \Omega$	t_{PLH}, t_{PHL}	—	5	—	μs
Output Rise and Fall Time	$V_{CC} = 5\text{ V}, R_L = 360\ \Omega$	t_r, t_f	—	70	—	ns

Fig. 1 Output Voltage Vs. Shield Distance (Vertical)

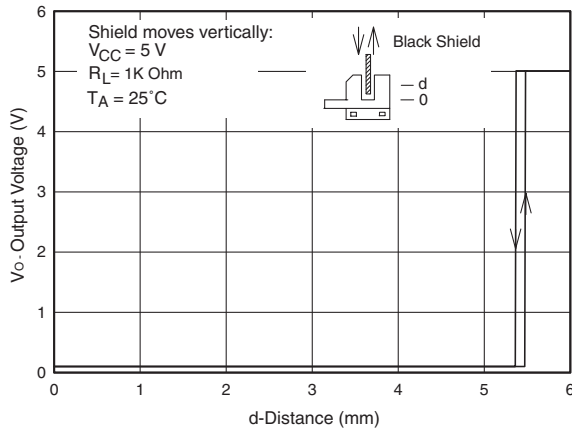


Fig. 2 Output Voltage vs. Shield Distance (Horizontal)

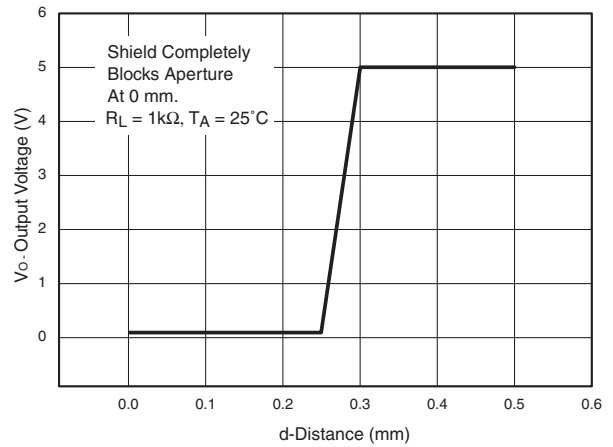


Fig. 3 Supply Current vs. Supply Voltage

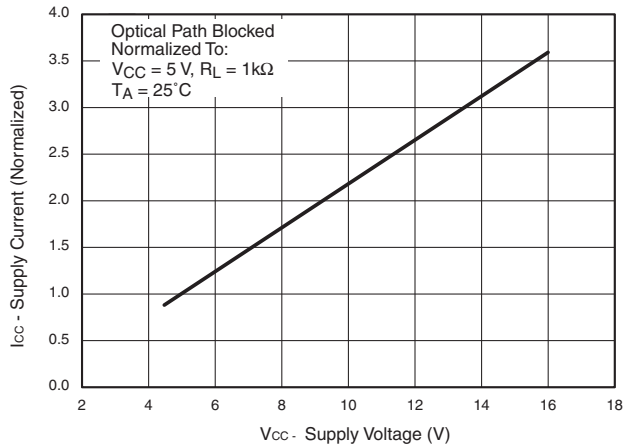


Fig. 4 Supply Current vs. Supply Voltage

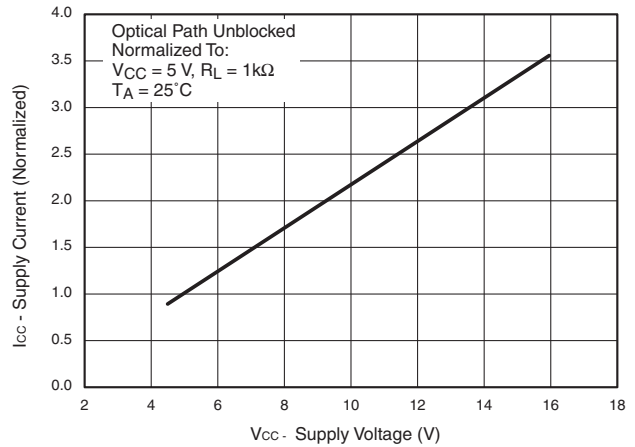


Fig. 5 Low Level Output Voltage vs. Supply Voltage

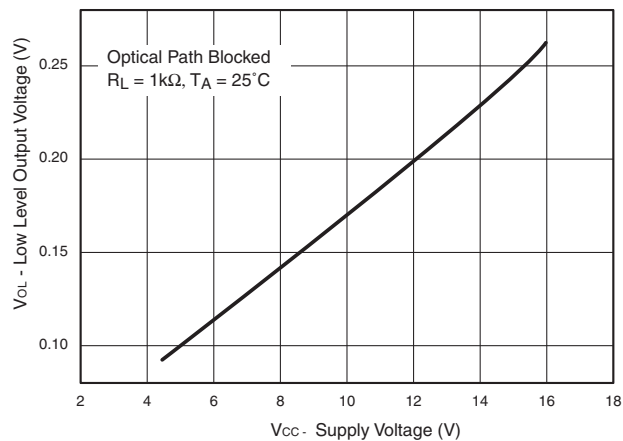


Fig. 6 Low Level Output Voltage vs. Load Resistance

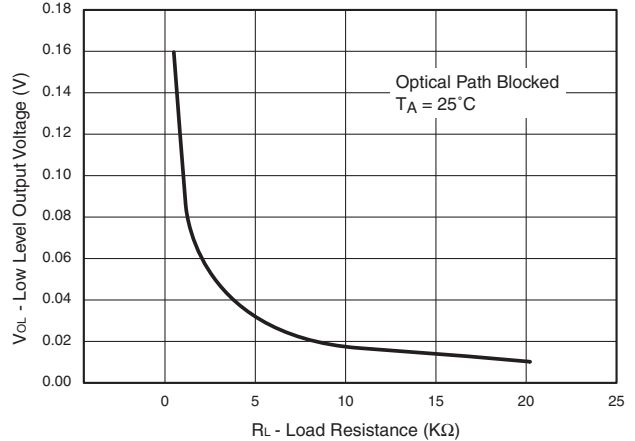


Fig. 7 Schematic

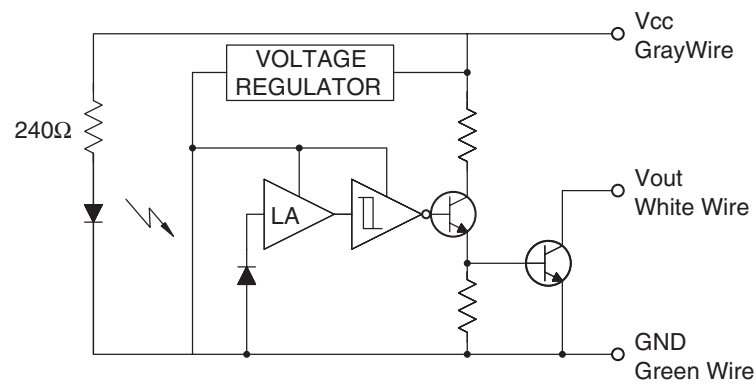
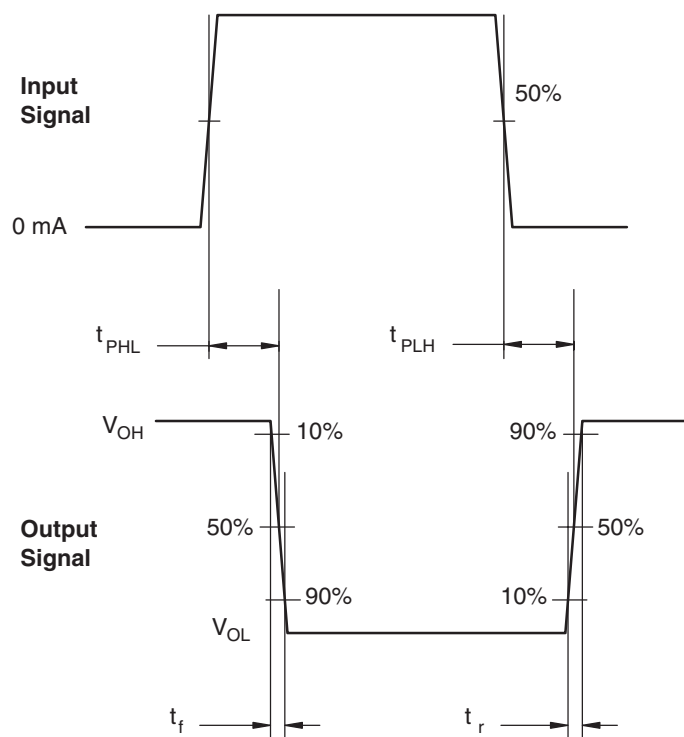


Fig. 8 Switching Test Curve for Inverters



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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.