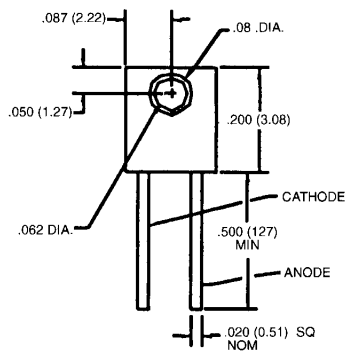
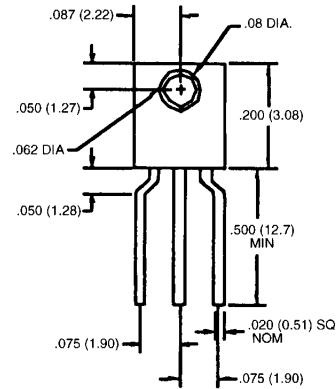


**PACKAGE DIMENSIONS**



**ST1662**

INFRARED LED



**ST1663**

PHOTOSENSOR

- NOTES:  
1. DIMENSIONS ARE IN INCHES [mm].  
2. TOLERANCE IS  $\pm .010$  [.25] UNLESS OTHERWISE SPECIFIED.

**DESCRIPTION**

The QPE1259 consists of a gallium arsenide LED and an OPTOLOGIC™ silicon photosensor mounted in plastic sidelooker packages.

**FEATURE**

- Steel lead frames for improved reliability in solder mounting
- Excellent optical-to-mechanical alignment
- Wide emission/reception angle
- Black plastic body allows easy recognition of sensor and filters ambient visible light

<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)	
Storage Temperature .....	-40°C to +100°C
Operating Temperature .....	-40°C to +85°C
Soldering:	
Lead Temperature (Iron) .....	240°C for 5 sec. <sup>(3,4,5)</sup>
Lead Temperature (Flow) .....	260°C for 10 sec. <sup>(3,4)</sup>
<b>INPUT DIODE</b>	
Continuous Forward Current .....	60 mA
Reverse Voltage .....	6.0 Volts
Power Dissipation .....	100 mW <sup>(1)</sup>
<b>OUTPUT OPTOLOGIC™</b>	
Output Current .....	50 mA
Operation Voltage Allowed Range .....	4.5 to 16 Volts
Output Voltage Allowed Range .....	2.4 to 30 Volts
Power Dissipation .....	200 mW <sup>(2)</sup>

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25^\circ\text{C}$ Unless Otherwise Specified)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
<b>INPUT DIODE</b>						
Forward Voltage	$V_F$	—	1.5	—	V	$I_F = 20\text{ mA}$
Reverse Leakage Current	$I_R$	—	10	—	$\mu\text{A}$	$V_R = 3\text{ V}$
<b>OUTPUT OPTOLOGIC™</b>						
Operating Supply Voltage	$V_{CC}$	4.5	—	16.0	V	
Supply Current	$I_{CC}$	—	12.0	—	mA	$E_s = 0$ or $0.3\text{ mW/cm}^2$
Output Current High	$I_{OH}$	—	100	—	$\mu\text{A}$	$E_s = 0, V_{OH} = 30\text{ V}$
Low Level Output Voltage	$V_{OL}$	—	0.4	—	V	$E_s = .3\text{ mW/cm}^2, R_L = 270\Omega$
<b>COUPLED</b>						
Turn-On Threshold Current	$I_{F(+)}$	—	20.0	—	mA	$V_{CC} = 5\text{ V}, R_L = 270\Omega, D = .155^{(6)}$
Turn-Off Threshold Current	$I_{F(-)}$	1.0	—	—	mA	$V_{CC} = 5\text{ V}, R_L = 270\Omega, D = .155^{(6)}$
Hysteresis Ratio	$I_{F(+)} / I_{F(-)}$	1.1	—	2.0	—	$V_{CC} = 5\text{ V}, R_L = 270\Omega, D = .155^{(6)}$

<b>NOTES</b>
1. Derate power dissipation linearly 1.67 mW/°C above 25°C.
2. Derate power dissipation linearly 3.33 mW/°C above 25°C.
3. RMA flux is recommended.
4. Methanol or Isopropyl alcohols are recommended as cleaning agents.
5. Soldering iron tip 1/16" (1.6 mm) from housing.
6. D is the distance from lens tip to lens tip.



## PLASTIC SIDELOOKER PAIR

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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.