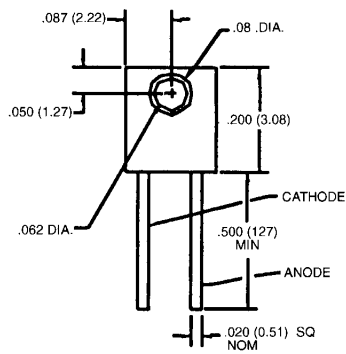
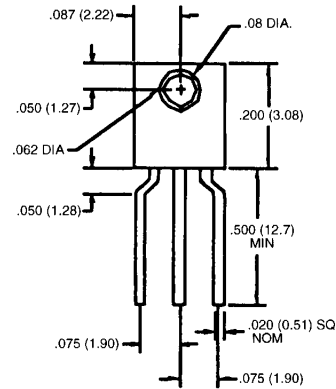


PACKAGE DIMENSIONS



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

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

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

NOTES
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

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury of the user.
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.