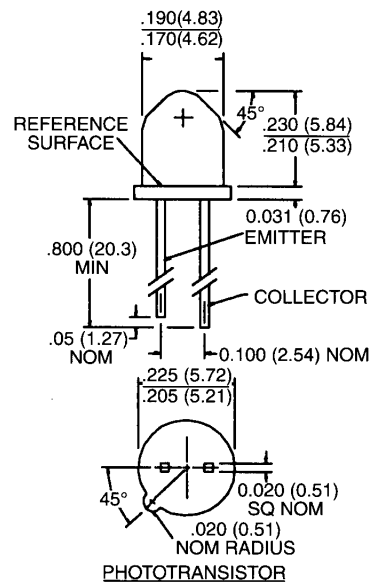
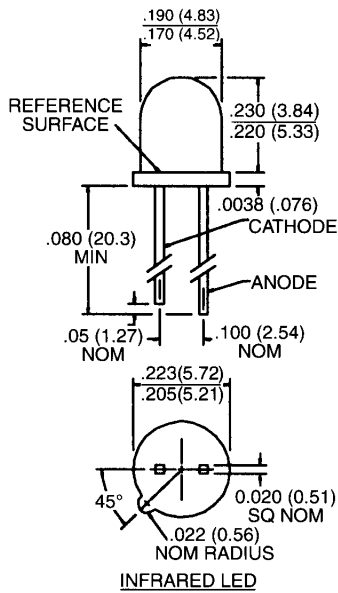


PACKAGE DIMENSIONS



ST2170

ST2170

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

DESCRIPTION

The QPD5223 consists of an 880 nm AlGaAs LED and a silicon phototransistor mounted in plastic TO-46 (LED) and TO-18 (sensor) packages.

FEATURE

- Steel lead frames for improved reliability in solder mounting.
- Good optical-to-mechanical alignment.
- Narrow emission/reception angle.
- Black plastic body allows easy recognition of sensor.

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 $+100^\circ\text{C}$
Soldering:	
Lead Temperature (Iron)	240°C for 5 sec. ^(2,3,5)
Lead Temperature (Flow)	260°C for 10 sec. ^(2,5)
INPUT DIODE	
Continuous Forward Current	50 mA
Reverse Voltage	5.0 Volts
Power Dissipation	200 mW ⁽¹⁾
OUTPUT TRANSISTOR	
Collector-Emitter Voltage	30 Volts
Emitter-Collector Voltage	5.0 Volts
Power Dissipation	100 mW ⁽¹⁾

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified) (All measurements made under pulse conditions.)						
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
INPUT DIODE						
Forward Voltage	V_F	—		1.70	V	$I_F = 20\text{ mA}$
Reverse Leakage Current	I_R	—		100	μA	$V_R = 5.0\text{ V}$
OUTPUT TRANSISTOR						
Collector-Emitter Breakdown	BV_{CEO}	30		—	V	$I_F = 1.0\text{ mA}$, $E_e = 0$
Collector-Emitter Leakage	I_{CEO}	—		100	nA	$V_{CE} = 10.0\text{ V}$, $E_e = 0$
COUPLED						
On-State Collector Current						
QPD5223	$I_{C(ON)}$	7.5		—	mA	$I_F = 20\text{ mA}$, $V_{CC} = 5.0\text{ V}$, $D = .250^{(4)}$

NOTES
<ol style="list-style-type: none"> Derate power dissipation linearly $2.67\text{ mW}/^\circ\text{C}$ above 25°C for LED and $1.33\text{ mW}/^\circ\text{C}$ for the sensor. RMA flux is recommended. Soldering iron tip $1/16"$ (1.6mm) minimum from case. D is the distance from lens tip to lens tip. As long as leads are not under any stress or spring tension.



PLASTIC TO-46/TO-18 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.