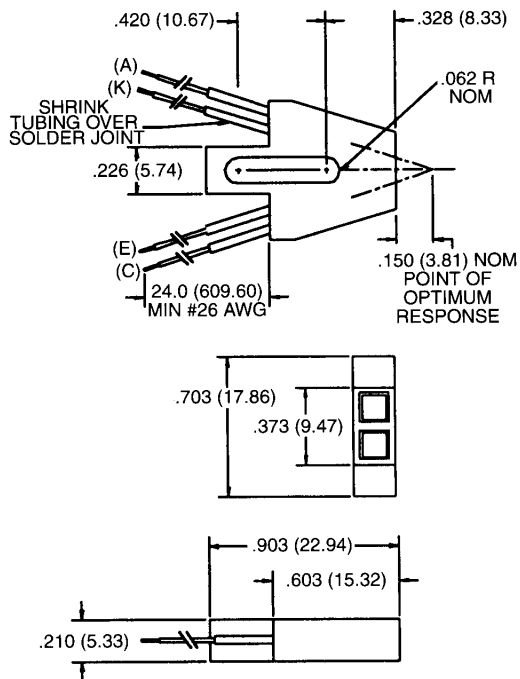




REFLECTIVE OBJECT SENSORS

QRB1133/1134

PACKAGE DIMENSIONS



DESCRIPTION

The QRB1133/1134 consists of an infrared emitting diode and an NPN silicon phototransistor mounted side by side on a converging optical axis in a black plastic housing. The phototransistor responds to radiation from the emitting diode only when a reflective object passes within its field of view. The area of the optimum response approximates a circle .200" in diameter.

FEATURES

- Phototransistor output
- High Sensitivity
- Low cost plastic housing
- #26 AWG, 24 inch PVC wire termination
- Infrared transparent plastic covers for dust protection.

ST2177

FUNCTION	WIRE COLOR
(C) COLLECTOR	WHITE
(E) EMITTER	BLUE
(K) CATHODE	GREEN
(A) ANODE	ORANGE

NOTES:

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



REFLECTIVE OBJECT SENSORS

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ Unless Otherwise Specified)

Storage Temperature	-40°C to $+85^\circ\text{C}$
Operating Temperature	-40°C to $+85^\circ\text{C}$
Soldering:	
Lead Temperature (Iron)	240°C for 5 sec. ^(2,3,4)
Lead Temperature (Flow)	260°C for 10 sec. ^(2,3)

INPUT DIODE

Continuous Forward Current	50 mA
Reverse Voltage	5.0 Volts
Power Dissipation	100 mW ⁽¹⁾

OUTPUT TRANSISTOR

Collector-Emitter Voltage	30 Volts
Emitter-Collector Voltage	5.0 Volts
Collector Current	40 mA
Power Dissipation	100 mW ⁽¹⁾

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	—		1.70	V	$I_F = 40\text{ mA}$
Reverse Leakage Current	I_R	—		100	μA	$V_R = 2.0\text{ V}$
OUTPUT TRANSISTOR						
Emitter-Collector Breakdown	BV_{ECO}	5		—	V	$I_E = 100\mu\text{A}$, $E_e = 0$
Collector-Emitter Breakdown	BV_{CEO}	30		—	V	$I_C = 1.0\text{ mA}$, $E_e = 0$
Collector-Emitter Leakage	I_{CEO}	—		100	nA	$V_{CE} = 10.0\text{ V}$, $E_e = 0$
COUPLED						
On-State Collector Current						
QRB1133	$I_{C(ON)}$	0.20		—	mA	$I_F = 40\text{ mA}$, $V_{CE} = 5\text{ V}$, $D = .150''$ ^(5,7)
QRB1134	$I_{C(ON)}$	0.60		3.00	mA	$I_F = 40\text{ mA}$, $V_{CE} = 5\text{ V}$, $D = .150''$ ^(5,7)
Crosstalk	I_{CX}	—		1.00	μA	$I_F = 40\text{ mA}$, $V_{CE} = 5\text{ V}$ ⁽⁶⁾
Saturation Voltage	$V_{CE(SAT)}$	—		0.40	V	$I_F = 40\text{ mA}$, $I_C = 0.1\text{ mA}$, $D = .150''$ ^(5,7)

NOTES

- Derate power dissipation linearly 1.67 mW/ $^\circ\text{C}$ above 25°C .
- RMA flux is recommended.
- Methanol or Isopropanol alcohols are recommended as cleaning agents.
- Soldering iron $\frac{1}{16}$ " (1.6mm) from housing
- D is the distance from the assembly face to the reflective surface.
- Cross talk is the photocurrent measured with current to the input diode and no reflecting surface.
- Measured using Eastman Kodak neutral test card with 90% diffused reflecting surface.

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.