STS-8831

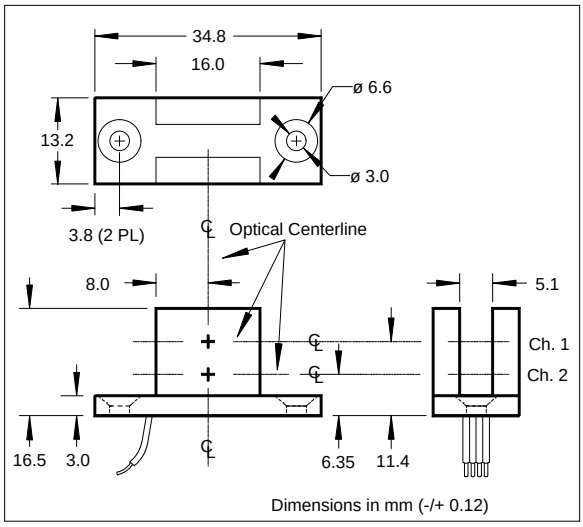
Dual Channel Optical Switch Assembly
Over / Under Optical Axis

Features

- Non contact switching
- Four wires for electrical connection
- Fast switching speed

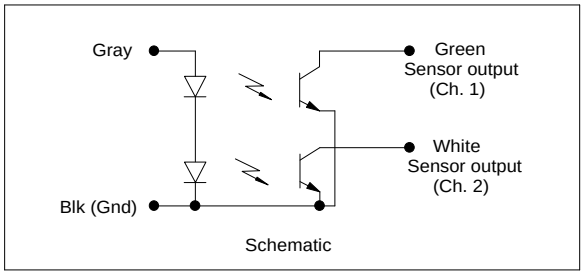
Description

The STS-8831 consists of a pair of infrared emitting diodes and a pair of NPN phototransistors mounted on opposite sides of a 5.1 mm. wide slot. Phototransistor switching takes place whenever an opaque object passes through the slot. The Phototransistors have a 0.5x1.5 mm internal aperture for increased resolution. The polysulfone housing (Note 1) reduces interference from ambient light and provides dirt and dust protection. 340 mm length wires may be terminated with an IDC connector upon special order.



Absolute Maximum Ratings

Operating & Storage Temp.	-40°C to +100°C
Input Diode Pair	
Reverse Voltage	6 V
Average Forward Current	50 mA
Peak Forward Current (1µs pulse)	3 A
Power Dissipation (Note 2)	200 mW
Phototransistor (each)	
Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Power Dissipation (Note 3)	100 mW



Electrical Characteristics (T_A=25°C unless otherwise noted)

Symbol	Parameter	Min	Typ	Max	Units	Test Conditions
Input Diode						
V_F	Forward Voltage		2.4	3.4	V	I_F = 40 mA
I_R	Reverse Current			100	µA	V_R = 4 V
Output Phototransistor						
I_{CEO}	Collector Dark Current			100	nA	V_{CE} = 10V, Ee = 0, I_F = 0
BV_{CEO}	Collector-Emitter Breakdown Voltage	30			V	I_C = 100 µA, Ee = 0
BV_{ECO}	Emitter-Collector Breakdown Voltage	5			V	I_C = 100 µA, Ee = 0
Coupled						
$V_{CE(SAT)}$	Collector Emitter Saturation Voltage			0.4	V	I_C = 250 µA, I_F = 25 mA
$I_{C(ON)}$	On-State Collector Current	400			µA	V_{CE} = 10V, I_F = 25 mA
I_{CX}	Cross talk			200	µA	I_F = 25 mA, V_{CE} = 2.0 V

Specifications subject to change without notice

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Notes: (1) Plastic housing is soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol or isopropanol.
(2) Derate linearly 2.6 mW/°C above 25°C.
(3) Derate linearly 1.3 mW/°C above 25°C.

5200 St. Patrick St., Montreal
Que., H4E 4N9, Canada
Tel: 514-768-8000
Fax: 514-768-8889

The Old Railway, Princes Street
Ulverston, Cumbria, LA12 7NQ, UK
Tel: 01 229 581 551
Fax: 01 229 581 554