

CLI890 Series

Optical Switches

GENERAL DESCRIPTION

This optical switch series couples an infrared emitting diode and a monolithic integrated circuit containing a photodiode, low level amplifier, Schmitt trigger and output stage. The Schmitt trigger hysteresis characteristics provide high immunity to noise. These devices provide a voltage output that is either high or low making them ideal for interfacing with logic circuits. A .005" or .010" aperture can be placed over the sensor for precise position detection applications.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperature:

Storage -40°C to $+125^{\circ}\text{C}$

Operating Jct. Temperature -40°C to 70°C

EMITTER (GaAs Diode)

Power Dissipation:

At 25°C Amb., $P_d = 50\text{mw}$, derate $1.33\text{mw}/^{\circ}\text{C}$

Maximum Voltage:

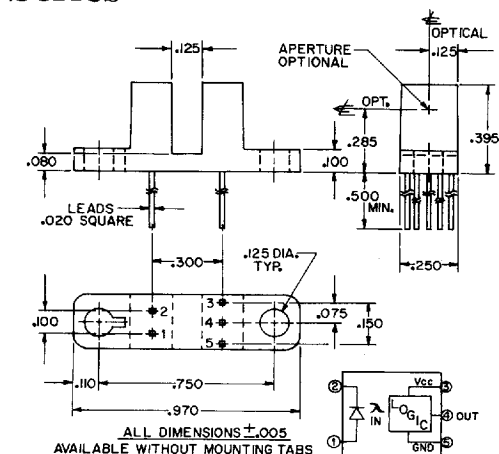
V_R Reverse Voltage = 4.0 volts

Maximum Current:

I_F D.C. Forward Current = 60ma cont.

V_R $I_R = 10\mu\text{a}$: 4.0v min.

V_F $I_F = 16\text{ma}$: 1.8v max.



DETECTOR

Supply Voltage — 4v to 15v

Supply Current — 10ma Max @ 25°C 5v

Power Dissipation — 300mw

Derate — $2.4\text{mw}/^{\circ}\text{C}$

Output Current — 50ma

V_{OH} Min — 4.0v

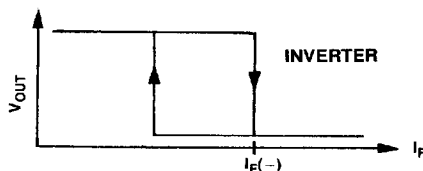
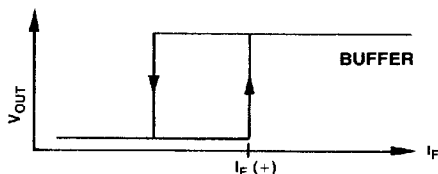
V_{OL} Max — .4 v @ $V_{CC} = 5\text{v}$

ELECTRICAL CHARACTERISTICS @ 25°C (Free air)

PART NUMBER			SLIT ON SENSOR	EXTERNAL PULL UP RESISTOR REQUIRED	I_F^{**} THRESHOLD CURRENT		OUTPUT STAGE		LOGIC FUNCTION	
					(+)	(-)	OPEN COLLECTOR	INTERNAL PULL-UP	BUFFER	INVERTER
CLI 890	CLI 890M	CLI 890W	—	YES	10ma	—	✓		✓	
CLI 8910	CLI 8910M	CLI 8910W	.010"	YES	25ma	—	✓		✓	
CLI 8905	CLI 8905M	CLI 8905W	.005"	YES	35ma	—	✓		✓	
CLI 892	CLI 892M	CLI 892W	—	YES	—	10ma	✓			✓
CLI 8912	CLI 8912M	CLI 8912W	.010"	YES	—	25ma	✓			✓
CLI 8925	CLI 8925M	CLI 8925W	.005"	YES	—	35ma	✓			✓
CLI 894	CLI 894M	CLI 894W	—	NO	10ma	—		✓	✓	
CLI 8914	CLI 8914M	CLI 8914W	.010"	NO	25ma	—		✓	✓	
CLI 8945	CLI 8945M	CLI 8945W	.005"	NO	35ma	—		✓	✓	

* AVAILABLE WITH LEAD SPACING OF .220 INCH. ADD THE SUFFIX A.

** SPECIAL SELECTS POSSIBLE



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