

T-41-73

CLI890 Series

Optical Switches

GENERAL DESCRIPTION

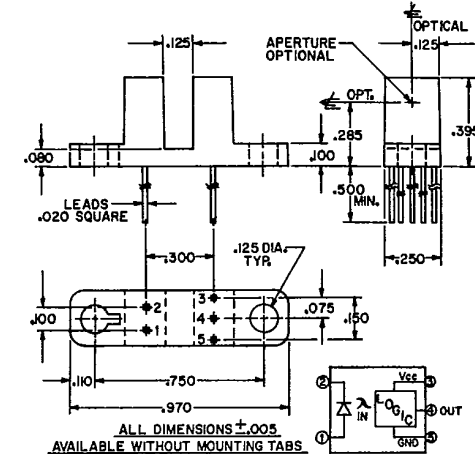
This optical switch series couples an infrared emitting diode and a monolithic integrated circuit containing a photodiode, low level amplifier, Schmitt trigger and output stage. The Schmitt trigger hysteresis characteristics provide high immunity to noise. These devices provide a voltage output that 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°C  
 Operating Jct. Temperature -40°C to 70°C

EMITTER (GaAs Diode)

Power Dissipation:  
 At 25°C Amb., Pd=50mw, derate 1.33mw/°C  
 Maximum Voltage:  
 V<sub>R</sub> Reverse Voltage=4.0 volts  
 Maximum Current:  
 I<sub>F</sub> D.C. Forward Current=60ma cont.  
 V<sub>R</sub> I<sub>R</sub>=10µa: 4.0v min.  
 V<sub>F</sub> I<sub>F</sub>=16ma: 1.8v max.



DETECTOR

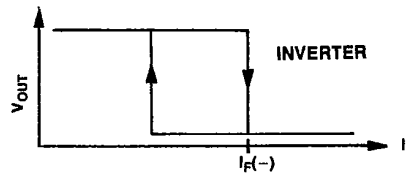
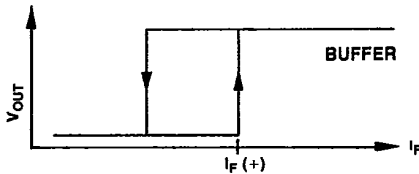
Supply Voltage — 4v to 15v  
 Supply Current — 10ma Max @ 25°C 5v  
 Power Dissipation — 300mw  
 Derate — 2.4mw/°C  
 Output Current — 50ma  
 V<sub>OH</sub> Min — 4.0v @ V<sub>cc</sub> = 5v  
 V<sub>OL</sub> Max — .4 v

ELECTRICAL CHARACTERISTICS @ 25°C (Free air)

PART NUMBER	SLIT ON SENSOR	EXTERNAL PULL UP RESISTOR REQUIRED	I <sub>F</sub> ** THRESHOLD CURRENT		OUTPUT STAGE		LOGIC FUNCTION		
			(+) (MAX)	(-) (MAX)	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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