

T-41-73

**CLI200  
CLI210  
CLI220  
CLI230**

**Optical Switches**

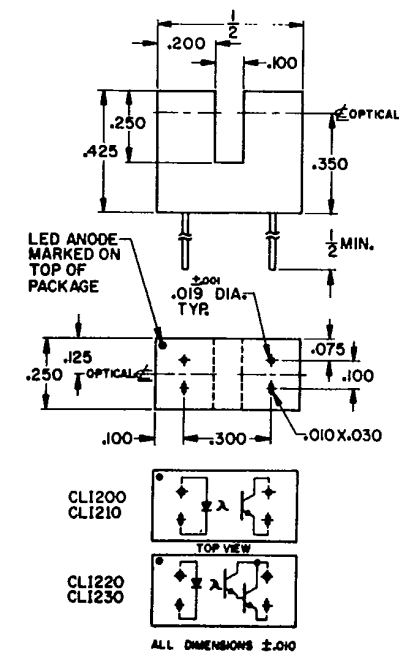
**GENERAL DESCRIPTIONS** — This Series of optical switches provides a small rugged unit capable of circuit board mounting. The units feature a Valox® housing and are epoxy backfilled. The optical switches feature both hermetically sealed, glass lensed IREDS and either a phototransistor or a darlington phototransistor sensor for maximum reliability. The CLI200 and CLI210 have phototransistor outputs providing excellent sensor current levels along with fast switching speeds. The CLI220 and CLI230 have darlington phototransistor outputs providing very high sensor current levels. The CLI210 and CLI230 have a .005" slit over the sensor aperture for additional target resolution.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperature:  
Storage - 55°C to + 150°C  
Operating Jct. Temperature + 100°C

**EMITTER (GaAs Diode)**

Power Dissipation:  
At 25°C Amb., Pd= 100mw, derate 1.33mw/°C  
Maximum Voltage:  
V<sub>R</sub> Reverse Voltage= 3.0 volts  
Maximum Current:  
I<sub>F</sub> D.C. Forward Current= 60ma cont.



**DETECTOR**

Power Dissipation:  
At 25°C amb., Pd=50mw, derate 0.5mw/°C  
Maximum Voltages:  
V<sub>CEO</sub> 40V, V<sub>ECO</sub> =5V  
Maximum Current:  
I<sub>C</sub>, Collector Current 200ma pulsed



**ELECTRICAL CHARACTERISTICS 25°C Free Air**

Symbol	Characteristics	Test Conditions	CLI200		CLI210		CLI220		CLI230		Units
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
IRED V <sub>R</sub> V <sub>F</sub>	Reverse Voltage	I <sub>R</sub> = 10 μa	3		3		3		3		volts
	Forward Voltage	I <sub>F</sub> = 16 ma		1.5		1.5		1.5		1.5	volts
SENSOR BV <sub>CEO</sub> I <sub>D</sub>	Collector to Emitter Breakdown Voltage	I <sub>C</sub> = 100 μa	40		40		40		40		volts
	Leakage Current	V <sub>CE</sub> = 10V, I <sub>F</sub> = 0		50		50		100		100	na
COUPLED I <sub>CE</sub> V <sub>CE(SAT)</sub>	Sensor Current	I <sub>F</sub> = 20ma, V <sub>CE</sub> = 5V	1.0		.10		10		2		ma
	Collector to Emitter Saturation Voltage	I <sub>F</sub> = 20ma, I <sub>C</sub> = .05ma I <sub>F</sub> = 20ma, I <sub>C</sub> = .5ma		.5		.5		1.2		1.2	volts
		I <sub>F</sub> = 20ma, I <sub>C</sub> = 1ma I <sub>C</sub> = 2ma, V <sub>CC</sub> = 5V R <sub>L</sub> = 100 ohms	5 TYP		5 TYP		150 TYP		150 TYP		μsec
TR, TF	Rise, Fall Time	I <sub>C</sub> = 2ma, V <sub>CC</sub> = 5V R <sub>L</sub> = 1000 ohms	15 TYP		15 TYP						μsec

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