

T-41-73

**CLI600
CLI610**

Optical Switches

GENERAL DESCRIPTION

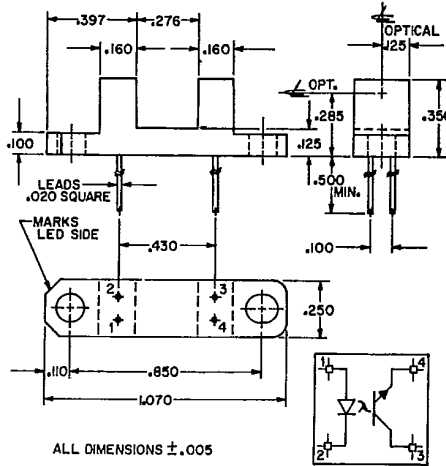
These optical switches couple an infrared light emitting diode and a silicon photodetector. The detector in the CLI610 is an NPN phototransistor. The CLI600 has a photodarlington providing higher sensor currents. Switching takes place whenever an opaque object passes through the .276" wide gap.

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_R Reverse Voltage=4.0 volts
Maximum Current:
I_F D.C. Forward Current=60ma cont.



DETECTOR

Power Dissipation:
At 25°C amb., Pd=150mw, derate 2.0mw/°C
Maximum Voltages:
V_{CEO}=30V, V_{ECO}=5V
Maximum Current:
I_C, Collector Current 100ma pulsed

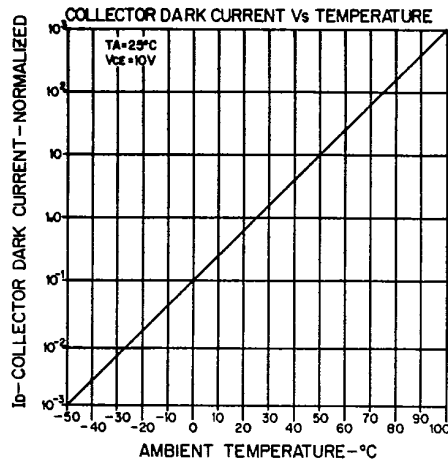
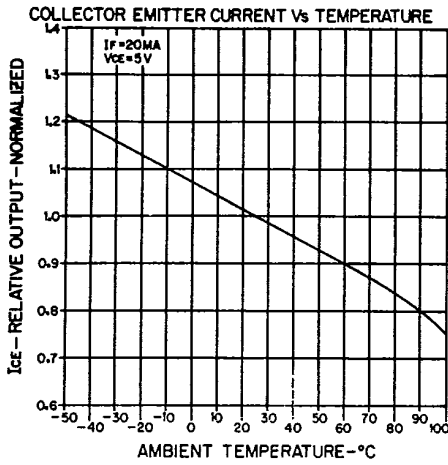
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ELECTRICAL CHARACTERISTICS 25°C Free Air

Symbol	Characteristics	Test Conditions	CLI600 Min. Max.	CLI610 Min. Max.	Units
EMITTER V _R V _F	Reverse Voltage	I _R =10μa	4.0	4.0	volts
	Forward Voltage	I _F =16ma	1.8	1.8	volts
SENSOR BV _{CEO} I _D	Collector to Emitter Breakdown Voltage	I _C =100μa	30	30	volts
	Leakage Current	V _{CE} =10V,	100	50	na
COUPLED I _{CE} V _{CE(SAT)}	Sensor Current	I _F =5ma, V _{CE} =5V I _F =20ma, V _{CE} =5V	2.0	0.4	ma ma
	Collector to Emitter Saturation Voltage	I _F =20ma, I _C =.25ma I _F =30ma, I _C =.25ma	1.2	0.4	volts volts
T _R , T _F	Rise, Fall Time	I _C =2ma, V _{CC} =5V R _L =100 ohms	150 Typ.	5 Typ.	μsec

CLI610

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