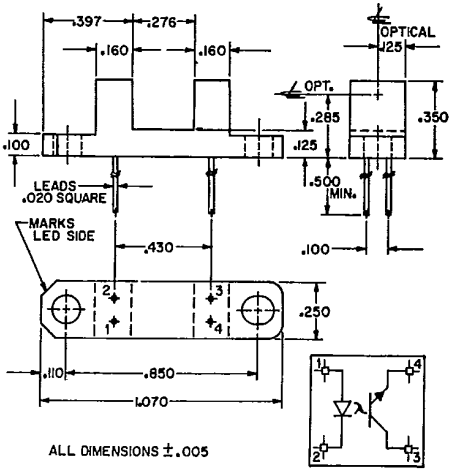
CLI600
CLI610

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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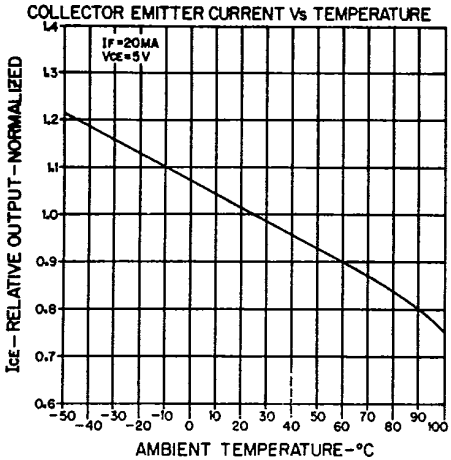
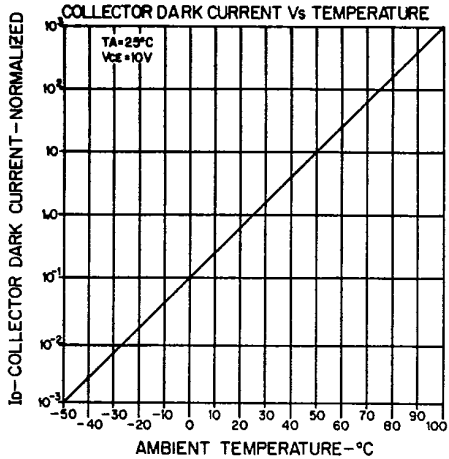
ELECTRICAL CHARACTERISTICS 25°C Free Air

Symbol	Characteristics	Test Conditions	CLI600 Min.	CLI600 Max.	CLI610 Min.	CLI610 Max.	Units
EMITTER V_R V_F	Reverse Voltage Forward Voltage	I_R=10μa I_F=16ma	4.0	1.8	4.0	1.8	volts volts
SENSOR BV_{CEO}	Collector to Emitter Breakdown Voltage	I_C=100μa	30		30		volts
I_D	Leakage Current	V_{CE}=10V,		100		50	na
COUPLED I_{CE}	Sensor Current	I_F=5ma, V_{CE}=5V I_F=20ma, V_{CE}=5V	2.0		0.4		ma ma
$V_{CE(SAT}$	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

T-41-73





CLI600