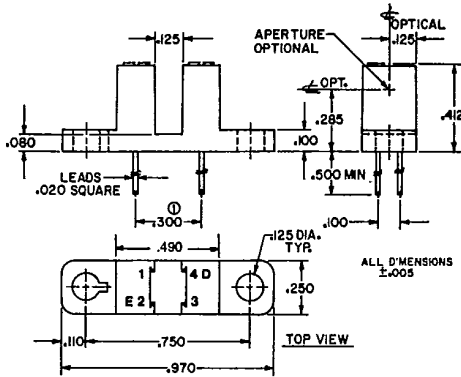


T-41-73

**CLI800
CLI810
CLI820
CLI830
CLI835**

Optical Switches

GENERAL DESCRIPTIONS — This optical switch series couples a gallium arsenide infrared emitting diode and a silicon phototransistor sensor. This series offers the lowest cost switches in the Clairex line. All still have guaranteed minimum sensor currents and a maximum voltage of 30 volts. The CLI-835 has a .010" aperture over the sensor for precise position detection applications. The wide gap of .125" between emitter and sensor easily allows signal interruption by a moving target.



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.

Notes:

- 1 .220 inch optional } Call Factory
- 2 .005 inch optional }

Available without mounting tabs - add suffix "m".

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

9

ELECTRICAL CHARACTERISTICS 25°C Free Air

Symbol	Characteristics	Test Conditions	CLI800 Min. Max.	CLI810 Min. Max.	CLI820 Min. Max.	CLI830 Min. Max.	CLI835 Min. Max.	Units
EMITTER	V _R Reverse Voltage	I _R =10μa	4.0	4.0	4.0	4.0	4.0	volts
	V _F Forward Voltage	I _F =16ma	1.5	1.5	1.5	1.5	1.5	volts
SENSOR	BV _{CEO} Collector to Emitter Breakdown Voltage	I _C =100μa	30	30	30	30	30	volts
I _D	Leakage Current	V _{CE} =10V,	100	100	100	100	100	na
		V _{CE} =5V f=1MHZ	5	5	5	5	5	pf
COUPLED	I _{CE} Sensor Current	I _F =5ma, V _{CE} =5V I _F =20ma, V _{CE} =5V	0.4	.2 Typ. 1.0	.5 Typ. 2.0	1.0 Typ. 4.0	0.4	ma ma
V _{CE(SAT)}	Collector to Emitter Saturation Voltage	I _F =30ma, I _C =.25ma	0.4	0.4	0.4	0.4	0.4	volts volts
T _R , T _F	Rise, Fall Time	I _C =2ma, V _{CC} =5V R _L =100 ohms	5 Typ.	5 Typ.	5 Typ.	5 Typ.	5 Typ.	μsec

Special electrical or mechanical characteristics always available - consult factory

T-41-73

