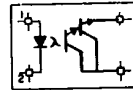
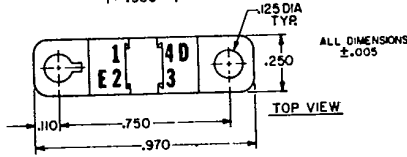
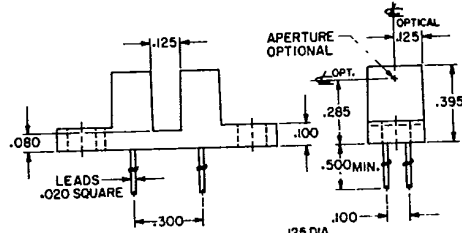


T-41-73

CLI840
CLI850
CLI860
CLI870

Optical Switches



Available without mounting tabs.

GENERAL DESCRIPTIONS — This optical switch series couples a gallium arsenide infrared emitting diode and a silicon darlington phototransistor, for high sensor currents. Maximum sensor voltage of 30 volts allows high sensitivity with lower cost than high voltage designs. The CLI870 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 — 5°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

9

ELECTRICAL CHARACTERISTICS 25°C Free Air

Symbol	Characteristics	Test Conditions	CLI840		CLI850		CLI860		CLI870		Units
			Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	
EMITTER V _R V _F	Reverse Voltage	I _R =10μa	4.0		4.0		4.0		4.0		volts
	Forward Voltage	I _F =16ma		1.5		1.5		1.5		1.5	volts
SENSOR BV _{CEO}	Collector to Emitter Breakdown Voltage	I _C =100μa	30		30		30		30		volts
I _D C _{CE}	Leakage Current	V _{CE} =10V.		250		250		250		250	μa
	Capacitance	V _{CE} =5V, f=1MHZ		8		8		8		8	pf
COUPLED I _{CE}	Sensor Current	I _F =5ma, V _{CE} =1.5V	2.5		5.0		10.0		1.0		ma
		I _F =10ma, V _{CE} =1.5V		10 Typ.		17 Typ.		30 Typ.			ma
V _{CE(SAT)}	Collector to Emitter Saturation Voltage	I _F =10ma, I _C =1.5ma I _F =20ma, I _C =1.5ma		1.2		1.2		1.2		1.2	volts
T _R , T _F	Rise, Fall Time	I _C =2ma, V _{CC} =5V R _L =100 ohms		150 Typ.		150 Typ.		150 Typ.		150 Typ.	μsec

T-41-73

