

Features

- Non-contact switching.
- Fast switching speed.
- For direct PC board or dual-in-line socket mounting.
- Choice of mounting configuraton.

Application

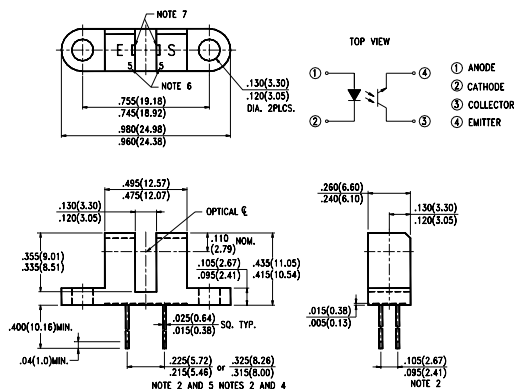
- FAX machine
- Scanner
- Copy machine
- Disk driver

Description

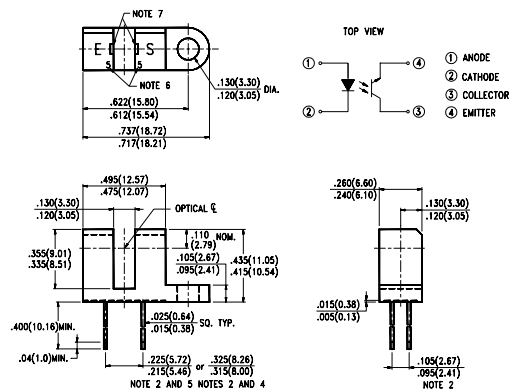
The LTH-860/LTH-870 series provide the design engineer with the flexibility of a custom device from a standard product line. The user can specify (1) electrical output parameters, (2) mounting tab configuration, (3) choice of lead spacing, (4) discreet shell material and (5) aperture width.

Package Dimensions

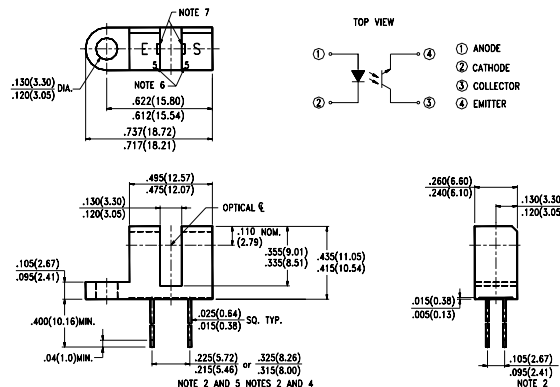
Package Configuration T



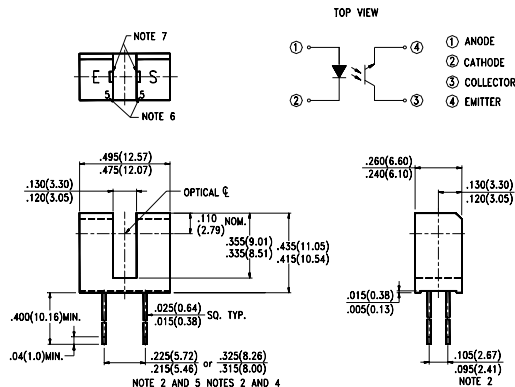
Package Configuration P



Package Configuration L



Package Configuration N



Notes:

- 1.All dimensions are in inches (millimeters).
- 2.Dimension controlled at housing surface only.
- 3.Housing is soluble in chlorinated hydrocarbons and ketones.
- 4.LTH-860, LTH-861, LTH-862, LTH-870, LTH-871, LTH-872.
- 5.LTH-865, LTH-866, LTH-867, LTH-875, LTH-876, LTH-877.
- 6.Molded number to identify aperture size. See part number guide.
- 7.Dimensions of aperture opening dependent on housing material. See part number guide.
- 8.Housing shown are opaque polysulfone.

Part Numbering Guide LTH - 8 X X - X X X

Basic Part Number	Aperture Width in front of Sensor (5) 5=.050 in.(1.27mm) *1=.010 in.(.25mm) Aperture Lengths are 0.06 in.(1.52mm) *Available with Parameter A only
Housing Material	Aperture Width in front of IRED (5) 5=.050 in.(1.27mm)
6=Polysulfone,IR Transmissive	Mounting Configurations
7=Polysulfone,Opaque	T=Both Mounting Tabs.
Mechanical and Electrical Spec.	P=Single Mounting Tabs, Sensor Side
0=Electrical Parameter A	L=Single Mounting Tabs, Emitter Side
Lead Spacing :.320 in.(8.13mm)	N=No Mounting Tabs.
1=Electrical Parameter B	
Lead Spacing :.320 in.(8.13mm)	
2=Electrical Parameter C	
Lead Spacing :.320 in.(8.13mm)	
5=Electrical Parameter A	
Lead Spacing :.220 in.(5.59mm)	
6=Electrical Parameter B	
Lead Spacing :.220 in.(5.59mm)	
7=Electrical Parameter C	
Lead Spacing :.220 in.(5.59mm)	

Absolute Maximum Ratings at Ta=25°C

Parameter		Symbol	Maximum Rating	Unit
Input LED	Continuous Forward Current	I _F	60	mA
	Reverse Voltage	V _R	5	V
	Peak Forward Current (Pulse Wide=10 μ S,300PPS)	I _{CP}	1	A
	Power Dissipation	P _D	75	mW
Output phototransistor	Collector Current	I _C	20	mA
	Power Dissipation	P _C	100	mW
	Collector-emitter Voltage	V _{CEO}	30	V
	Emitter-collector Voltage	V _{ECO}	5	V
Operating Temperature Range		T _{opr}	-25°C to + 85°C	
Storage Temperature Range		T _{stg}	-40°C to + 100°C	
Lead Soldering Temperature [1.6mm(.063 in.)from body]		T _s	260°C for 5 Seconds	

Electrical Optical Characteristics at Ta=25°C

Parameter		Symbol	Part No.	Min.	Typ.	Max.	Unit	Test Condition
Input LED								
Forward Voltage		V _F			1.2	1.6	V	I _F =20mA
Reverse Current		I _R				100	μ A	V _R =5V
Output phototransistor								
Collector Dark Current		I _{CEO}				100	nA	V _{CE} =10V
Coupler								
Collector-Emitter Saturation Voltage	Parameter A	V _{CE(sat)}					V	I _C =0.25mA,I _F =20mA
	Parameter B					0.4		I _C =0.5mA,I _F =20mA
	Parameter C							I _C =0.9mA,I _F =20mA
On State Collector Current	Parameter A	I _{C(ON)}		0.5			mA	V _{CE} =5V,I _F =20mA
	Parameter B			1.0				
	Parameter C			1.8				
Response Time	Rise Time	t _r			3	15	μ S	V _{CE} =5V,I _C =2mA R _L =100 Ω
	Fall Time	t _f			4	20		

Typical Electrical/Optical Characteristic Curves (25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs.
Ambient Temperature

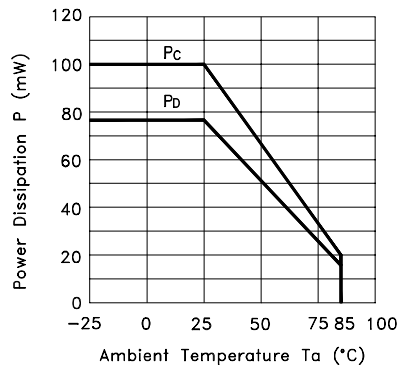


Fig.2 Forward Current vs.
Forward Voltage

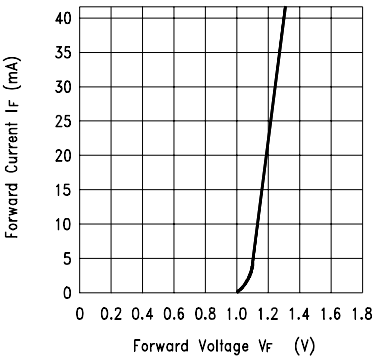


Fig.3 Collector Current vs.
Collector-emitter Voltage

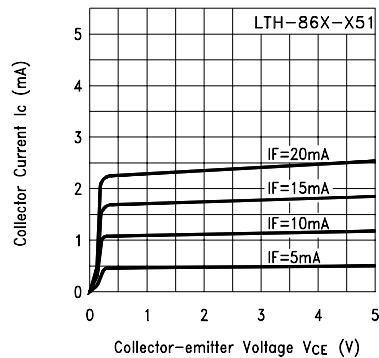


Fig.4 Collector Current vs.
Collector-emitter Voltage

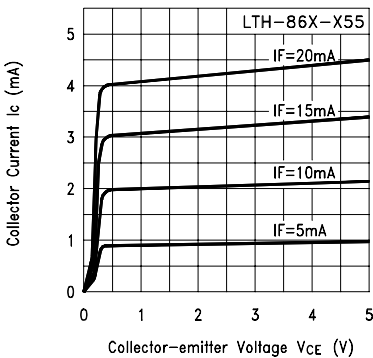


Fig.5 Collector Current vs.
Collector-emitter Voltage

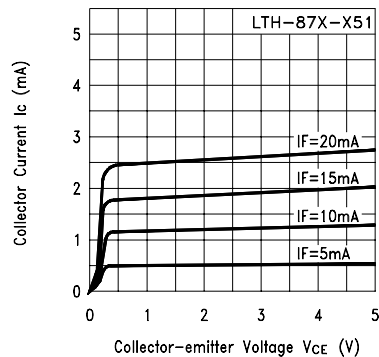
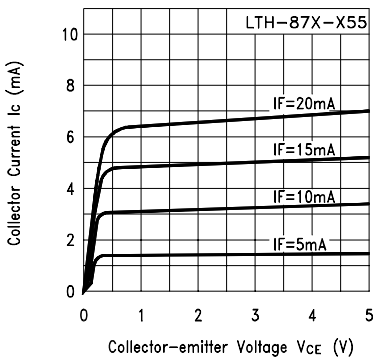


Fig.6 Collector Current vs.
Collector-emitter Voltage



Typical Electrical/Optical Characteristic Curves (25°C Ambient Temperature Unless Otherwise Noted)

Fig.7 Collector Current vs. Ambient Temperature

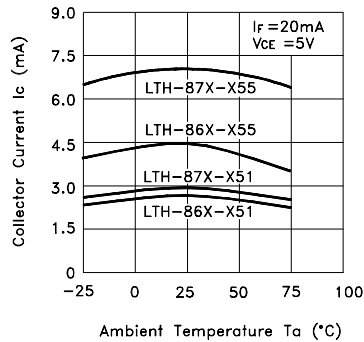


Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature

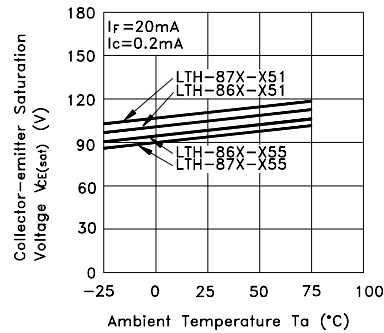
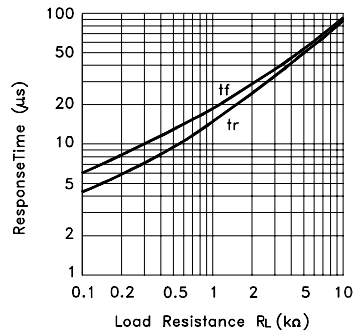


Fig.9 Response Time vs. Load Resistance



Test Circuit for Response Time

