



Photointerrupter Product Data Sheet LTH-860/870 SERIES

Spec No.: DS-55-92-0008

Effective Date: 07/04/2000

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4



LITE-ON TECHNOLOGY CORPORATION

Property of LITE-ON Only

FEATURES

- * NON-CONTACT SWITCHING.
- * FAST SWITCHING SPEED.
- * FOR DIRECT PC BOARD OR DUAL-IN-LINE SOCKET MOUNTING.
- * CHOICE OF MOUNTING CONFIGURATION.

APPLICATION

- * FAX MACHINE
- * SCANNER
- * COPY MACHINE
- * DISK DRIVER

Part Numbering Guide

LTH - 8 X X - X X X

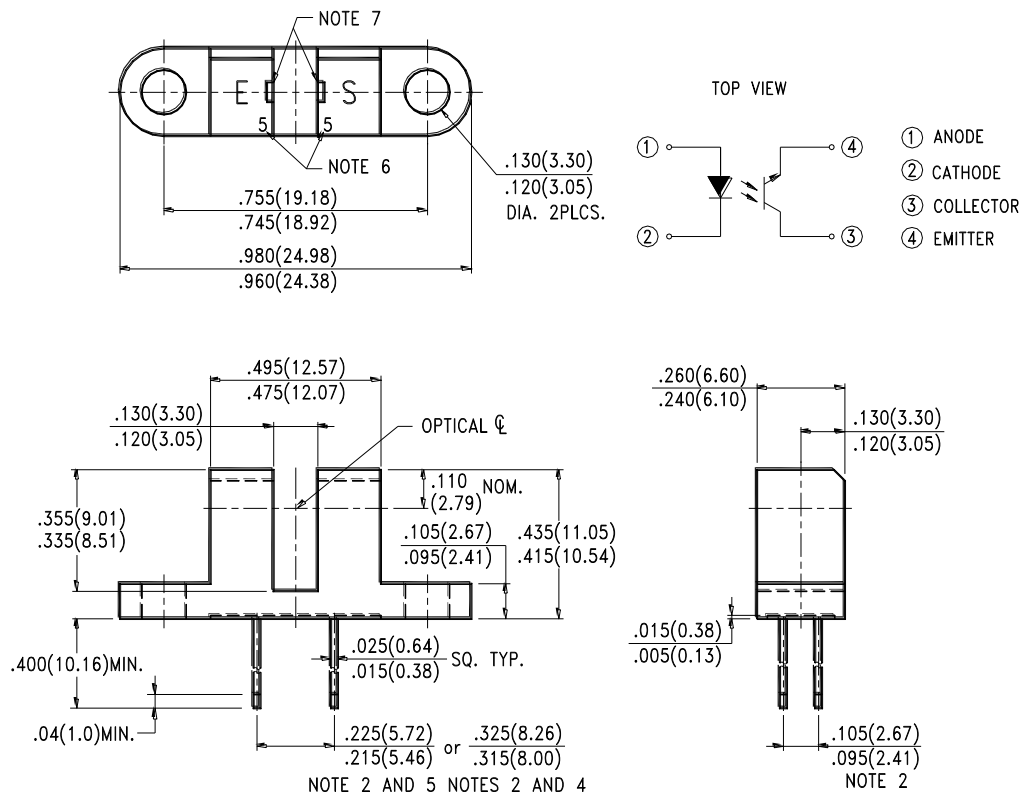
Basic Part Number	Aperture Width in front of Sensor (5) 5=. 050 in. (1.27mm) * 1=. 010 in. (. 25mm)
Housing Material	Aperture Lengths are 0.06 in. (1.52mm) *Available with Parameter A only
6=Polysulfone , IR Transmissive 7=Polysulfone,Opaque	
Mechanical and Electrical Spec.	Aperture Width in front of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

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) DISCRET SHELL MATERIAL AND (5) APERTURE WIDTH.

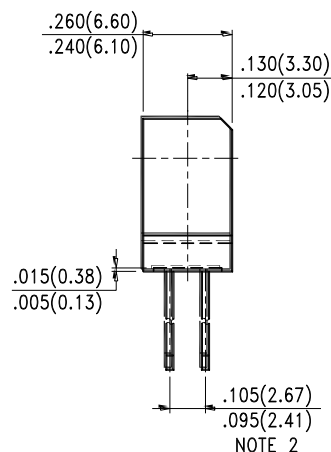
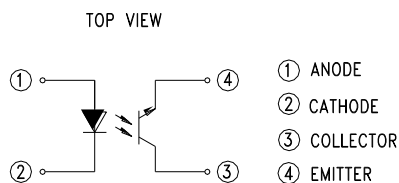
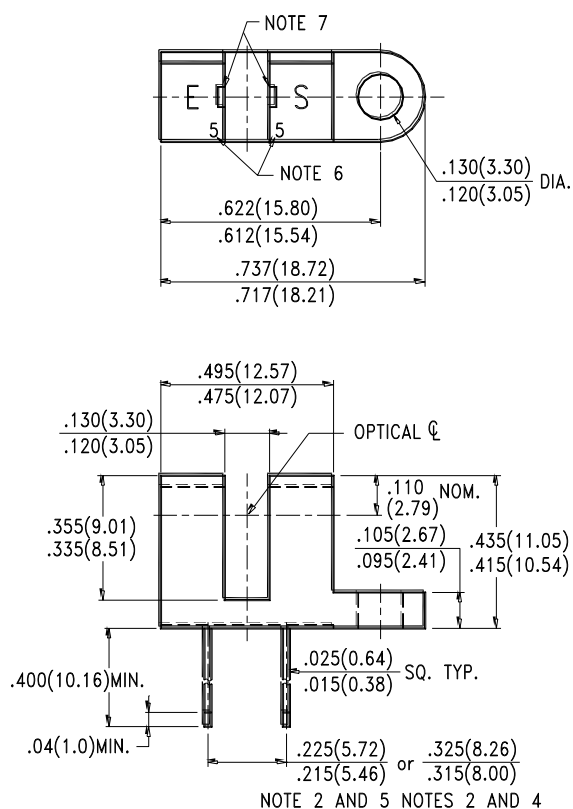
PACKAGE DIMENSIONS

Package Configuration T



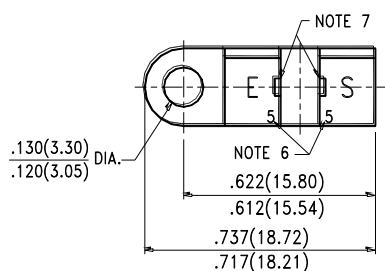
PACKAGE DIMENSIONS

Package Configuration P

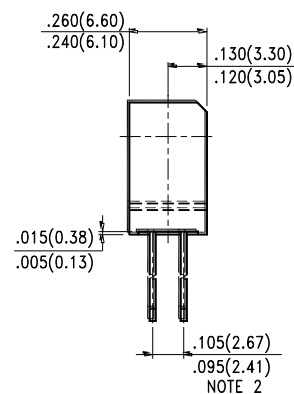
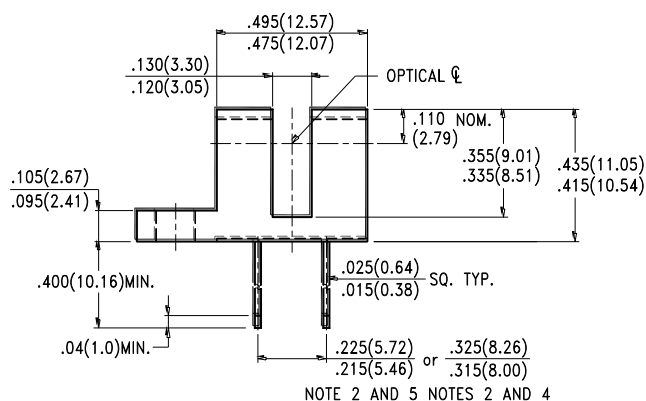
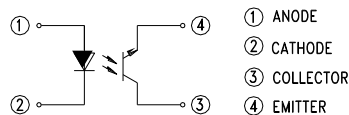


PACKAGE DIMENSIONS

Package Configuration L

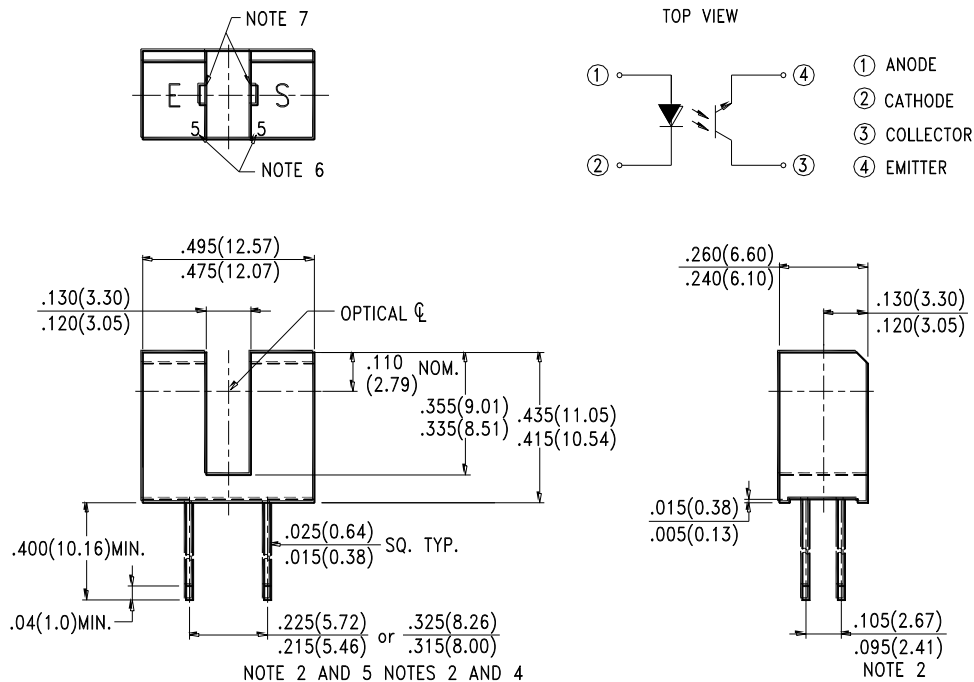


TOP VIEW



PACKAGE DIMENSIONS

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.

**ABSOLUTE MAXIMUM RATINGS AT TA=25°C**

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
INPUT LED			
Power Dissipation	P _D	75	mW
Continuous Forward Current	I _F	50	mA
Peak Forward Current (Pulse Wide = 10μS , 300PPS)	I _{CP}	1	A
Reverse Voltage	V _R	5	V
OUTPUT PHOTOTRANSISTOR			
Power Dissipation	P _C	100	mW
Collector-Emitter Voltage	V _{CEO}	30	V
Emitter-Collector Voltage	V _{ECO}	5	V
Collector Current	I _C	20	mA
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") Form Case]	T _{sol}	260°C for 5 Seconds	

ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER		SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
INPUT LED							
Forward Voltage		V_F		1.2	1.6	V	$I_F = 20\text{mA}$
Reverse Current		I_R			100	μA	$V_R=5\text{V}$
OUTPUT PHOTOTRANSISTOR							
Collector-Emitter Dark Current		I_{CEO}			100	nA	$V_{CE}=10\text{V}$
COUPLER							
Collector-Emitter Saturation Voltage	Parameter A	$V_{CE(SAT)}$				V	$I_C=0.25\text{mA}, I_F=20\text{mA}$
	Parameter B				0.4		$I_C=0.5\text{mA}, I_F=20\text{mA}$
	Parameter C						$I_C=0.9\text{mA}, I_F=20\text{mA}$
On State Collector Current	Parameter A	$I_{C(ON)}$	0.5			mA	$V_{CE}=5\text{V}, I_F=20\text{mA}$
	Parameter B		1.0				
	Parameter C		1.8				
Response Time	Rise Time	tr		3	15	μS	$V_{CE}=5\text{V}, I_C=2\text{mA}$ $R_L=100\ \Omega$
	Fall Time	tf		4	20		

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

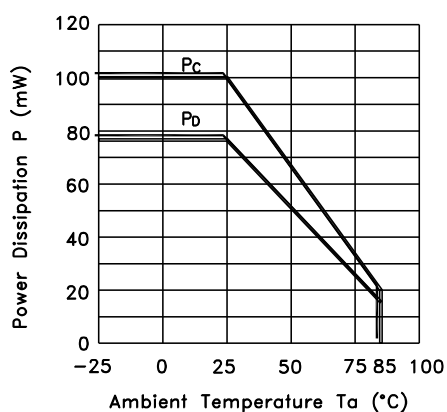


Fig.2 Forward Current vs. Forward Voltage

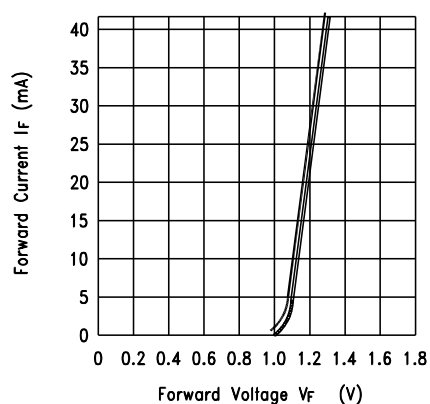


Fig.3 Collector Current vs. Collector-emitter Voltage

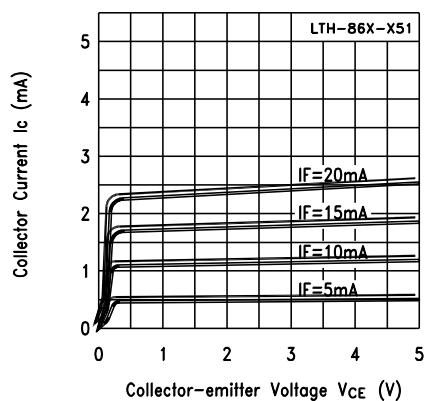
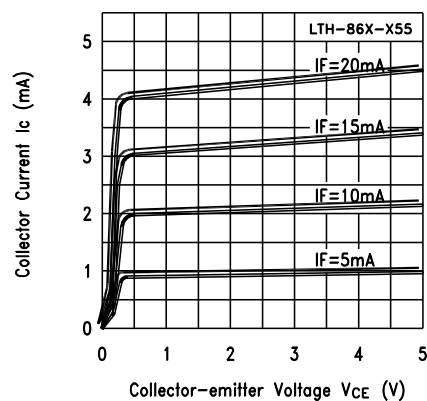


Fig.4 Collector Current vs. Collector-emitter Voltage



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Collector-emitter Voltage

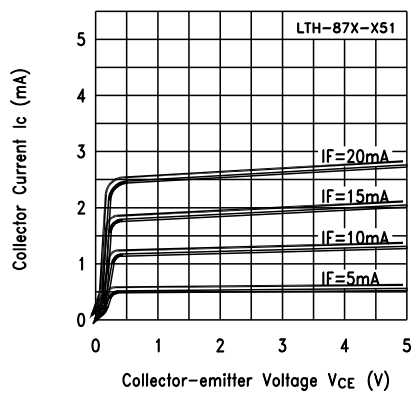


Fig.6 Collector Current vs. Collector-emitter Voltage

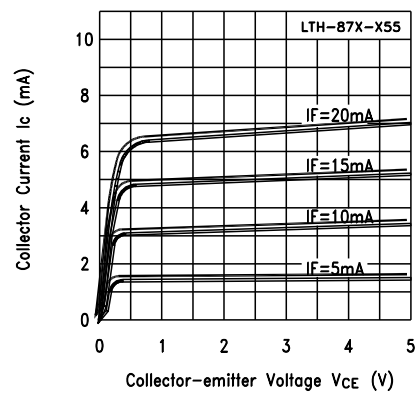


Fig.7 Collector Current vs. Ambient Temperature

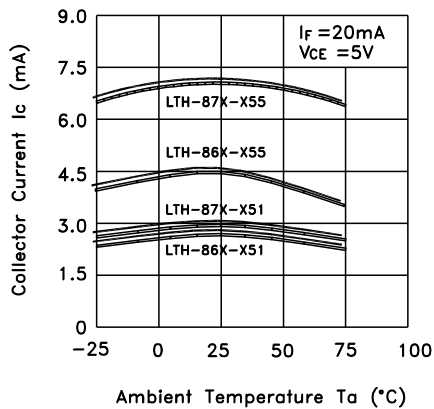
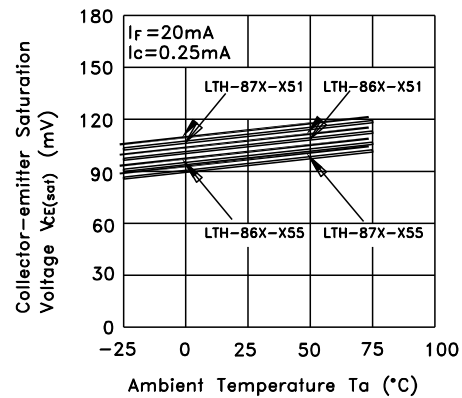


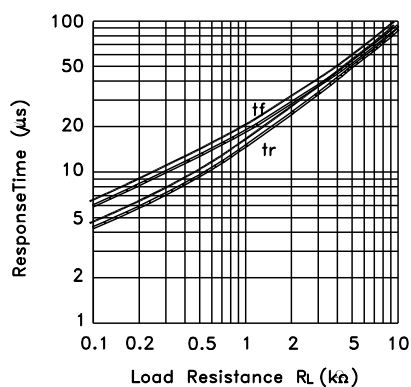
Fig.8 Collector-emitter Saturation Voltage vs. Ambient Temperature



TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.9 Response Time vs. Load Resistance



Test Circuit for Response Time

