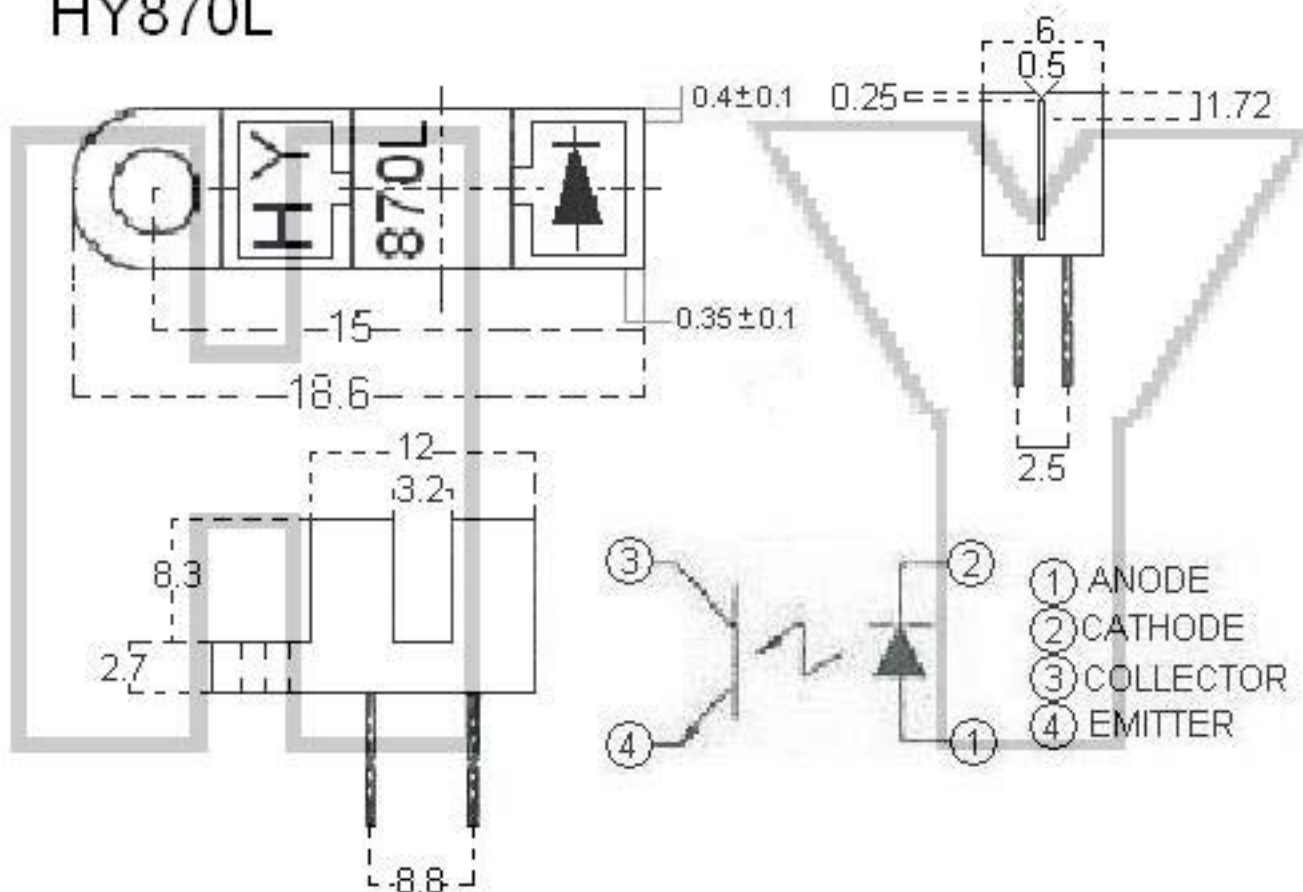


## FEATURES

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

## PACKAGE DIMENSIONS

### HY870L



## NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.

# HY870L

## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

PARAMETER	MAXIMUM RATING	UNIT
IR Diode Continuous Forward Current	50	mA
IR Diode Reverse Voltage	5	V
Transistor Collector Current	20	mA
Transistor Power Dissipation	75	mW (Note 1)
IR Diode Peak Forward Current (Pulse Wide = 10 $\mu$ S, 300 pps)	1	A
Diode Power Dissipation	100	mW (Note 1)
Phototransistor Collector-Emitter Voltage	30	V
Phototransistor Emitter-Collector Voltage	5	V
Operating Temperature Range	-55°C to +100°C	
Storage Temperature Range	-55°C to +100°C	
Lead Soldering Temperature [1.6mm(.063") From Case]	260°C for 5 Seconds	

Note 1: Derate Linearly 1.33mW/°C from 25°C

### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$ (.010") unless otherwise noted.

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

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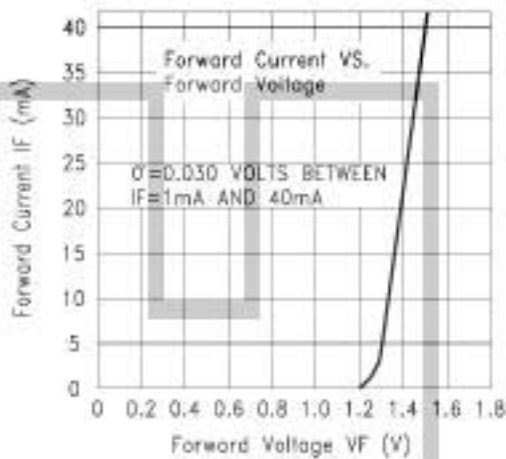


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

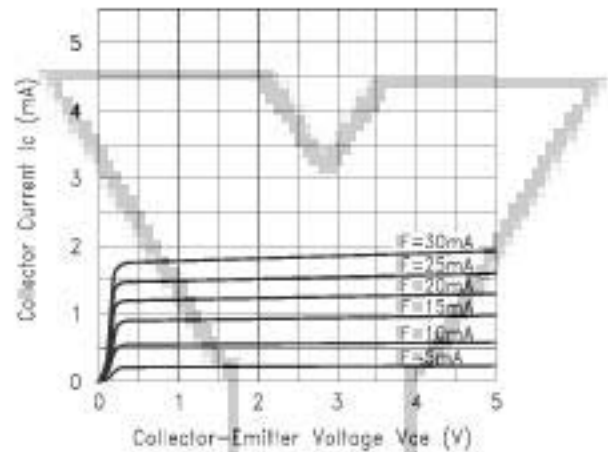


Fig.2 COLLECTOR CURRENT VS. COLLECTOR VOLTAGE

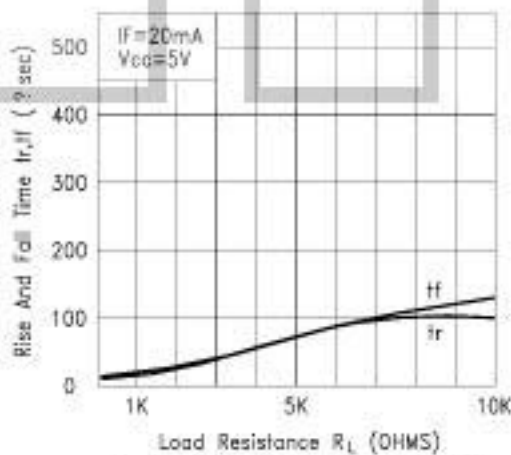


Fig.3 RISE AND FALL TIME VS. LOAD RESISTANCE

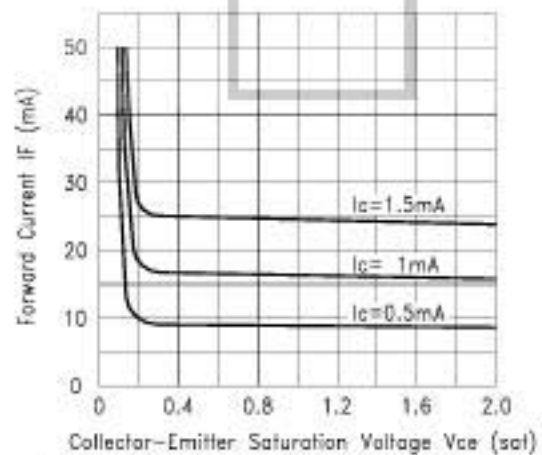


Fig.4 FORWARD CURRENT VS. Collector-Emitter Saturation Voltage

### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.25\text{mm}$  (.010") unless otherwise noted.

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## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
<b>INPUT LED</b>						
Forward Voltage	V <sub>F</sub>		1.2	1.6	V	I <sub>F</sub> = 20mA
Reverse Current	I <sub>R</sub>			100	μA	V <sub>R</sub> = 5V
<b>OUTPUT PHOTOTRANSISTOR</b>						
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	30			V	I <sub>C</sub> = 1mA
Emitter-Collector Breakdown Voltage	V <sub>(BR)ECO</sub>	5			V	I <sub>E</sub> = 100 μA
Collector-Emitter Dark Current	I <sub>CEO</sub>			100	nA	V <sub>CE</sub> = 10V
<b>COUPLER</b>						
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>			0.4	V	I <sub>C</sub> = 0.2mA I <sub>F</sub> = 20mA
On State Collector Current	I <sub>c(ON)</sub>	0.4		2.4	mA	V <sub>CE</sub> = 5V I <sub>F</sub> = 20mA

### NOTES:

- All dimensions are in millimeters (inches).
- Tolerance is ±0.25mm(.010") unless otherwise noted.