LITEON®
OPTOELECTRONICS

Photointerrupter

Product Data Sheet

LTH-872-N55H

Spec No.: DS55-2015-0007

Effective Date: 05/29/2015

Revision: -

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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Photointerrupter
LTH-872-N55H

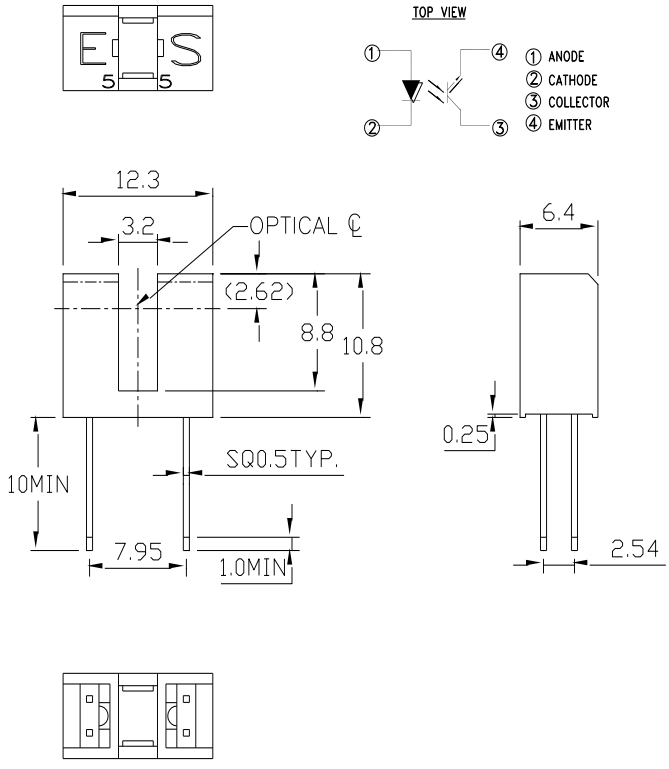
1. Description

Photointerrupters consist of infrared emitters and photo detectors in slotted, reflective and actuator type switches with connectors. Featuring high reliability, accuracy and special custom-tailored devices to fulfill various sensor requirements such as facsimile machine, copy machine, printer, scanner… etc. Our skilled team of specialists with engineering expertise is ready to offer fast support for the requirements of custom-made parts and co-development with customers.

1. 1. Features

- Non-contact Switching
- For Direct PC Board or Dual-in-line Socket Mounting
- Fast Switching Speed

2. Outline Dimensions



Notes :

1. All dimensions are in millimeters.
2. Tolerance is ±0.25mm unless otherwise noted.
3. Specifications are subject to change without notice.

3. Absolute Maximum Ratings at TA=25℃

Parameter	Maximum Rating	Unit
INPUT LED		
Power Dissipation	75	mW
Continuous Forward Current	50	mA
Reverse Voltage	5	V
OUTPUT PHOTOTRANSISTOR		
Power Dissipation	100	mW
Collector-Emitter Voltage	30	V
Emitter-Collector Voltage	5	V
Collector Current	20	mA
Operating Temperature Range	-25°C to + 85°C	
Storage Temperature Range	-40°C to + 100°C	
Lead Soldering Temperature [1.6mm (.063") Form Case]	260°C for 5 Seconds	

4. Electrical / Optical Characteristics at TA=25℃

Parameter		Symbol	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	μA	V_R = 5V
OUTPUT PHOTOTRANSISTOR							
Collector-Emitter Dark Current		I_{CEO}	-	-	100	nA	V_{CE} = 10V
COUPLER							
Collector Emitter Saturation Voltage		$V_{CE(SAT)}$	-	-	0.4	V	I_C = 0.25mA I_F = 20mA
On State Collector Current		$I_{C(ON)}$	2.0	-	-	mA	V_{CE} = 5V I_F = 20mA
Response Time	Rise Time	Tr	-	3	15	μS	V_{CC} =5V I_C = 2mA R_L = 100Ω
	Fall Time	Tf	-	4	20		

5. Typical Electrical / Optical Characteristics Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

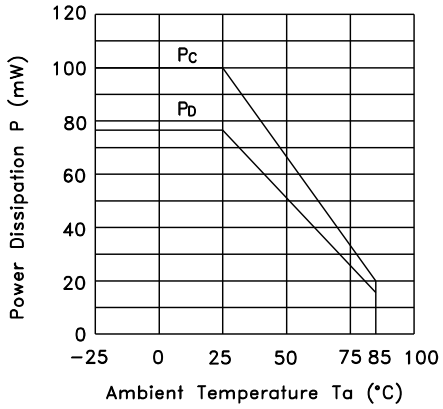


Fig.2 Forward Current vs. Forward Voltage

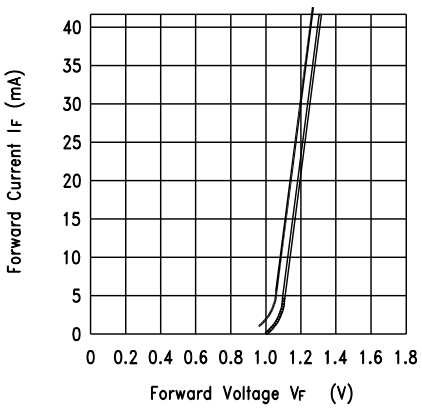


Fig.3 Collector Current vs. Collector−emitter Voltage

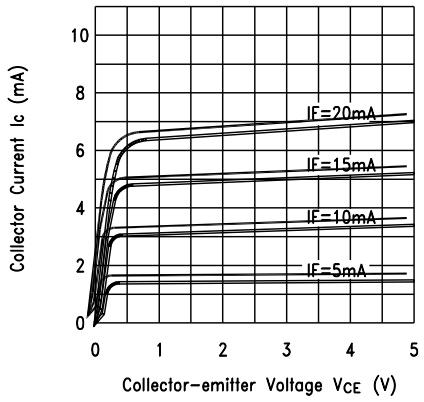


Fig.4 Collector Current vs. Ambient Temperature

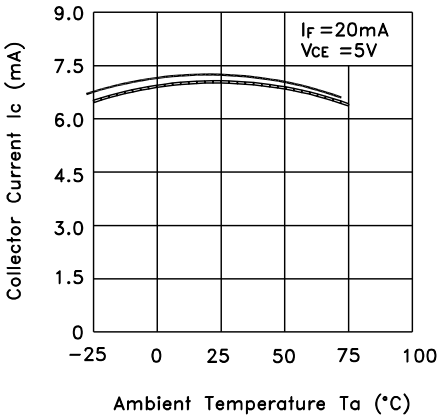


Fig.5 Collector-emitter Saturation Voltage vs. Ambient Temperature

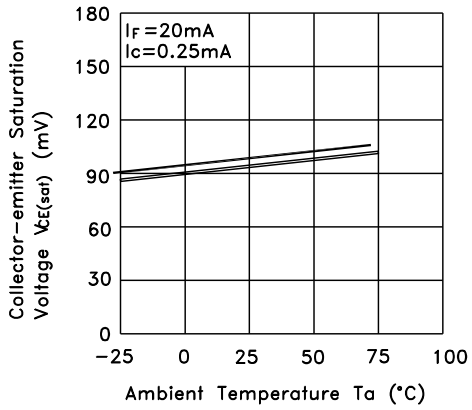
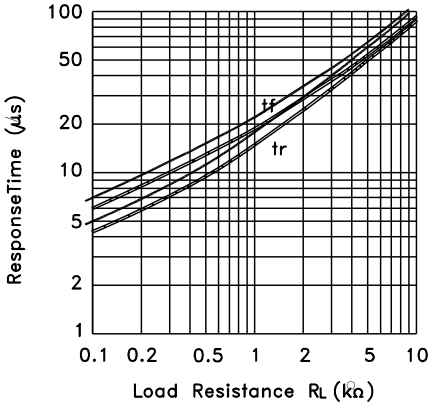


Fig.6 Response Time vs. Load Resistance



Test Circuit for Response Time