



Photointerrupter
Product Data Sheet
LTH-872-T55T1

Spec No. :DS-55-99-0002
Effective Date: 06/15/2017
Revision: A

LITE-ON DCC

RELEASE

BNS-OD-FC001/A4

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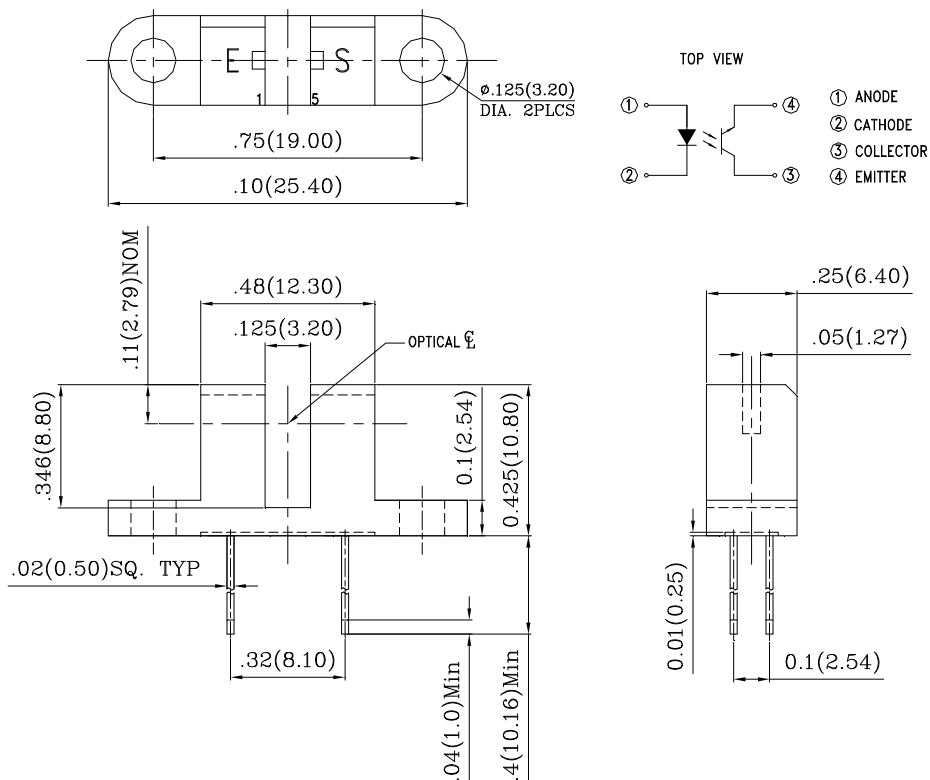
1. Description

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 ± 0.25 mm unless otherwise noted.
3. Specifications are subject to change without notice.

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3. Absolute Maximum Ratings at TA=25°C

Parameter	Maximum Rating	Unit
INPUT LED		
Power Dissipation	75	mW
Continuous Forward Current	50	mA
Reverse Voltage	5	V
Peak Forward Current (Pulse Wide = 10μS, 300pps)	1	A
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	-55°C to + 100°C	
Lead Soldering Temperature [1.6mm (.063") Form Case]	260°C for 5 Seconds	

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4. 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 Breakdown Voltage	$V(\text{BR})_{\text{CEO}}$	30	-	-	V	$I_C = 1\text{mA}$
Emitter-Collector Breakdown Voltage	$V(\text{BR})_{\text{ECO}}$	5	-	-	V	$I_E = 100\mu\text{A}$
Collector-Emitter Dark Current	I_{CEO}	-	-	100	nA	$V_{\text{CE}} = 10\text{V}$
COUPLER						
Collector Emitter Saturation Voltage	$V_{\text{CE}(\text{SAT})}$	-	-	0.4	V	$I_C = 0.25\text{mA}$ $I_F = 20\text{mA}$
On State Collector Current	$I_{\text{C}(\text{ON})}$	0.5	-	-	mA	$V_{\text{CE}} = 5\text{V}$ $I_F = 20\text{mA}$
Response Time	Rise Time	T_r	-	3	μS	$V_{\text{CC}} = 5\text{V}$ $I_C = 2\text{mA}$ $R_L = 100\Omega$
	Fall Time	T_f	-	4		

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5. Typical Electrical / Optical Characteristics Curves

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

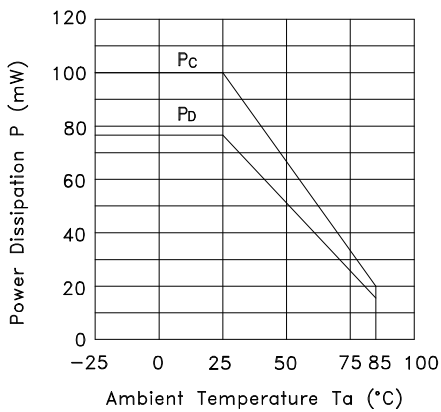


Fig.2 Forward Current vs. Forward Voltage

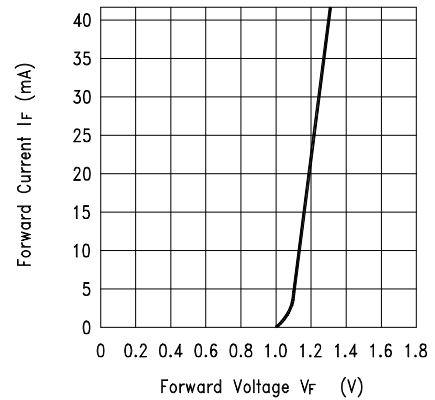


Fig.3 Collector Current vs. Collector-emitter Voltage

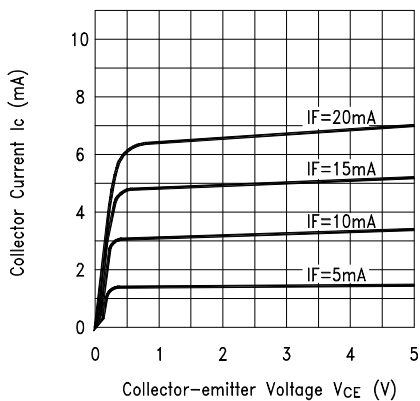
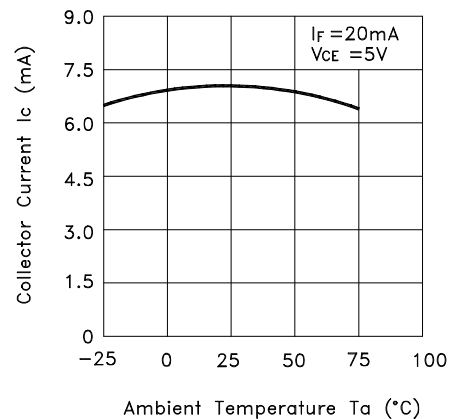


Fig.4 Collector Current vs. Ambient Temperature



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

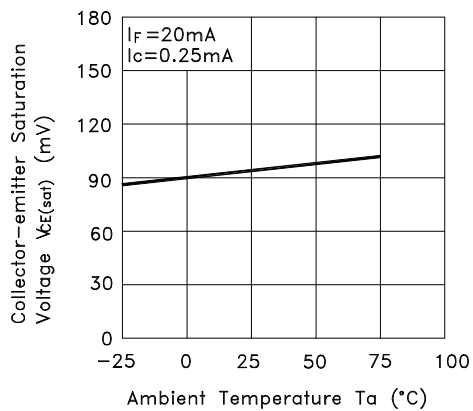
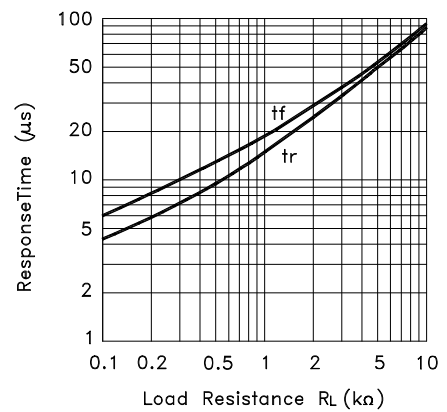


Fig.6 Response Time vs. Load Resistance



Test Circuit for Response Time

