



# Photointerrupter Product Data Sheet

LTH-306-64

Spec No.: DS55-2008-0010

Effective Date: 05/10/2008

Revision: -

**LITE-ON DCC**

**RELEASE**

BNS-OD-FC001/A4



# LITE-ON TECHNOLOGY CORPORATION

Property of LITE-ON Only

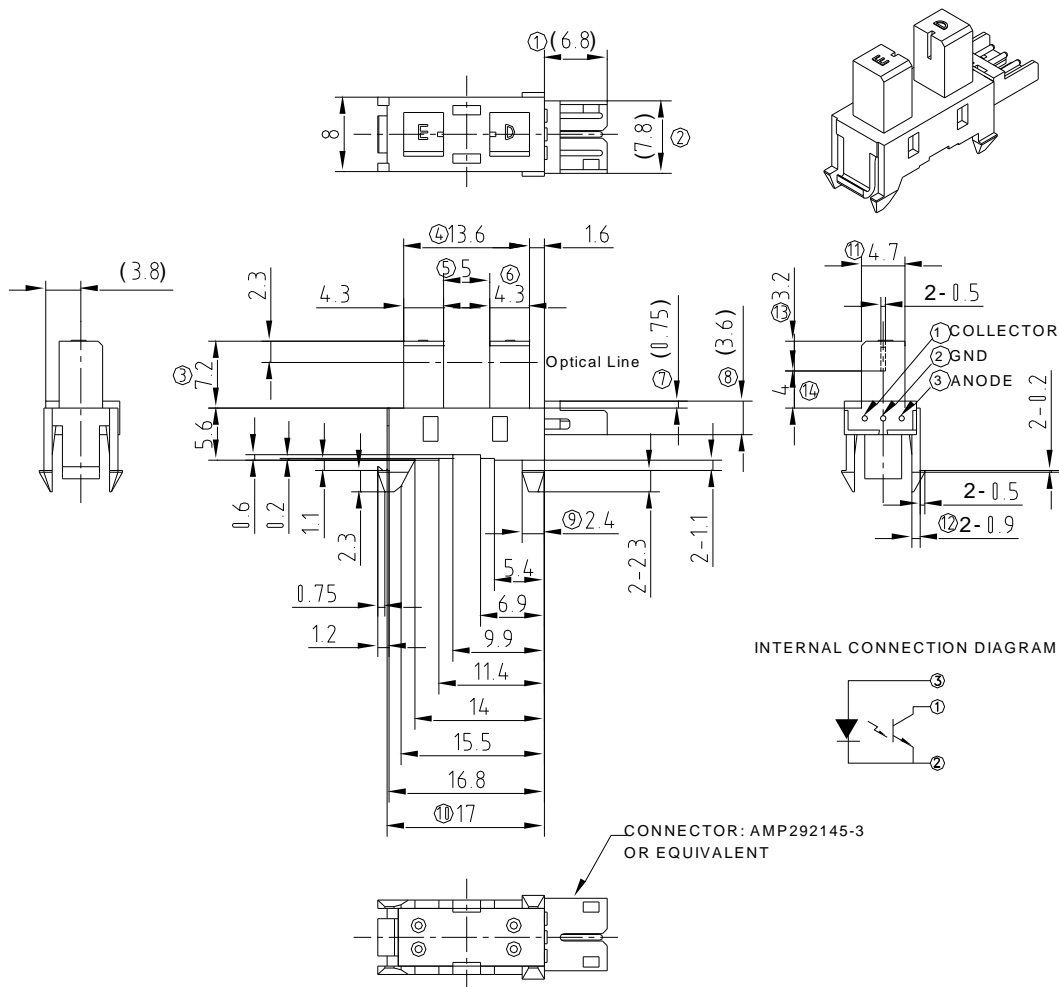
Origin Date : 04/29/2008		Originator : Shiqincui		Page : 0 of 5	
Rev.	Date	ECN OR QCN	Description of Change	Checker	
-	04/29/2008		NEW SPEC	Shiqincui	

Part No. : LTH-306-64 DATA SHEET

## FEATURES

- \* SNAP MOUNTING.
- \* MECHANICAL SWITCH REPLACEMENT.
- \* ROHS COMPLIANT

## PACKAGE DIMENSIONS



## NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.15\text{mm} (.006\text{'})$  unless otherwise noted.



## ABSOLUTE MAXIMUM RATINGS AT $T_A=25^{\circ}\text{C}$

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
<b>INPUT LED</b>			
Power Dissipation	$P_D$	75	mW
Peak Forward Current ( 300 pps , 10 $\mu\text{S}$ pulse)	$I_{CP}$	1	A
Continuous Forward Current	$I_F$	50	mA
Reverse Voltage	$V_R$	6	V
<b>OUTPUT PHOTOTRANSISTOR</b>			
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 $^{\circ}\text{C}$ to + 85 $^{\circ}\text{C}$	
Storage Temperature Range	$T_{stg}$	-55 $^{\circ}\text{C}$ to + 100 $^{\circ}\text{C}$	



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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	$V_F$		1.2	1.4	V	$I_F = 20\text{mA}$
Forward Voltage	$V_F$		0.8	1	V	$I_F = 1\mu\text{A}$
Reverse Current	$I_R$			10	$\mu\text{A}$	$V_R=3\text{V}$
<b>OUTPUT PHOTOTRANSISTOR</b>						
Collector-Emitter Dark Current	$I_{CEO}$		1	100	nA	$V_{CE}=20\text{V}$
Collector-Emitter Voltage	$BV_{CEO}$	30			V	$I_{ce}=1\text{mA}$
Emitter-Collector Voltage	$BV_{ECO}$	5			V	$I_{ec}=100\mu\text{A}$
<b>COUPLER</b>						
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	$I_C=0.25\text{mA}$ $I_F=20\text{mA}$
On State Collector Current	$I_{C(ON)}$	0.5		15	mA	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$
Response Time	Rise Time	$T_R$		3	15	$\mu\text{S}$ $V_{CE}=2\text{V}, I_C=2\text{mA}$ $R_L=100\ \Omega$
	Fall Time	$T_F$		4	20	

### Bin Match table vs. Icon value(mA) (For Reference)

LTE-306 LTR-306	BinC	BinD	BinE	BinF
BinD	✗	✓	✓	✓
BinE	✓	✓	✓	✓
BinF	✓	✓	✓	✓
BinG	✓	✓	✓	✓
BinH	✓	✓	✓	✓

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.1 Power Dissipation vs. Ambient Temperature

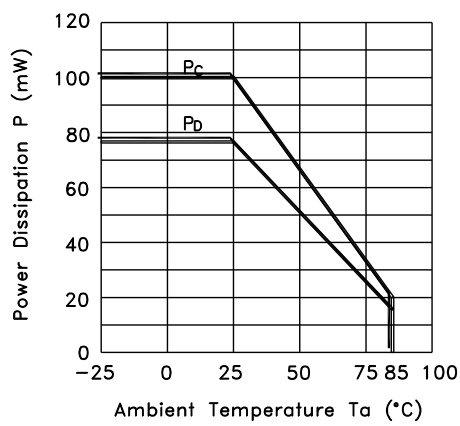


Fig.2 Forward Current I<sub>F</sub> vs. Forward Voltage

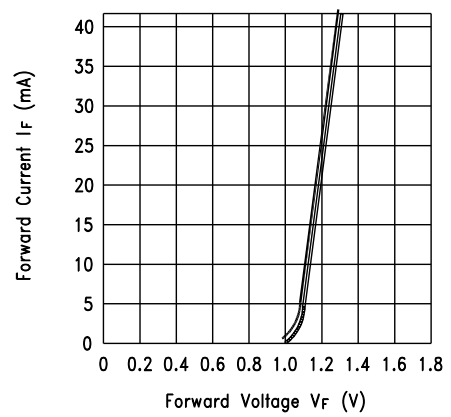


Fig.3 Collector Current vs. Forward Voltage

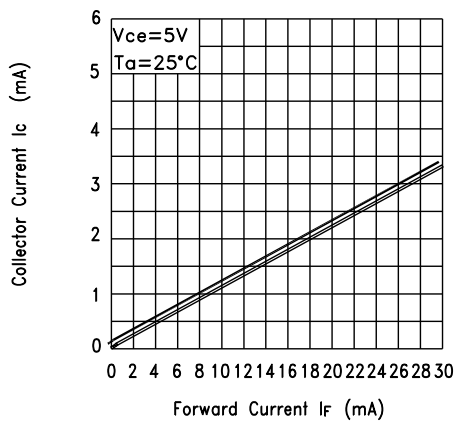
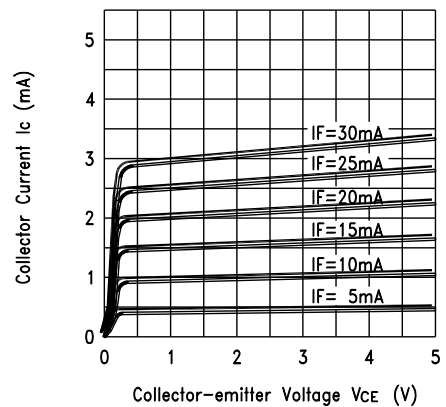


Fig.4 Collector Current vs. Collector-emitter Voltage



## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Ambient Temperature

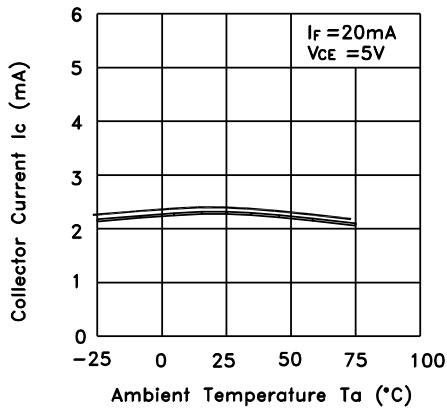


Fig.6 Collector-emitter Saturation Voltage vs. Ambient Temperature

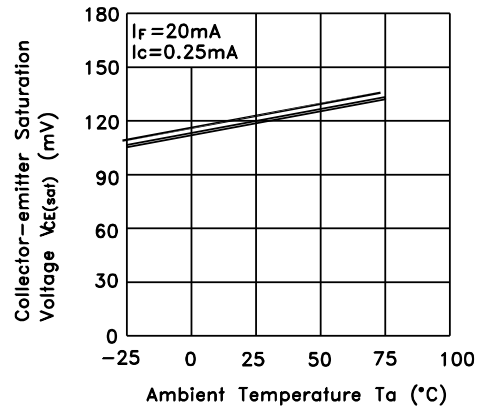
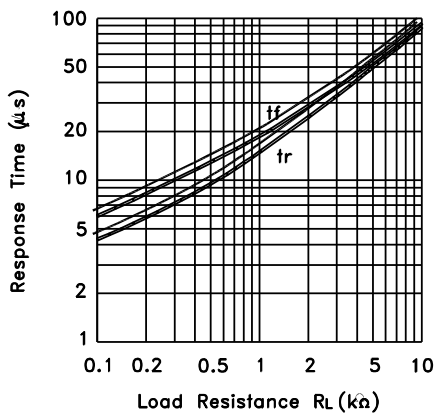


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time

