



# LITE-ON TECHNOLOGY CORPORATION

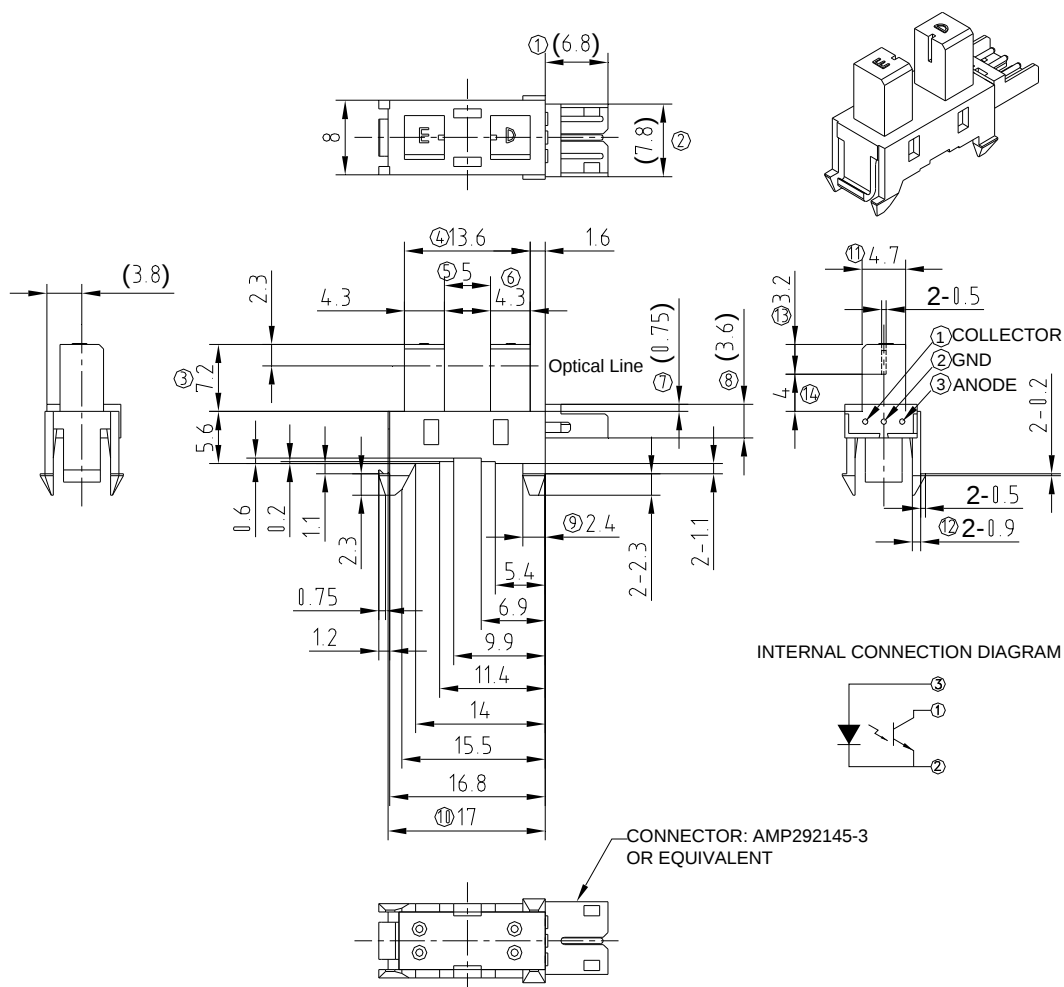
Property of LITE-ON Only

| 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") unless otherwise noted.



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## ABSOLUTE MAXIMUM RATINGS AT TA=25°C

| PARAMETER                                          | SYMBOL    | MAXIMUM RATING   | UNIT |
|----------------------------------------------------|-----------|------------------|------|
| INPUT LED                                          |           |                  |      |
| Power Dissipation                                  | $P_D$     | 75               | mW   |
| Peak Forward Current ( 300 pps , 10 $\mu$ S pulse) | $I_{CP}$  | 1                | A    |
| Continuous Forward Current                         | $I_F$     | 50               | mA   |
| Reverse Voltage                                    | $V_R$     | 6                | 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                          | $T_{stg}$ | -55°C to + 100°C |      |

## ELECTRICAL OPTICAL CHARACTERISTICS AT TA=25°C

| PARAMETER                            | SYMBOL        | MIN.  | TYP. | MAX. | UNIT          | TEST CONDITION                                             |
|--------------------------------------|---------------|-------|------|------|---------------|------------------------------------------------------------|
| INPUT LED                            |               |       |      |      |               |                                                            |
| 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   | $\mu\text{A}$ | $V_R=3\text{V}$                                            |
| OUTPUT PHOTOTRANSISTOR               |               |       |      |      |               |                                                            |
| 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             | $I_{EC}=100\mu\text{A}$                                    |
| COUPLER                              |               |       |      |      |               |                                                            |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ |       |      | 0.4  | V             | $I_C=0.25\text{mA}$<br>$I_F=20\text{mA}$                   |
| On State Collector Current           | $I_{C(ON)}$   | 0.5   |      | 15   | mA            | $V_{CE}=5\text{V}$<br>$I_F=20\text{mA}$                    |
| Response Time                        | Rise Time     | $T_R$ | 3    | 15   | $\mu\text{S}$ | $V_{CE}=2\text{V}$ , $I_C=2\text{mA}$<br>$R_L=100\ \Omega$ |
|                                      | Fall Time     | $T_F$ | 4    | 20   |               |                                                            |

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

| LTE-306<br>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

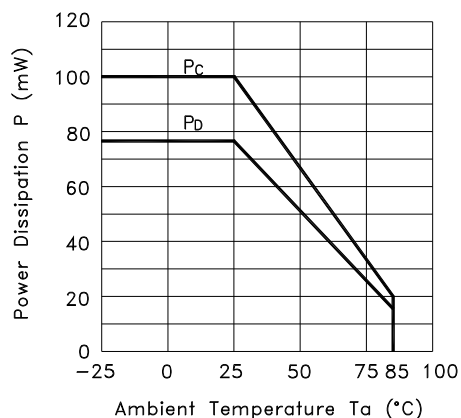


Fig.2 Forward Current vs. Forward Voltage

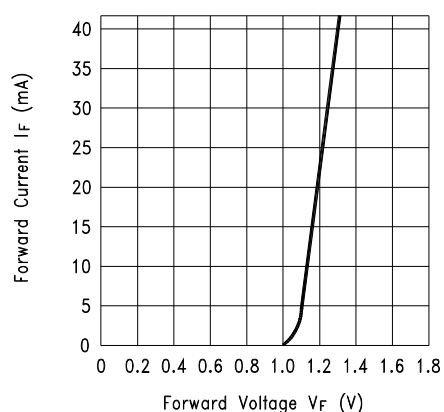


Fig.3 Collector Current vs. Forward Voltage

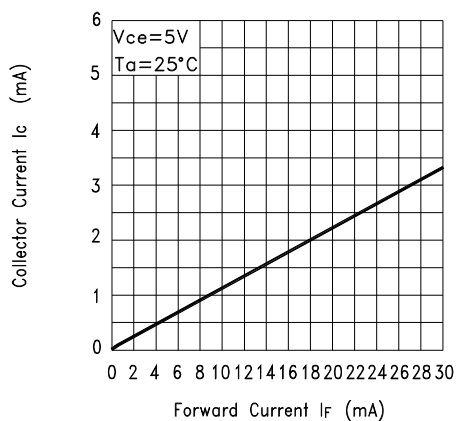
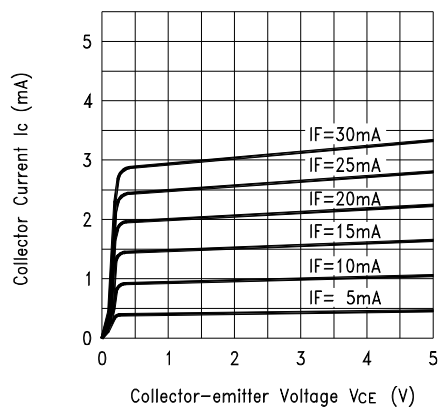


Fig.4 Collector Current vs. Collector-emitter Voltage



## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

Fig.5 Collector Current vs. Ambient Temperature

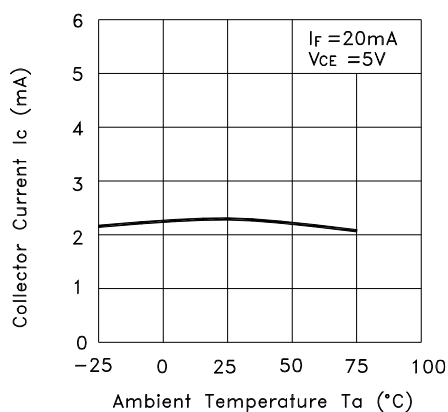


Fig.6 Collector-emitter Saturation Voltage vs. Ambient Temperature

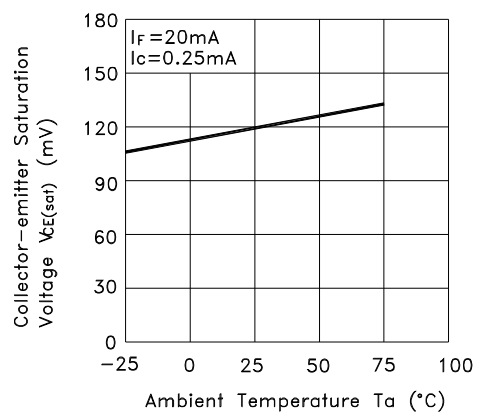
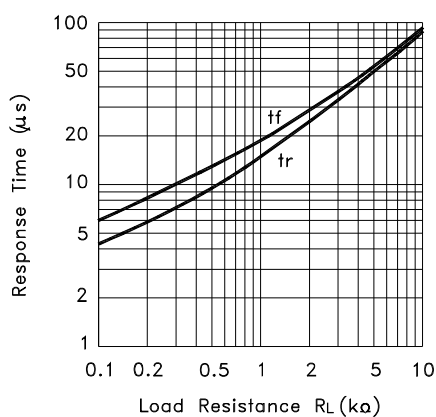
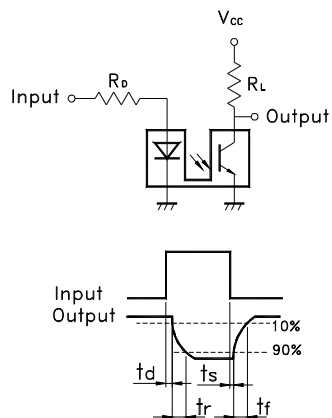


Fig.7 Response Time vs. Load Resistance



Test Circuit for Response Time



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