

# LCQ85030S5X

## AlGaAs Laser Diode

*Tentative*

Ver.1 Jan.2005

### ◆ OVERVIEW

LCQ85030S5-N/M/P is a MOCVD grown 850nm band AlGaAs laser diode with quantum well structure. It's an attractive light source, with a typical light output power of 30mW for industrial optical module and sensor applications.

### ◆ APPLICATION

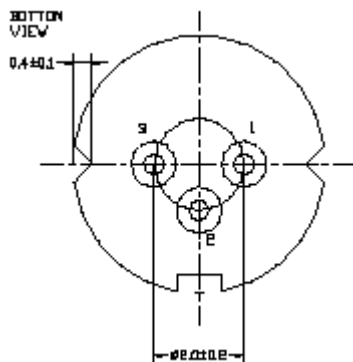
- Sensor
- Industrial Optical Module

### ◆ FEATURES

- Visible Light Output :  $\lambda_p = 850 \text{ nm}$
- Optical Power Output : 30mW CW
- Package Type : TO-18 (5.6mm $\phi$ )
- Built-in Photo Diode for Monitoring Laser Diode

### ◆ ELECTRICAL CONNECTION

#### Bottom View



#### Pin Configuration

|   |                                 |
|---|---------------------------------|
| N | LD anode= PD cathode (Fig. 1)   |
| M | LD cathode= PD cathode (Fig. 2) |
| P | LD cathode= PD anode (Fig. 3)   |

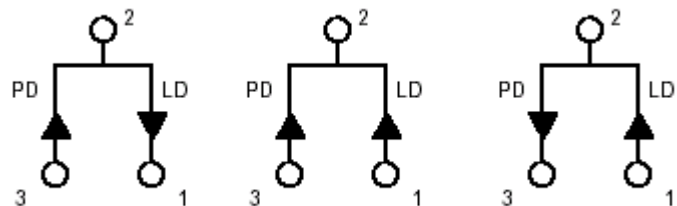


Fig. 1

LCQ85030S5N

Fig. 2

LCQ85030S5M

Fig. 3

LCQ85030S5P

***Tentative***

◆ **ABSOLUTE MAXIMUM RATING at Tc=25°C**

| Items                       | Symbols | Values    | Unit |
|-----------------------------|---------|-----------|------|
| Optical Output Power        | P       | 32        | mW   |
| Laser Diode Reverse Voltage | V       | 2         | V    |
| Photo Diode Reverse Voltage | V       | 30        | V    |
| Operating Temperature       | Topr    | -10 ~ +60 | °C   |
| Storage Temperature         | Tstg    | -40 ~ +85 | °C   |

◆ **ELECTRICAL and OPTICAL CHARACTERISTICS at Tc=25°C**

| Items                | Symbols                        | Min. | Typ. | Max.     | Unit          | Condition |
|----------------------|--------------------------------|------|------|----------|---------------|-----------|
| Optical Output Power | Po                             | -    | 30   | -        | mW            | -         |
| Threshold Current    | Ith                            | 5    | 20   | 35       | mA            | -         |
| Operating Current    | Iop                            | 50   | 70   | 90       | mA            | Po=30mW   |
| Slope Efficiency     | SE                             | 0.4  | 0.7  | 1.0      | mW/mA         | 15~30 mW  |
| Operating Voltage    | Vop                            | -    | 2.0  | 2.5      | V             | Po=30mW   |
| Lasing Wavelength    | $\lambda_p$                    | 845  | 850  | 860      | nm            | Po=30mW   |
| Beam Divergence      | $\theta_{  }$                  | 7    | 9    | 12       | deg           | Po=30mW   |
|                      | $\theta_{\perp}$               | 25   | 29   | 36       | deg           | Po=30mW   |
| Beam Angle           | $\Delta\theta_{  }$            | -    | -    | $\pm 2$  | deg           | Po=30mW   |
|                      | $\Delta\theta_{\perp}$         | -    | -    | $\pm 3$  | deg           | Po=30mW   |
| Monitor Current      | I <sub>m</sub>                 | 0.05 | 0.2  | 0.5      | mA            | Po=30mW   |
| Astigmatism          | As                             | -    | -    | 15       | $\mu\text{m}$ |           |
| Optical Distance     | $\Delta X, \Delta Y, \Delta Z$ | -    | -    | $\pm 60$ | $\mu\text{m}$ |           |

**NOTICE : LCQ85030S5-N/M/P to be operated on APC**

**The above product specifications are subject to change without notice.**

## ◆ PACKAGE DIMENSION

