

**KLF-551C-30****Description**

KLF-551C-30 series are InGaAsP laser diodes which provide a stable, single transverse mode with 1550nm wavelength. The high performance behavior of the chip makes it suitable for low-cost short and intermediate reach applications.

**FEATURES**

- Low threshold current, low operating current
- Stable single transverse mode emission
- MQW active layer
- PBH structure
- Wide operating temperature range from  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- Modulation capability up to 1.25Gbps

**APPLICATIONS**

- FTTH (Fiber To The Home)
- Gigabit Ethernet
- Fiber Channel

**Absolute Maximum Ratings**

| Parameter             | Symbol          | Rating         | unit               |
|-----------------------|-----------------|----------------|--------------------|
| Optical output power  | P <sub>o</sub>  | 8              | mW                 |
| Reverse voltage       | V <sub>RL</sub> | 2              | V                  |
| Operating temperature | T <sub>op</sub> | $-40 \sim 85$  | $^{\circ}\text{C}$ |
| Storage temperature   | T <sub>s</sub>  | $-40 \sim 100$ | $^{\circ}\text{C}$ |

**Physical dimension**

| Parameter  | Typ. | Unit          |
|------------|------|---------------|
| Die length | 300  | $\mu\text{m}$ |
| Die width  | 300  | $\mu\text{m}$ |
| Die height | 90   | $\mu\text{m}$ |

**Optical and Electrical Characteristics (T<sub>op</sub> = 25  $^{\circ}\text{C}$ )**

| Parameter                           | Symbol               | Min  | Typ  | Max  | Test condition                                                |
|-------------------------------------|----------------------|------|------|------|---------------------------------------------------------------|
| Threshold current                   | I <sub>th</sub>      | -    | 7    | 15   |                                                               |
| Operating current                   | I <sub>op</sub>      | -    | 23   | 35   | P <sub>o</sub> =5mW                                           |
| Operating voltage                   | V <sub>op</sub>      | -    | 1.1  | 1.5  | P <sub>o</sub> =5mW                                           |
| Slope efficiency                    | $\eta$               | 0.2  | 0.3  |      | P <sub>o</sub> =5mW                                           |
| Peak wavelength                     | $\lambda_p$          | 1530 | 1550 | 1570 | P <sub>o</sub> =5mW                                           |
| Spectral width (RMS)                | $\Delta \lambda$     | -    | 2    | 3    | P <sub>o</sub> =5mW                                           |
| Perpendicular beam divergence angle | $\Theta_{\perp}$     | -    | 35   | -    | FWHM, P <sub>o</sub> =5mW                                     |
| Parallel beam divergence angle      | $\Theta_{\parallel}$ | -    | 30   | -    | FWHM, P <sub>o</sub> =5mW                                     |
| Rise time                           | t <sub>r</sub>       | -    | -    | 0.5  | I <sub>b</sub> =I <sub>th</sub> , P <sub>o</sub> =5mW, 10~90% |
| Fall time                           | t <sub>f</sub>       | -    | -    | 0.5  | I <sub>b</sub> =I <sub>th</sub> , P <sub>o</sub> =5mW, 10~90% |

Specifications are subject to change without notice.

**Ordering information**

| KL                                       | Type               | Wavelength | Data rate   | Package             | Dimension    |
|------------------------------------------|--------------------|------------|-------------|---------------------|--------------|
| <b>KODENSHI<br/>Laser Diode<br/>chip</b> | F: Fabry-Perot(BH) | 55: 1550nm | 1: 1.25Gbps | C: Chip             | 30 : 300x300 |
|                                          |                    |            |             | S: Chip on submount |              |
|                                          |                    |            |             |                     |              |
|                                          |                    |            |             |                     |              |

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