

■Features

- Lateral multimode (broad stripe)
- Radiant output power (CW): 1 W
- Peak emission wavelength: 830 nm
- Emitting area size: 50  $\mu\text{m}$   $\times$  1  $\mu\text{m}$

■Applications

- Pumping source for solid state laser
- Processing
- Medical instrument
- Measure instrument



■Absolute maximum ratings (T<sub>op(C)</sub> = 25 °C)

| Parameter             | Symbol             | Value      | Unit |
|-----------------------|--------------------|------------|------|
| Radiant output power  | $\Phi_e$           | 1.2        | W    |
| Forward current       | $I_f$              | 1.4        | A    |
| Reverse voltage       | $V_r$              | 2          | V    |
| Operating temperature | T <sub>op(C)</sub> | 0 to +30   | °C   |
| Storage temperature   | T <sub>stg</sub>   | -30 to +80 | °C   |

■Electrical and optical characteristics (T<sub>op(C)</sub> = 25 °C)

| Parameter                | Symbol          | Conditions             | Value            |               |      | Unit          |        |
|--------------------------|-----------------|------------------------|------------------|---------------|------|---------------|--------|
|                          |                 |                        | Min.             | Typ.          | Max. |               |        |
| Radiant output power     | $\Phi_e$        | $\Phi_e = 1 \text{ W}$ | 0.8              | 1             | —    | W             |        |
| Operating voltage        | $I_{op}$        |                        | —                | 1.2           | 1.38 | A             |        |
| Peak emission wavelength | $\lambda_p$     |                        | 820              | 830           | 840  | nm            |        |
| Spectral half-width      | $\Delta\lambda$ |                        | —                | 2             | 4    | nm            |        |
| Operating voltage        | $V_f$           |                        | —                | 2             | 3    | V             |        |
| Beam spread angle        | Horizontal      |                        | $\theta_{//}$    | 4             | 8    | 12            | degree |
|                          | Vertical        |                        | $\theta_{\perp}$ | 27            | 32   | 37            | degree |
| Emitting area            | —               |                        | —                | 50 $\times$ 1 | —    | $\mu\text{m}$ |        |
| Lasing threshold current | $I_{th}$        |                        | —                | —             | 0.35 | 0.45          | A      |

# CW Laser Diode L9277-42

Figure 1: Radiant output power vs. Operating current (typ.)

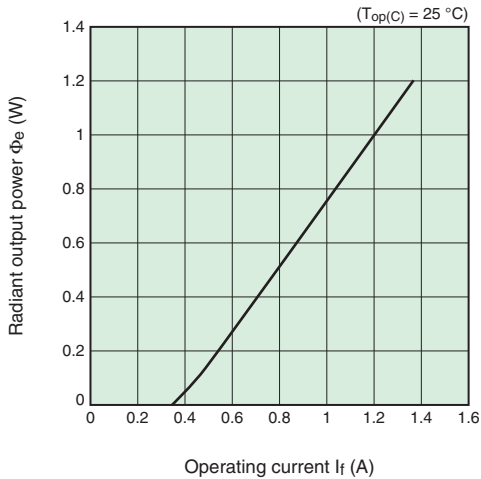


Figure 2: Typical emission spectrum

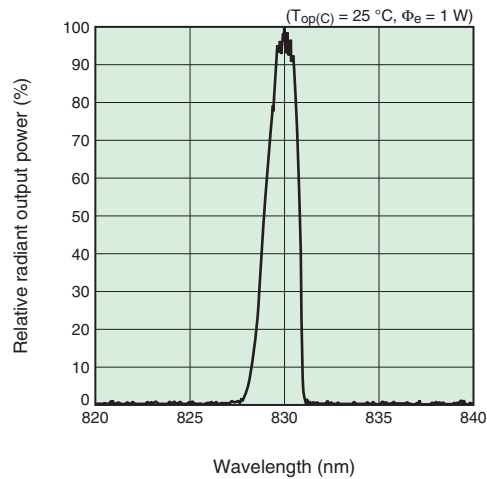


Figure 3: Directivity (typ.)

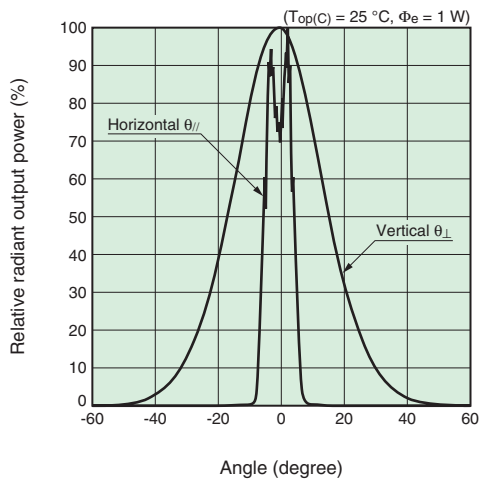
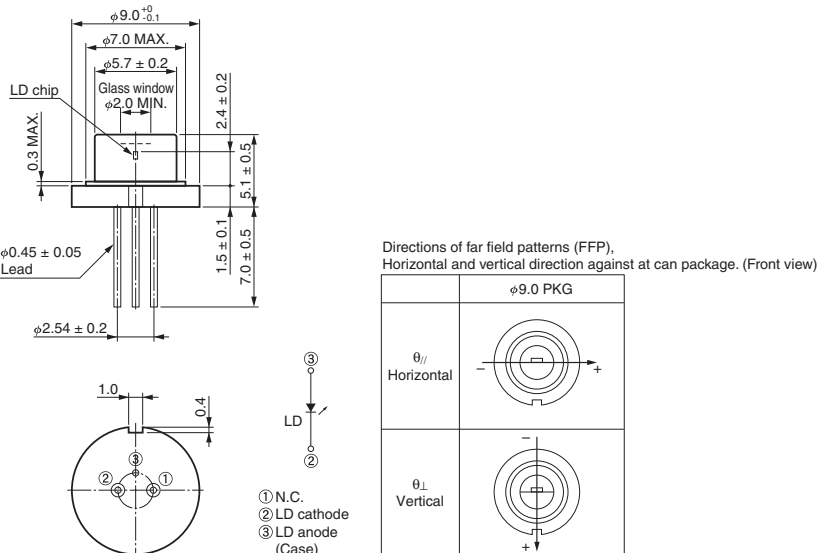


Figure 4: Dimensional outline (unit: mm)



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