

YL-VC850-751N

High Performance 10 Gbps Oxide VCSEL (non-hermetic)

Preliminary

FEATURES:

- Non-hermetic design
- Capable to run 10 Gbps
- P and N bonding pad on different surface
- Low divergence angle to ensure high optical coupling efficiency.
- Wide operation temperature range -10°C ~ 85°C



ELECTRO-OPTICAL CHARACTERISTICS:

| PARAMETERS | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITIONS |
|----------------------|------------------|------|-----|------|----------|-------------------|
| Threshold Current | I_{th} | | 1 | 1.2 | mA | |
| Output Power | P_o | | 2.4 | | mW | $I_F=6$ mA |
| Slope Efficiency | η | 0.35 | 0.5 | 0.65 | mW/mA | $I_F=6$ mA |
| Wavelength | λ_p | 840 | 850 | 860 | nm | $I_F=6$ mA |
| Forward Voltage | V_F | | 2.2 | 2.4 | V | $I_F=6$ mA |
| Series Resistance | R_S | | 65 | 85 | Ω | $I_F=6$ mA |
| Beam Divergence | θ | | 16 | | degree | $I_F=6$ mA (FWHM) |
| Spectral width (RMS) | $\Delta \lambda$ | | | 0.65 | nm | $I_F=6$ mA |
| Rise Times (20%~80%) | T_r | | 40 | | ps | $I_F=6$ mA |
| Fall Times (20%~80%) | T_f | | 40 | | Ps | $I_F=6$ mA |
| 3dB Bandwidth | BW | 8 | | | GHz | $I_F=6$ mA |

Notes:

All parameters except mentioned are measured at $I_F=6$ mA, 25°C, CW operation.

ABSOLUTE MAXIMUM RATINGS:

| PARAMETERS | MIN | MAX | UNIT | CONDITIONS |
|----------------------------|-----|-----|------|------------|
| Storage Temperature | -40 | 125 | °C | |
| Operating Temperature | -10 | 85 | °C | |
| Continuous Forward Current | | 10 | mA | |
| Continuous Reverse Voltage | | 5 | V | 10 μ A |

Fig. 1 Typical Optical Characteristics

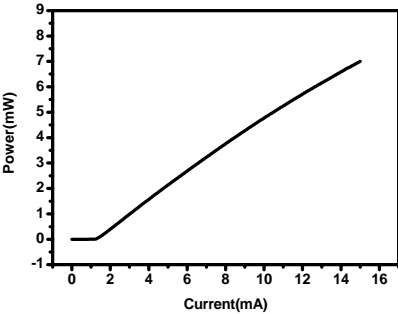
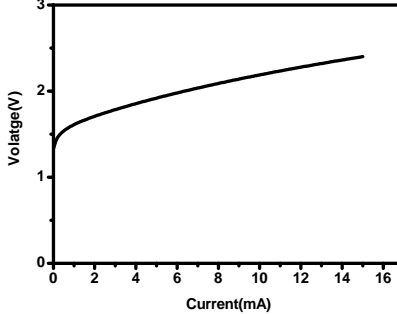
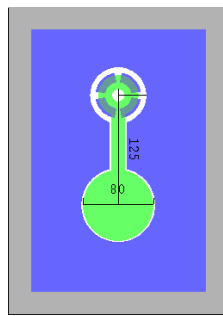


Fig. 2 Typical Electrical Characteristics



OUTLINE DIAGRAM:

- length: 320 μ m.
- width: 220 μ m
- Chip thickness: 200 \pm 20 μ m



WARNING:

The VCSEL is a class IIIb laser in the safety standard ANSI Z136.1 and should be treated as a potential eye hazard.

