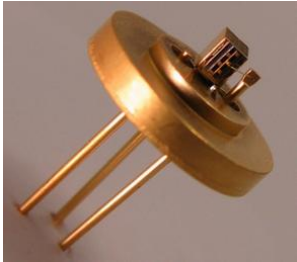


| GC-1055-TO-70-400 High Power Gain Chip – 400mW @1055nm | |
|---|---|
|  | <p>Features:</p> <ul style="list-style-type: none"> • InAs Quantum Dot based single transverse mode gain chip • Broad tuning range • Optimized for wavelength locked operation in external cavity system • Proprietary mirror coating technology enabling long life-time • CW or pulse (down to 2ns pulse width) operation • Industry standard 9mm TO-can package (supplied without cap) • High reliable Au/Sn bonding technology <p>Application:</p> <ul style="list-style-type: none"> • External cavity tunable laser <p style="text-align: right;">Chip design category: Type A</p> |
| Specification | |
| DATE: 2 th November 2010 | |

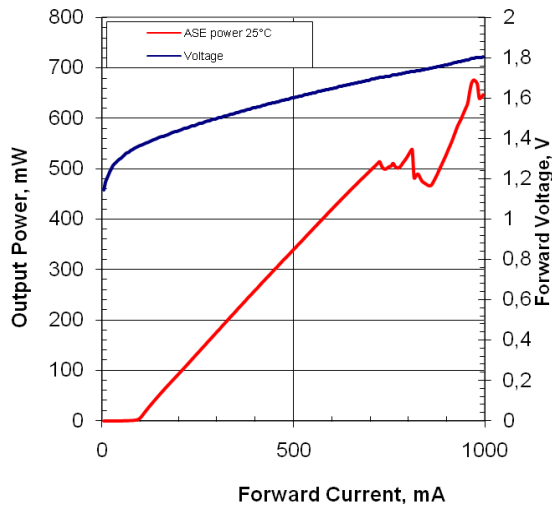
| SPECIFICATIONS | | | | | |
|--|----------------------|------|------|------|------|
| Test conditions: CW operation, heatsink temperature 25°C | | | | | |
| Parameters | Symb. | Min. | Typ. | Max. | Unit |
| Expected optical output power at the central part of the tuning range (depending on external feedback) | P_{out} | 300 | 400 | | mW |
| Central position of wavelength locking range | λ_p | 1045 | 1055 | 1065 | nm |
| Wavelength locking range (@ min. 6% of external feedback) | $\Delta\lambda$ | 60 | 70 | | nm |
| Operating current | I_{op} | | 700 | 800 | mA |
| Operating voltage | U | | | 2.0 | V |
| Reflectivity of back facet (HR-coated) | R_{bf} | 99 | | | % |
| Reflectivity of front Facet (AR-coated) | R_{ff} | | 0.1 | 0.5 | % |
| Fast axis beam divergence of self lasing (FWHM) | Θ_{\perp} | | 36 | 38 | deg |
| Slow axis beam divergence of self lasing (FWHM) | Θ_{\parallel} | | 5 | 9 | deg |

| ABSOLUTE MAXIMUM RATINGS | | | |
|---|-----|-----|------|
| Parameters | Min | Max | Unit |
| Diode reverse voltage | | 1 | V |
| Forward current | | 900 | mA |
| Storage temperature range (in original hermetically sealed package) | 5 | 80 | °C |
| Case operating temperature range | 20 | 40 | °C |

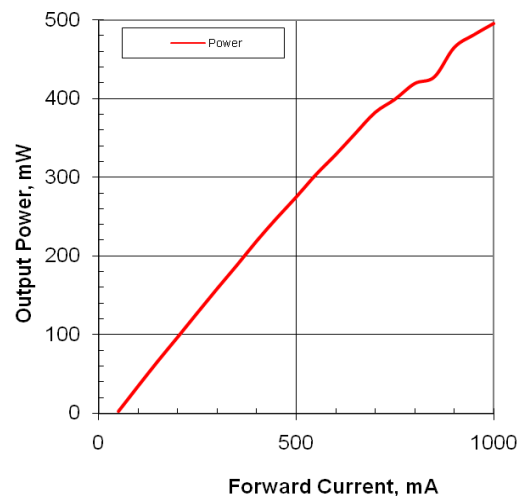
TYPICAL PERFORMANCE

Test condition: CW operation at 25°C heatsink temperature

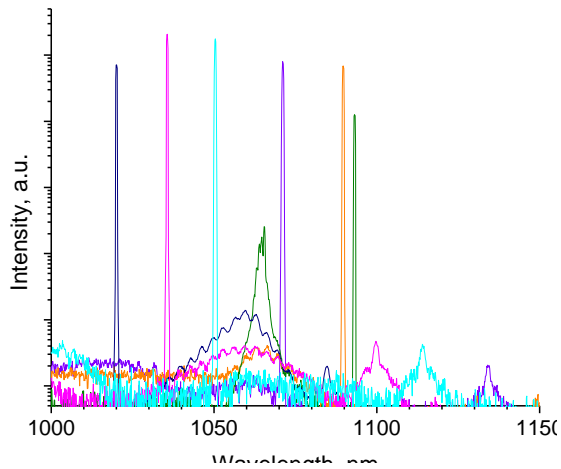
Light-Current-Voltage Characteristics without feedback

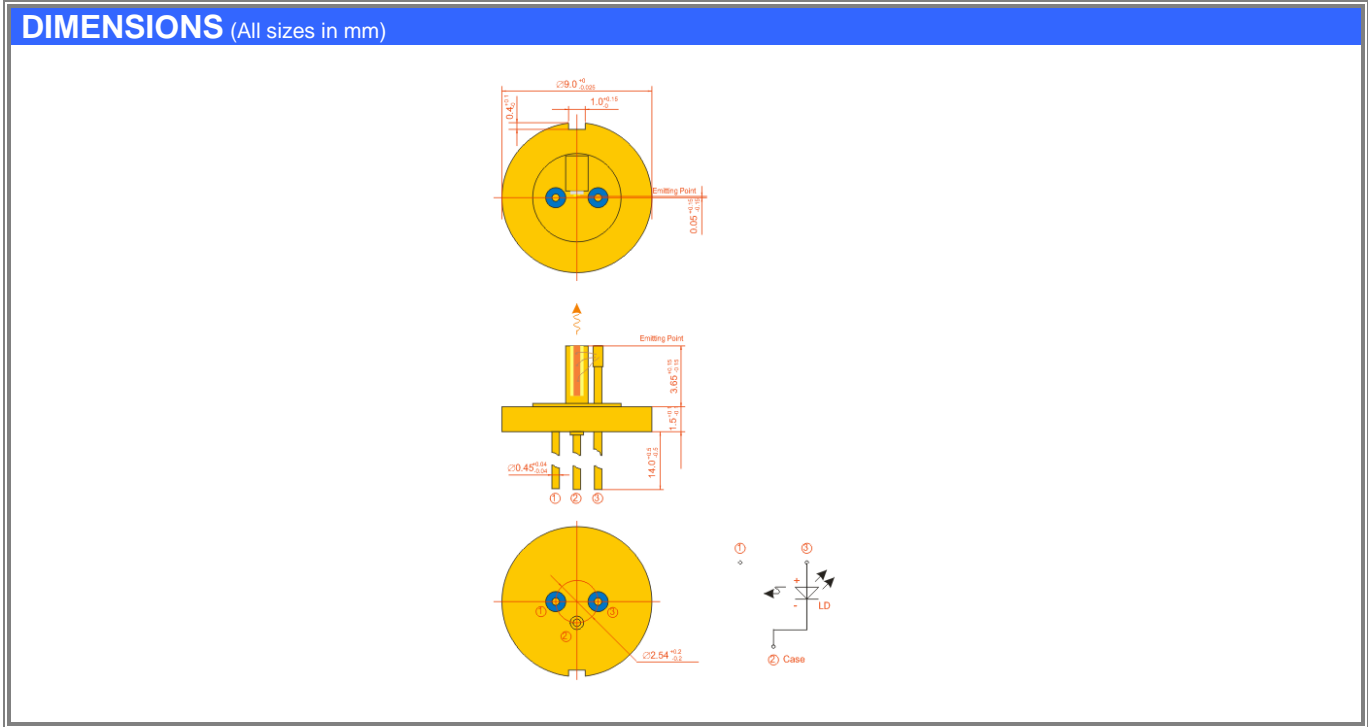


LIV with ~5% feedback at 1060nm



Spectra with ~5% feedback at different wavelength positions at 700mA





SAFETY AND OPERATING INSTRUCTIONS

The laser light emitted from this Gain Chip is invisible and will be harmful to the human eye. Avoid looking directly on the Gain Chip facet or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation.

Absolute Maximum Ratings may be applied to the Gain Chip for short period of time only. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the device. Operating the Gain Chip outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum peak optical power cannot be exceeded. A proper heatsink for the Gain Chip is required.

The Device is an Open-Heatsink Diode Gain Chip; it may be operated in cleanroom atmosphere or dust-protected housing only. Operating temperature and relative humidity must be controlled to avoid water condensation on the laser facets. Any contamination or contact of the laser facet must be avoided.

ESD PROTECTION – Electrostatic discharge is the primary cause of unexpected laser diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling laser diodes.



NOTE: Innolume product specifications are subject to change without notice.