

5 Target Spezifikationen



preliminary



Diode Laser JOLD-275-CPNN-1L

| Topic | Unit | Min | Typ | Max | Comment |
|--|--|-----|-----|------|----------------------------------|
| Operating Conditions | | | | | |
| Ambient Conditions | Cleanroom class ISO 5, non-condensing atmosphere | | | | |
| Operating mode | cw & Modulation 0-I _{max} | | | | |
| Baseplate Temperature | °C | | 25 | | |
| Specification | | | | | |
| Optical Output Power | W | 275 | | | |
| Drive Current for Rated Power | A | | 320 | 350 | |
| Threshold Current | A | | 30 | 50 | |
| Forward Voltage at Typical drive Current | V | | | 1,75 | |
| Beam Divergence /fast-axis) | deg | | 47 | 51 | |
| Beam Divergence /slow-axis) | deg | | 7 | 10 | |
| Slope Efficiency | W/A | 0,9 | 1 | | |
| Power Conversion Efficiency | % | 55 | 60 | | |
| Polarization Extinction Ratio TE/TM | % | | TBD | | |
| Center Wavelength at 25 °C | nm | 933 | 938 | 943 | |
| Spectral Bandwidth (FWHM) | nm | | 3 | 5 | |
| Absolute Maximum Ratings | | | | | |
| Storage Temperature | °C | -25 | | 75 | |
| Laser Bar Forward Current | A | | | 355 | Limited to Rated Current plus 5A |
| Laser Bar Reverse Voltage | V | | | 0 | |
| Lifetime | | | | | |
| Expected Lifetime ^{1),3)} | kh | | 20 | | |
| Expected Lifetime ^{2),3)} | kh | | 10 | | |

• cw or softpulse operation (modulation between I_{th} and I_{pn})

• hard pulse operation (modulation between zero and I_{pn})

• End-of-life criteria: 20% reduction in Start-of-life power at rated drive current