

LIMO AV5 Series (pump)

HIGH-POWER DIODE LASER



- High brightness laser for pump applications
- Hermetically sealed laser head in potential-free housing
- SMA905 / LD80 Plug & Play connector for optical fibres
- Compact dimensions
- Dual temperature sensor (NTC/PT100)

| Optical data ¹ | | | | |
|---|--|--|-------|-------|
| CW – nominal output power (W) | 120(CMF) | 100 | 120 | 180 |
| Centre wavelength λ (nm) | 9xx | 790-795, 805-810, 880, 888, 915, 940, 975-981 ² | | |
| Tolerance of λ (nm) | $\pm 3 (\pm 2)^3$ | | | |
| Spectral width (FWHM) (nm) | < 5 | | | |
| Temperature drift of λ^4 (nm/K) | ~0.3, ~0.35, ~0.4 | | | |
| Fibre data | | | | |
| Fibre core diameter (μm) | 200 | | 400 | |
| Numerical aperture | 0.22 | | | |
| Fibre-optic connector | SMA905 | | LD80 | |
| Electrical data | | | | |
| Typical operation current (start of lifetime) (A) | 66 | 52 | 57 | 55 |
| Max. Operation current (start of lifetime) (A) | 69 | 55 | 60 | 58 |
| Max. Operation current (end of lifetime) (A) | 83 | 66 | 72 | 70 |
| Typical threshold current (A) | 5 - 10 | | | |
| Typical efficiency (%) | 34 | 36 | 39 | 36 |
| Typical slope efficiency (W/A) | 2 – 4 | | | |
| Operation voltage (V) | < 6 | < 6 | < 6 | < 10 |
| Reverse voltage | 0 | | | |
| Thermal conditions | | | | |
| Diode heat sink temperature ⁵ (°C) | +15...+30 | | | |
| Storage temperature (°C) | -20...+60 | | | |
| Recommended cooling capacity (W) | > 330 | > 260 | > 270 | > 450 |
| Chiller flow capacity ⁶ (l/min) | 5 | | | |
| Water pressure ⁶ (bar) | 4 | | | |
| Water temperature ⁶ (°C) | 20 | | | |
| Other specifications | | | | |
| Expected lifetime ⁷ (hours) | 20,000 | | | |
| RoHS 2002/95/EC and CE compliant | YES | | | |
| Dimensions of laser head (mm) | 245x130x70 | | | |
| Weight laser head (kg) | < 4.5 | | | |
| External radiation filter | Filter 1600.014, HR @ 1050-1130nm >99.0% (s+p pol.) or Filter 1600.036, HR @ 1025-1080nm >99.0% (s+p pol.) Other filters on request | | | |

The 120W 200 μm module is a Cladding Mode Free fibre coupled diode laser (CMF); available for 915, 940, and 975-981nm.
The CMF laser module is prepared to connect a water cooled fibre.
>99% power out of the CMF-fibre core; the laser module has to be used in combination with a LIMO-CMF-fibre.

¹Optical data @ 25°C diode heat sink temperature ²Other wavelength on request, ³optional, ⁴Depending on wavelength, ⁵Measured by NTC/PT100 on LEMO connector, ⁶Water cooled module, ⁷According ISO 17526:2003(E);

Optional

| Pilot beam | |
|--------------------------------------|-------------|
| Pilot beam output power (mW) | > 1 |
| Pilot beam wavelength (nm) | 635 \pm 5 |
| Pilot beam voltage (V) | 3-5 |
| Pilot beam current (mA) | < 120 |
| Monitor diode | |
| Operation voltage (V _{DC}) | 5 |
| Monitor diode signal (V) | 0-2 |

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