

# Somerville Laser Technology

## Preliminary data sheet

High-power, fiber-coupled laser-diode

Model: WL-1000-225-976

|   | Symbol                     | Units         | Min.        | Typical   | Max.     |
|---|----------------------------|---------------|-------------|---|----------|
| <b>Optical data</b>                         |                            |               |             |   |          |
| CW-optical power                            | Pop                        | W             | <b>1000</b> |   |          |
| Center wavelength                           | $\lambda_c$                | nm            | 973         | 976   | 979      |
| Spectral width                              | $\Delta\lambda$            | nm            |             | 4   |          |
| Temperature dependence of center wavelength | $\Delta\lambda_c/\Delta T$ | nm/°C         |             | 0.3   |          |
| <b>Fiber data</b>                           |                            |               |             |   |          |
| Fiber core/clad diameter                    |                            | $\mu\text{m}$ |             | 225/270   |          |
| Fiber numerical aperture                    | NA                         |               |             | 0.22  |          |
| Fiber connector                             |                            |               |             | Optoskand SMAQ<br>with mode stripper                  |          |
| <b>Electrical data</b>                      |                            |               |             |   |          |
| Operating current                           | Iop                        | A             |             | 145   |          |
| Threshold current                           | Ith                        | A             |             | 10  |          |
| Operating voltage                           | Vop                        | V             |             | 16  |          |
| Slope efficiency                            | $\eta$                     | W/A           |             | 8.0   |          |
| Power conversion efficiency (1)             | PCE                        | %             | <b>50</b>   |   |          |
| <b>Reverse voltage</b>                      |                            | <b>V</b>      |             |   | <b>0</b> |
| <b>Thermal conditions</b>                   |                            |               |             |   |          |
| Inlet water temperature                     |                            | °C            |             | 20  |          |
| Differential water pressure                 |                            | psi           |             | 60  |          |
| Inlet water flow rate                       |                            | l/min         |             | 8   |          |
| Chiller cooling capacity                    |                            | W             | 1200        |   |          |
| Storage temperature                         |                            | °C            | -51         |   | +60      |
| <b>(NON CONDENSING CONDITIONS)</b>          |                            |               |             |   |          |
| Water quality (1)                           |                            |               |             | Distilled water                                       |          |
| <b>Other specifications</b>                 |                            |               |             |   |          |
| Expected lifetime                           |                            | hrs           | >1khr       |   |          |
| P(EOL) = 90%P(BOL)                          |                            |               |             |   |          |
| Weight of laser head (2)                    |                            | kg            |             |   | 1.8      |
| Water connections                           |                            |               |             | female quick connect<br>male Radlock quick<br>connect |          |
| Electrical connections                      |                            |               |             |   |          |

### Notes

RoHS 2002/95/EC compliant

1) Coolant: distilled-water filtered  
to 5 microns

2) Includes water plenum