

976 nm 3 W Wavelength-Stabilized Fiber Coupled Laser Diode

K976AB2RN-3.000WN0N-10522F20EFF (Standard Product)



Features:

- 976±0.5 nm wavelength
- 3 W output power
- 105 μm fiber core diameter
- 0.22 NA
- 1020nm~1200 nm feedback protection

Applications:

- Fiber Laser Pumping
- Scientific Research

Specifications (25°C)		Symbol	Unit	K976AB2RN-3.000W		
				Minimum	Typical	Maximum
Optical Data ⁽¹⁾	CW Output Power	P _o	W	3.0	-	-
	Center Wavelength	λ_c	nm	976±0.5		
	Spectral Width (FWHM)	$\Delta\lambda$	nm	-	0.5	0.7
	Wavelength Shift with Temperature	$\Delta\lambda/\Delta T$	nm/°C	-	0.02	-
	Wavelength Shift with Current	$\Delta\lambda/\Delta I$	nm/A	-	0.03	-
Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	50	-
	Threshold Current	I _{th}	A	-	0.9	-
	Operating Current	I _{op}	A	-	4.0	5.0
	Operating Voltage	V _{op}	V	-	1.6	1.8
	Slope Efficiency	η	W/A	-	0.9	-
Fiber Data	Core Diameter	D _{core}	μm	-	105	-
	Cladding Diameter	D _{clad}	μm	-	125	-
	Numeric Aperture	NA	-	-	0.22	-
	Fiber Length	L _f	m	-	2	-
	Fiber Loose Tubing Diameter	-	mm	0.9		
	Minimum Bending Radius	-	mm	50	-	-
	Fiber Termination	-	-	FC-Ferrule		
Feedback Isolation	Wavelength Range	-	nm	1020~1200		
	Isolation	-	dB	-	30	-
Others	ESD	V _{esd}	V	-	-	500
	Storage Temperature ⁽²⁾	T _{st}	°C	-20	-	70
	Lead Soldering Temp	T _{ls}	°C	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Case Temperature ⁽³⁾	T _{op}	°C	23	25	27
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at nominal output power@25°C.

(2) A non-condensing environment is required for operation and storage.

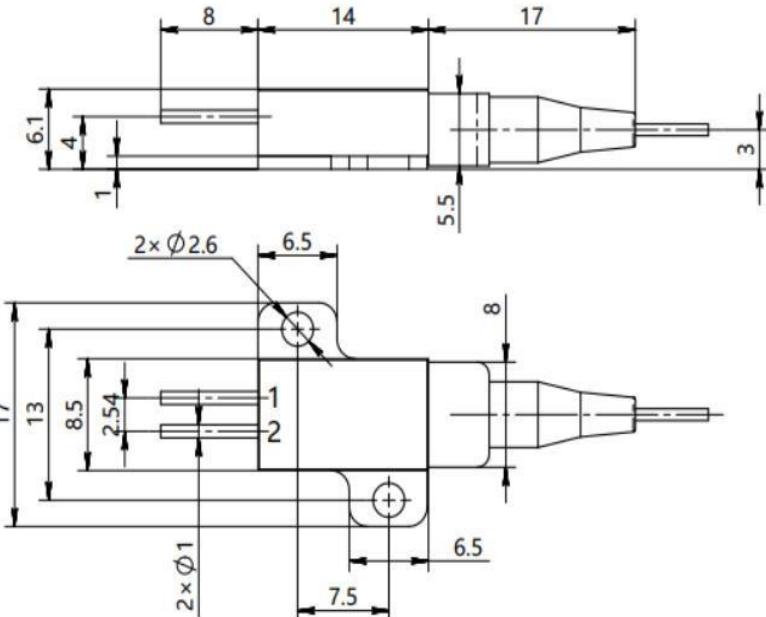
(3) Operating temperature defined by the package case. Acceptable operating range is 23°C~27°C, but performance may vary.

(4) Wavelength-Stabilized: Percentage of power in band of 974.5nm to 977.5nm ≥90%.

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Package Dimensions (mm)



Pin	Function
1	LD1+
2	LD1-

OPERATING NOTES

- Avoid eye and skin exposure to direct radiation during operation.
- ESD precautions must be taken during transportation, storage, and operation. A short-circuit connection is required between pins during transportation and storage.
- For lasers with operating currents above 6A, connect leads by soldering. The soldering point should be as close to the middle of the pins as possible, with a temperature below 260°C and a soldering time of less than 10 seconds.
- Before operating the laser, ensure that the fiber output end is properly cleaned. Follow safety protocols when handling and cutting fiber to avoid injury.
- Use a constant current power supply and avoid surges during operation.
- Operate within the rated current and power levels.
- Ensure proper cooling during operation.
- The operating temperature range is 23°C to 27°C.
- The storage temperature range is -20°C to +70°C.