

## 445 nm 4 W Fiber Coupled Laser Diode

K445H03FN-4.000WN0N-10522



### Features:

- 445 nm wavelength
- 4 W output power
- 105  $\mu\text{m}$  fiber core diameter
- 0.22 NA

### Applications:

- Illuminating
- 3D Printing
- Medical use

Specifications (25°C)		Symbol	Unit	K445H03FN-4.000WN1N-10522		
				Minimum	Typical	Maximum
Optical Data <sup>(1)</sup>	CW Output Power	P <sub>o</sub>	W	4	-	-
	Center Wavelength	$\lambda_c$	nm	445±20		
	Spectral Width (FWHM)	$\Delta\lambda$	nm	-	6	-
	Wavelength Shift with Temperature	$\Delta\lambda/\Delta T$	nm/°C	-	0.1	-
Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	23	-
	Threshold Current	I <sub>th</sub>	A	-	0.3	-
	Operating Current	I <sub>op</sub>	A	-	2.8	3.5
	Operating Voltage	V <sub>op</sub>	V	-	4.5	5
	Slope Efficiency	$\eta$	W/A	-	1.4	-
Fiber Data	Core Diameter	D <sub>core</sub>	μm	-	105	-
	Numeric Aperture	NA	NA	-	0.22	-
	Minimum Bending Radius	-	mm	45	-	-
Others	ESD	V <sub>esd</sub>	V	-	-	500
	Storage Temperature <sup>(2)</sup>	T <sub>st</sub>	°C	-20	-	70
	Lead Soldering Temp	T <sub>ls</sub>	°C	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Case Temperature <sup>(3)</sup>	T <sub>op</sub>	°C	15	-	35
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at 4W@25°C.

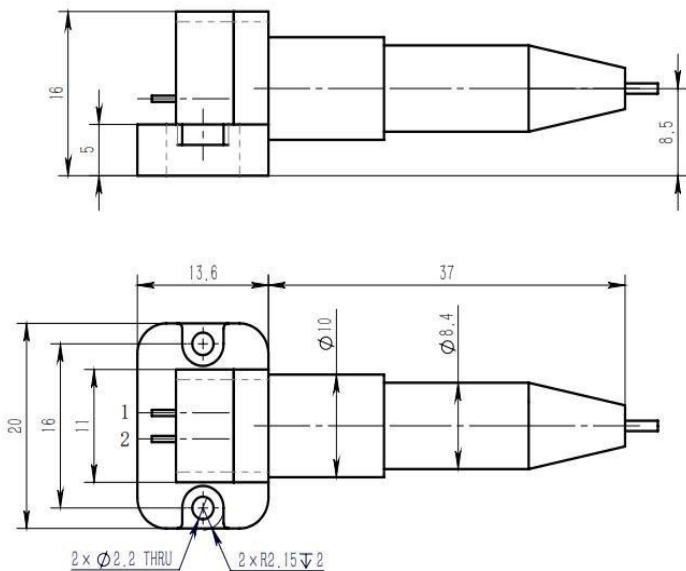
(2) A non-condensing environment is required for operation and storage.

(3) Operating temperature defined by the package case. Acceptable operating range is 15°C~35°C, but performance may vary.

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### Package Dimensions (mm)



Pin	Function
1	LD(+)
2	LD(-)

### OPERATING NOTES

- Avoid eye and skin exposure to direct radiation during operation.
- ESD precautions must be taken during storage, transportation and operation.
- Short-circuit is required between pins during storage and transportation.
- Please connect pins to wires by solder instead of using socket when operation current is higher than 6A. Soldering point should be close to the middle of the pins. Soldering temperature should be lower than 260°C and time shorter than 10 second.
- Make sure the fiber output end is properly cleaned before operation of laser. Follow safety protocols to avoid injury when handling and cutting the fiber.
- Use constant current power supply to avoid surge current during operation.
- Laser diode must be used according to the specifications.
- Laser diode must work with good cooling.
- Operation temperature ranges from 15°C to 35°C.
- Storage temperature ranges from -20°C to +70°C.