445 nm 75 W Fiber Coupled Laser Diode

K445HR7FN-75.00W

Features:

- 445 nm wavelength
- 75 W output power
- 105 μm fiber core diameter
- 0.22 NA

Applications:

- Material Processing
- 3D Printing
- Scientific Research

Specifications（25℃）		Symbol	Unit	K445HR7FN-75.00W		
				Minimum	Typical	Maximum
Optical Data(1)	Total CW Output Power	P_T	W	75	-	-
	Number of Submodules	-	-		2	
	Submodule CW Output Power	P_O	W		38	
	Center Wavelength	λ_c	nm		445±20	
	Spectral Width (FWHM)	Δλ	nm	-	6	-
	Wavelength Shift with Temperature	Δλ/ΔT	nm/℃	-	0.3	-
	Wavelength Shift with Current	△λ/△A	nm/A	-	1	-
Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	30	-
	Threshold Current	I_{th}	A	-	0.35	-
	Operating Current	I_{op}	A	-	3	3.5
	Operating Voltage	V_{op}	V	-	36*2	42*2
	Slope Efficiency	η	W/A	-	14.2*2	-
	Power Supply Mode	-	-		2 modules	
Fiber Data	Core Diameter	D_{core}	μm	-	105	-
	Cladding Diameter	D_{clad}	μm	-	125	-
	Numeric Aperture	NA	-	-	0.22	-
	Fiber Length	L_f	m	-	1	-
	Fiber Loose Tubing Diameter	-	mm		0.9	
	Minimum Bending Radius	-	mm	50	-	-
	Fiber Termination	-	-		SMA905	
Thermistor	Wavelength Range	Rt	(KΩ)/β(25℃)		10±3%/3450	
Others	ESD	V_{esd}	V	-	-	500
	Storage Temperature(2)	T_{st}	℃	-20	-	70
	Lead Soldering Temp	T_{ls}	℃	-	-	260
	Lead Soldering Time	t	sec	-	-	10
	Operating Case Temperature(3)	T_{op}	℃	15	-	30
	Relative Humidity	RH	%	15	-	75

(1) Data measured under operation output at 75W@25℃.
(2) A non-condensing environment is required for operation and storage.
(3) Operating temperature defined by the package case. Acceptable operating range is 15℃~30℃, but performance may vary.

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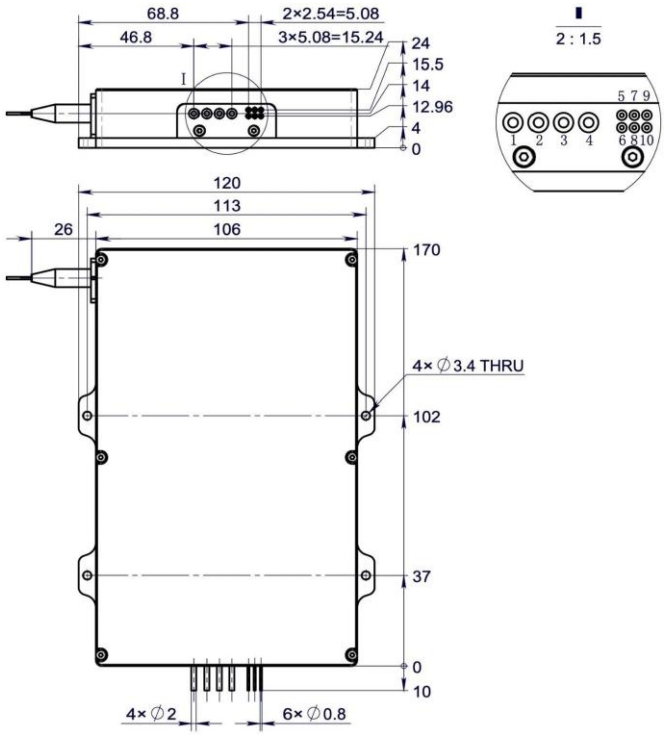
Package Dimensions (mm)



Pin	Function
1	LD1 (+)
2	LD1 (-)
3	LD2 (+)
4	LD2 (-)
5	*Thermistor
6	*Thermistor
7	*PD(P)
8	*PD(N)
9	*Aiming beam (+)
10	*Aiming beam (-)

1. *: Optional functions.

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℃ 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℃ to 35℃.
- Storage temperature ranges from -20℃ to +70℃.