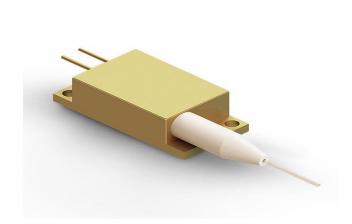


793nm 22W Fiber Coupled Diode Laser

K793DA3RN-22.00WN0N-10522F10EFF (Standard Product)



Features:

- 793nm wavelength
- 22W output power
- 105µm fiber core diameter
- 0.22NA
- 1900nm~2100nm feedback protection

Applications:

- Fiber laser pumping
- Scientific research

BWT, founded in 2003, is committed to the mission of "let the dream drive the light", the vision of becoming the "Global leader in laser solutions", and the value of "Outstanding innovation", providing diode laser, fiber laser, ultra-fast laser products and solutions to global customers.

The company pursues continuous innovation and insists on autonomous and controllable advanced process and technology. With Beijing headquarters as the core, BWT has successively established production and R&D centers in Jiangsu, Shanghai and Shenzhen, and invested in the construction of intelligent and digital production base in Tianjin. In order to build the world's highest level of technical strength and product quality, BWT set up a German subsidiary in 2020, introducing European quality standards, and taking a solid step for the internationalization of R&D, production and technological innovation.

Up to now, BWT has traded more than 10 million lasers worldwide. BWT's products are available in mo re than 70 countries and regions, applications involving industry, medical, commercial, scientific research, i nformation and many other fields.

Version number	Change content	Change date		
00	First edition	2021.09.17		



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CW Output Power Po W 22 - -	Specifications (25°C)		Symbol	Unit	K793DA3RN-22.00W		
Optical Data*** Center Wavelength λc nm 793±3 Spectral Width(FWHM) Δλ nm - 3 5 Wavelength Shift with Temperature Δλ/ΔT nm/C - 0.3 - 0.15/0.22NA - % - 90 - Electrical-to-Optical Efficiency PE % - 43 - Threshold Current I₂n A - 10 12 Operating Current I₂n A - 10 12 Operating Voltage V₂n V - 5.4 6 Slope Efficiency n W/A - 2.6 - Slope Efficiency n W/A - 2.6 - Slope Efficiency n W/A - 2.6 - Numeric Aperture Date µm - 105 - Numeric Aperture NA - - 0.22 -					Minimum	Typical	Maximum
Optical Data ⁽¹⁾ Spectral Width(FWHM) Δλ nm - 3 5 Wavelength Shift with Temperature Δλ/ΔΤ nm/°C - 0.33 - 0.15/0.22NA - % - 90 - Electrical Local Local Councies of Electrical Data Electrical Optical Efficiency PE % - 43 - Threshold Current Inh A - 10 12 Operating Current Inh A - 1.6 - Operating Voltage V ₅₀ V - 5.4 6 Slope Efficiency η W/A - 2.6 - Slope Efficiency η W/A - 2.6 - Cladding Diameter D _{Core} µm - 105 - Numeric Aperture NA - - 0.22 - Numeric Aperture NA - - 0.9 - Fiber Loose Tubing Diameter <t< td=""><td rowspan="5">Optical Data⁽¹⁾</td><td>CW Output Power</td><td>Po</td><td>W</td><td>22</td><td>-</td><td>-</td></t<>	Optical Data ⁽¹⁾	CW Output Power	Po	W	22	-	-
Wavelength Shift with Temperature Δλ/ΔΤ nm/°C - 0.3 - 0.3 - 0.5		Center Wavelength	λο	nm	793±3		
Belectrical Data Core Diameter Dead Dead		Spectral Width(FWHM)	Δλ	nm	-	3	5
Electrical Data Electrical-to-Optical Efficiency PE % - 43 - 10 12		Wavelength Shift with Temperature	△λ/△Τ	nm/℃	-	0.3	-
Threshold Current I _{lon} A - 10 12		0.15/0.22NA	-	%	-	90	-
Part	Electrical Data	Electrical-to-Optical Efficiency	PE	%	-	43	-
Operating Voltage V _{op} V - 5.4 6		Threshold Current	I _{th}	А	-	10	12
Slope Efficiency η W/A - 2.6 -		Operating Current	I _{op}	А	-	1.6	-
Core Diameter D _{core} μm - 105 -		Operating Voltage	V _{op}	V	-	5.4	6
Cladding Diameter D _{clad} μm - 125 - Numeric Aperture NA - - 0.22 - Fiber Length L _I m - 1 - Fiber Loose Tubing Diameter - mm 50 - - Fiber Termination - - Ferrule Feedback Wavelength Range - nm 1900~2100 Isolation Isolation - dB - 30 - Storage Temperature ⁽²⁾ T _{st} °C -20 - 70 Lead Soldering Time t sec - 10 Operating Case Temperature ⁽³⁾ T _{op} °C 15 - 35		Slope Efficiency	η	W/A	-	2.6	-
Numeric Aperture	Fiber Data	Core Diameter	D _{core}	μm	-	105	-
Fiber Data Fiber Length L _t m - 1 -		Cladding Diameter	D _{clad}	μm	-	125	-
Fiber Loose Tubing Diameter - mm 0.9		Numeric Aperture	NA	-	-	0.22	-
Minimum Bending Radius		Fiber Length	Lf	m	-	1	-
Fiber Termination -		Fiber Loose Tubing Diameter	-	mm	0.9		
Feedback Isolation Wavelength Range - nm 1900~2100 Isolation - dB - 30 - 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 15 - 35		Minimum Bending Radius	-	mm	50	-	-
Isolation 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 15 - 35		Fiber Termination	-	-	Ferrule		
ESD V _{esd} V - - 500	Feedback	Wavelength Range	-	nm	1900~2100		
Others Storage Temperature ⁽²⁾ T _{st} °C -20 - 70 Lead Soldering Temp T _{Is} °C - - 260 Lead Soldering Time t sec - - 10 Operating Case Temperature ⁽³⁾ T _{op} °C 15 - 35	Isolation	Isolation	-	dB	-	30	-
Others Lead Soldering Temp T _{Is} °C - - 260 Lead Soldering Time t sec - - 10 Operating Case Temperature ⁽³⁾ T _{op} °C 15 - 35	Others	ESD	V _{esd}	V	-	-	500
Others Lead Soldering Time t sec - - 10 Operating Case Temperature ⁽³⁾ T _{op} °C 15 - 35		Storage Temperature ⁽²⁾	T _{st}	°C	-20	-	70
Lead Soldering Time t sec - - 10 Operating Case Temperature ⁽³⁾ T _{op} °C 15 - 35		Lead Soldering Temp	T _{Is}	°C	-	-	260
		Lead Soldering Time	t	sec	-	-	10
Relative Humidity RH % 15 - 75		Operating Case Temperature ⁽³⁾	T _{op}	°C	15	-	35
		Relative Humidity	RH	%	15	-	75

⁽¹⁾ Data measured under operation output at 22W@25°C.

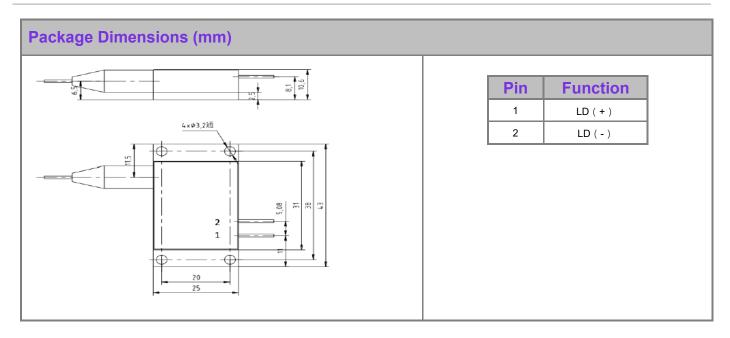
⁽²⁾ A non-condensing environment is required for operation and storage.

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



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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.
- $lack Operation temperature ranges from 15 {\mathbb C} \ to 35 {\mathbb C} \ .$
- ♦ Storage temperature ranges from -20°C to +70°C.



Declaration: information and specifications contained herein are deemed to be reliable and accurate. BWT Beijing reserves the right to change, alter or modify the design and specifications of these products at any time without notice.21-1

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