

PLD-353-400-878-WS-SMA

Multi-mode Fiber-coupled Packaged Diodes



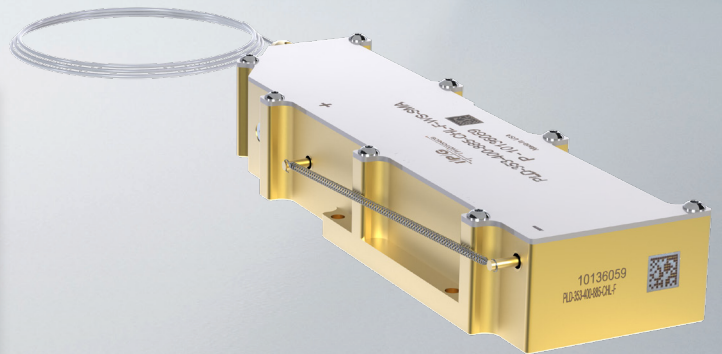
FEATURES

- ▶ 878.6 \pm 0.5 nm Center Wavelength
- ▶ Wavelength-stabilized Across Wide Current Range
- ▶ 200 W Maximum Output Power at 16 Amperes
- ▶ High (95% power-in-band) Spectral Purity
- ▶ Typical Wallplug Efficiency >50%
- ▶ 400 μ m Fiber Pigtail (200 μ m fiber option), SMA-Connector
- ▶ Compact Fiber-coupled Package
- ▶ Dichroic Filter Option for Back-reflection Protection



APPLICATIONS

- ▶ Vanadate-based Solid-state Laser Pumping
- ▶ Ultrashort Pulse Laser Pumping
- ▶ Ultraviolet Laser Pumping



IPG Photonics' line of 878.6 nm fiber-coupled packaged diodes provide a complete pumping solution for Vanadate-based solid-state lasers. IPG's wavelength-stabilized diodes are differentiated by an unmatched level of spectral purity and stability. We offer an ideal combination of power, reliability and form factor with solutions ranging from 30 Watts to 200 Watts maximum fiber-coupled output power.

At IPG, we manufacture to rigorous telecom-grade standards in the world's largest high power diode fab. Each wafer is individually qualified, which sets IPG apart from alternative industrial pump products using short-lived diode bars and bar-stack technologies. IPG's line of 878.6 nm fiber-coupled packaged diodes becomes the new de-facto standard for Vanadate-based solid-state laser pumping.

PLD-353-400-878-WS-SMA

Multi-mode Fiber-coupled Packaged Diodes

Optical and Electrical Characteristics*	
Center Wavelength, nm	878.6
Center Wavelength Tolerance, nm	+/- 0.5
Output Power, W	160 - 200
Spectral Width (FWHM), nm	<0.5
Slope Efficiency, W/A	>10
Efficiency, %	50
Threshold Current (I_{TH}), A	2
Operating Current (I_{OP}), A	13 - 16
Forward Voltage, V	<20
Recommended Case Temperature, °C	25
Wavelength Shift with Temperature, nm/°C	<0.01

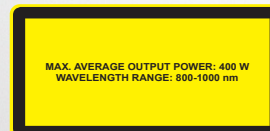
*Typical performance data measured at 16 A, 25°C.

Fiber Characteristics	
Fiber Core Diameter, μm	400, 200 μm fiber option
Fiber Cladding Diameter, μm	480
Finer Buffer Diameter, μm	580
Beam Numerical Aperture (90% power)	<0.2
Fiber Length, m	2
Minimum Fiber Bend Radius, mm	35

Maximum Ratings	
Operating Current (I_{OP}), A	16
Reverse Voltage, V	5
Case Temperature, °C	5 - 70
Storage Temperature, °C	-20 to 60
Lead Soldering Temperature (10 s max) °C	300
Relative Humidity, %	85



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PLD-222-200-878-WS-SMA, 150 W

Multi-mode Fiber-coupled Packaged Diodes



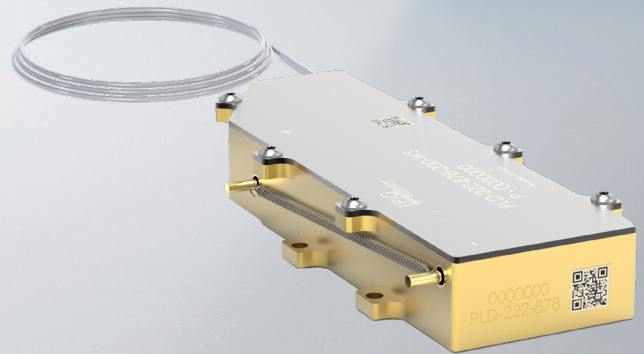
FEATURES

- ▶ 878.6 \pm 0.5 nm Center Wavelength
- ▶ Wavelength-stabilized Across Wide Current Range
- ▶ 150 W Maximum Output Power at 16 Amperes
- ▶ High (99% power-in-band) Spectral Purity
- ▶ Typical Wallplug Efficiency >50%
- ▶ 200 μ m Fiber Pigtail (400 μ m fiber option), SMA-Connector
- ▶ Compact Fiber-coupled Package
- ▶ Dichroic Filter Option for Back-reflection Protection



APPLICATIONS

- ▶ Vanadate-based Solid-state Laser Pumping
- ▶ Ultrashort Pulse Laser Pumping
- ▶ Ultraviolet Laser Pumping



878.6 nm fiber-coupled packaged diodes provides a complete pumping solution for Vanadate-based solid-state lasers. IPG wavelength-stabilized diodes are differentiated by an unmatched level of spectral purity and stability. An ideal combination of power, reliability and form factor with solutions ranging from 30 Watts to 150 Watts maximum fiber-coupled output power.

IPG manufactures to rigorous telecom-grade standards in the world's largest high power diode fab. Each wafer is individually qualified, which sets IPG apart from alternative industrial pump products using short-lived diode bars and bar-stack technologies. 878.6nm fiber-coupled packaged diodes are the new de-facto standard for Vanadate-based solid-state laser pumping.

PLD-222-200-878-WS-SMA, 150 W

Multi-mode Fiber-coupled Packaged Diodes

Optical and Electrical Characteristics*	PLD-43-200-878-WS-SMA
Center Wavelength, nm	878.6
Center Wavelength Tolerance, nm	+/- 0.5
Output Power, W	120 - 150
Spectral Width (FWHM), nm	<0.3
Slope Efficiency, W/A	>10
Efficiency, %	50
Threshold Current (I_{TH}), A	2
Operating Current (I_{OP}), A	13 - 16
Forward Voltage, V	<20
Recommended Case Temperature, °C	25
Wavelength Shift with Temperature, nm/°C	<0.01

*Typical performance data measured at 16 A, 25°C.

Fiber Characteristics

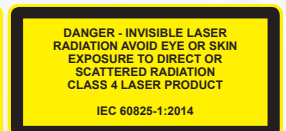
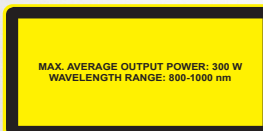
Fiber Core Diameter, μm	200, 400 μm fiber option
Fiber Cladding Diameter, μm	227
SMA Connector	SMA 905
Beam Numerical Aperture (90% power)	<0.2
Fiber Length, m	2
Minimum Fiber Bend Radius, mm	60

Maximum Ratings

Operating Current (I_{OP}), A	18
Reverse Voltage, V	5
Case Temperature, °C	5 - 70
Storage Temperature, °C	-20 to 60
Lead Soldering Temperature (10 s max) °C	300
Relative Humidity, %	85



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PLD-212-200-878-WS-SMA, 115 W

Multi-mode Fiber-coupled Packaged Diodes



FEATURES

- ▶ 878.6 \pm 0.5 nm Center Wavelength
- ▶ Wavelength-stabilized Across Wide Current Range
- ▶ 115 W Maximum Output Power at 16 Amperes
- ▶ High (99% power-in-band) Spectral Purity
- ▶ Typical Wallplug Efficiency >50%
- ▶ 200 μ m Fiber Pigtail (400 μ m fiber option), SMA-Connector
- ▶ Compact Fiber-coupled Package
- ▶ Dichroic Filter Option for Back-reflection Protection



APPLICATIONS

- ▶ Vanadate-based Solid-state Laser Pumping
- ▶ Ultrashort Pulse Laser Pumping
- ▶ Ultraviolet Laser Pumping



878.6 nm fiber-coupled packaged diodes provides a complete pumping solution for Vanadate-based solid-state lasers. IPG wavelength-stabilized diodes are differentiated by an unmatched level of spectral purity and stability. An ideal combination of power, reliability and form factor with solutions ranging from 30 Watts to 150 Watts maximum fiber-coupled output power.

IPG manufacturers to rigorous telecom-grade standards in the world's largest high power diode fab. Each wafer is individually qualified, which sets IPG apart from alternative industrial pump products using short-lived diode bars and bar-stack technologies. 878.6 nm fiber-coupled packaged diodes are the new de-facto standard for Vanadate-based solid-state laser pumping.

PLD-212-200-878-WS-SMA, 115 W

Multi-mode Fiber-coupled Packaged Diodes

Optical and Electrical Characteristics*	PLD-212-200-878-WS-SMA
Center Wavelength, nm	878.6
Center Wavelength Tolerance, nm	+/- 0.5
Output Power, W	90 - 115
Spectral Width (FWHM), nm	<0.3
Slope Efficiency, W/A	>7.5
Efficiency, %	50
Threshold Current (I_{TH}), A	2
Operating Current (I_{OP}), A	13 - 16
Forward Voltage, V	<15
Recommended Case Temperature, °C	25
Wavelength Shift with Temperature, nm/°C	<0.01

*Typical performance data measured at 16 A, 25°C.

Fiber Characteristics

Fiber Core Diameter, μm	200, 400 μm fiber option
Fiber Cladding Diameter, μm	227
SMA Connector	SMA 905
Beam Numerical Aperture (90% power)	<0.2
Fiber Length, m	2
Minimum Fiber Bend Radius, mm	60

Maximum Ratings

Operating Current (I_{OP}), A	18
Reverse Voltage, V	5
Case Temperature, °C	5 - 70
Storage Temperature, °C	-20 to 60
Lead Soldering Temperature (10 s max) °C	300
Relative Humidity, %	85



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MAX. AVERAGE OUTPUT POWER: 230 W
 WAVELENGTH RANGE: 800-1000 nm

DANGER - INVISIBLE LASER
 RADIATION AVOID EYE OR SKIN
 EXPOSURE TO DIRECT OR
 SCATTERED RADIATION
 CLASS 4 LASER PRODUCT
 IEC 60825-1:2014

PLD-93-200-878-WS-SMA, 80 W

Multi-mode Fiber-coupled Packaged Diodes



FEATURES

- ▶ 878.6 \pm 0.5 nm Center Wavelength
- ▶ Wavelength-stabilized Across Wide Current Range
- ▶ 80 W Maximum Output Power at 16 Amperes
- ▶ High (99% power-in-band) Spectral Purity
- ▶ Typical Wallplug Efficiency >50%
- ▶ 200 μ m Fiber Pigtail (400 μ m fiber option), SMA-Connector
- ▶ Compact Fiber-coupled Package
- ▶ Dichroic Filter Option for Back-reflection Protection



APPLICATIONS

- ▶ Vanadate-based Solid-state Laser Pumping
- ▶ Ultrashort Pulse Laser Pumping
- ▶ Ultraviolet Laser Pumping



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PLD-93-200-878-WS-SMA, 80 W

Multi-mode Fiber-coupled Packaged Diodes

Optical and Electrical Characteristics*	PLD-93-200-878-WS-SMA
Center Wavelength, nm	878.6
Center Wavelength Tolerance, nm	+/- 0.5
Output Power, W	60-80
Spectral Width (FWHM), nm	<0.3
Slope Efficiency, W/A	>5
Efficiency, %	50
Threshold Current (I_{TH}), A	2
Operating Current (I_{OP}), A	13 - 16
Forward Voltage, V	<10
Recommended Case Temperature, °C	25
Wavelength Shift with Temperature, nm/°C	<0.01

*Typical performance data measured at 16 A, 25°C.

Fiber Characteristics

Fiber Core Diameter, μm	200, 400 μm fiber option
Fiber Cladding Diameter, μm	227
SMA Connector	SMA 905
Beam Numerical Aperture (90% power)	<0.2
Fiber Length, m	2
Minimum Fiber Bend Radius, mm	60

Maximum Ratings

Operating Current (I_{OP}), A	18
Reverse Voltage, V	5
Case Temperature, °C	5 - 70
Storage Temperature, °C	-20 to 60
Lead Soldering Temperature (10 s max) °C	300
Relative Humidity, %	85



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MAX. AVERAGE OUTPUT POWER: 160 W
 WAVELENGTH RANGE: 800-1000 nm

DANGER - INVISIBLE LASER
 RADIATION AVOID EYE OR SKIN
 EXPOSURE TO DIRECT OR
 SCATTERED RADIATION
 CLASS 4 LASER PRODUCT

IEC 60825-1:2014