

Fiber Pigtailed Pulsed Laser Diodes

Features

- Single and stacked devices up to 145 Watts ex fiber
- 905 nm and 1550 nm
- Coupling efficiency up to 85%
- Excellent temperature stability
- Custom versions available

Applications

- Range finding
- Surveying equipment
- Laser radar
- Medical
- DTS



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905 xx FP-Series

Generic Characteristics at $t_{RT} = 21^\circ\text{C}$

	Min	Typ	Max	Units
Wavelength of peak radiant intensity λ_m	895	905	915	nm
Spectral bandwidth $\Delta\lambda$ at 50% intensity points		8		nm
Wavelength temperature coefficient		0.27		nm/ $^\circ\text{C}$

* 8 nm for multi-junction devices

Multi Junction Chips and Stacked Arrays

Stacked chip characteristics at $t_{RT} = 21^\circ\text{C}$, $t_W = 100\text{ ns}$, $P_{rr} = 1.0\text{ kHz}$

Parameter	905D1S3JT03FP- 10/22-F-0-01	905D1S3JT09FP- 40/22-F-0-01	905D2S3JT09FP- 40/22-F-0-01	905D4S3J08FP- 40/22-F-0-01
Integrated pulsed laser diode	905D1S3JT03R	905D1S3JT09R	905D2S3JT09R	905D4S3J08R
P_o ex fiber at i_{FM} (typ.)	12 W	35 W	65 W	145 W
Fiber core / cladding diameter	105 μm /125 μm	400 μm /440 μm	400 μm /440 μm	400 μm /440 μm
Fiber NA	0.22	0.22	0.22	0.22
Max peak forward current i_{FM}	11 A	35 A	35 A	30 A
I_{th} typ	300 mA	800 mA	800 mA	750 mA

155 xx FP-Series

Generic Characteristics at $t_{RT}=21^{\circ}\text{C}$

	Min	Typ	Max	Units
Wavelength of peak radiant intensity λ_m	1520	1550	1580	nm
Spectral bandwidth $\Delta\lambda$ at 50% intensity points		30		nm
Wavelength temperature coefficient		0.6		nm/ $^{\circ}\text{C}$

Single Chips

Single chip characteristics at $t_{RT}=21^{\circ}\text{C}$, $T_w=100\text{ ns}$, $P_{rr}=1.0\text{ kHz}$

Parameter	155G1S02FP-62/27-F-0-01	HI155G1S04FP-10/22-L-0-01	HI155G1S04FP-10/22-F-0-01
Integrated pulsed laser diode	155G1S02R	HI155G1S04R	HI155G1S04R
P_o ex fiber at i_{FM} (typ) *	4 W	6.5 W	4.5 W
Fiber core / cladding diameter	62.5 μm / 125 μm	105 μm / 125 μm	105 μm / 125 μm
Fiber NA	0.27	0.22	0.22
Max. peak forward current i_{FM}	20 A	30 A	30 A
I_{th} typ	300 mA	600 mA	600 mA

* I_{FM} is the maximum peak current under any drive condition and is applicable to devices operated for short and intermittent duration such as in hand held range finders.

For applications that demand continuous use at maximum duty factor, we recommended I_{FM} at 50% to ensure longevity. High temperature operation will reduce peak power and MTF so for optimal performance under high stress conditions it is important to provide an adequate heat sink.

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Absolute Maximum Ratings

Maximum ratings	Limiting values
Peak reverse voltage 905*3JT03/3JT09 905*3J08 and 155*	36 V 6 V
Pulse duration Single element Stacks	150 ns 150 ns
Duty factor	0.1%
Temperature Storage Operating	-55 °C to +85 °C -40 °C to +85 °C
Lead soldering 5 seconds max at	200 °C

Note: Further specifications are available on the individual datasheets of the integrated pulsed laser diode.

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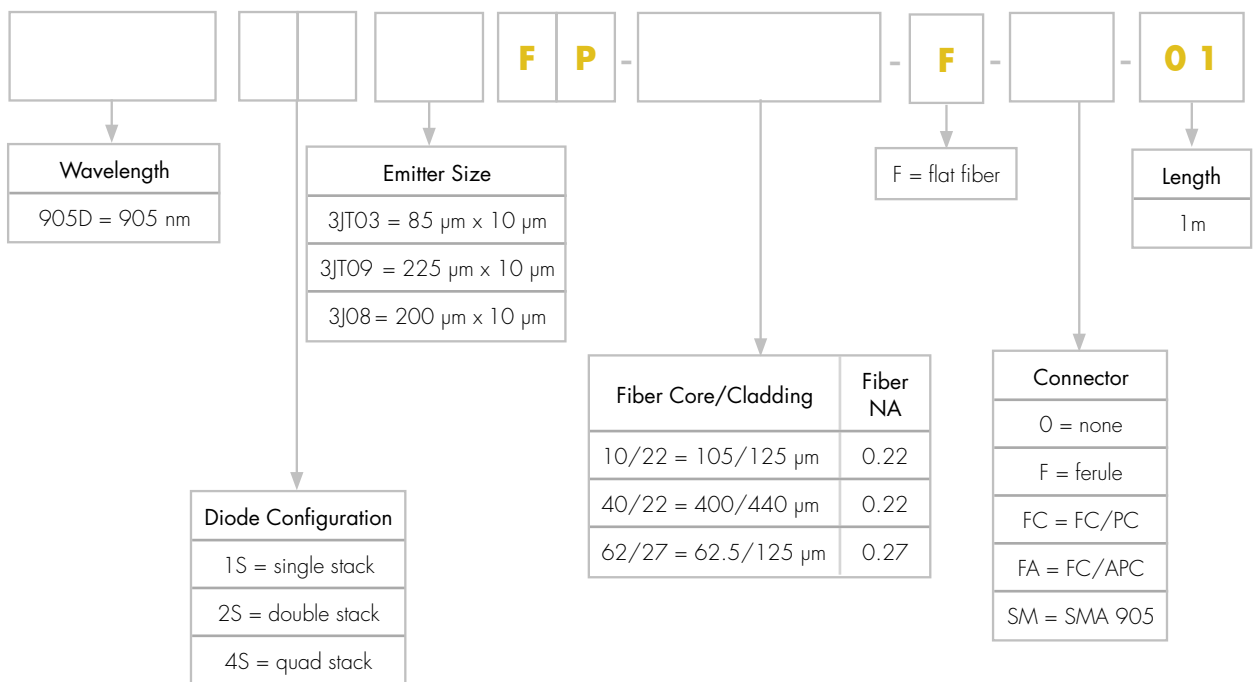
Product Number Designation

905D1S3JT03FP-10/22-F-0-01

905D1S3JT09FP-40/22-F-0-01

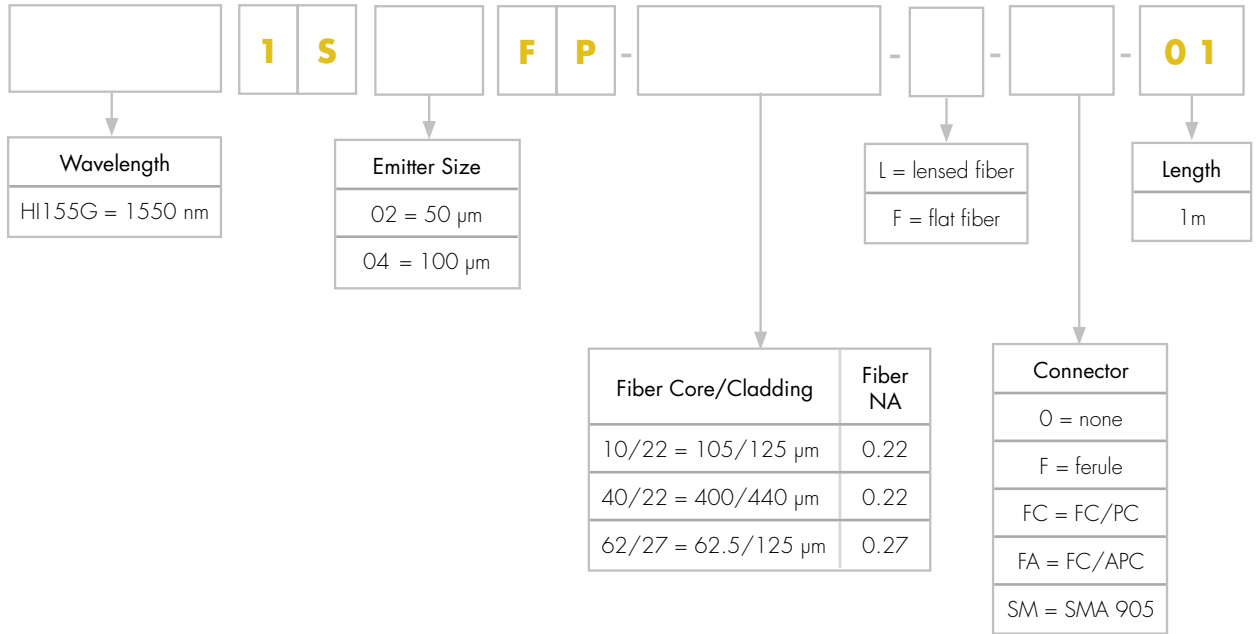
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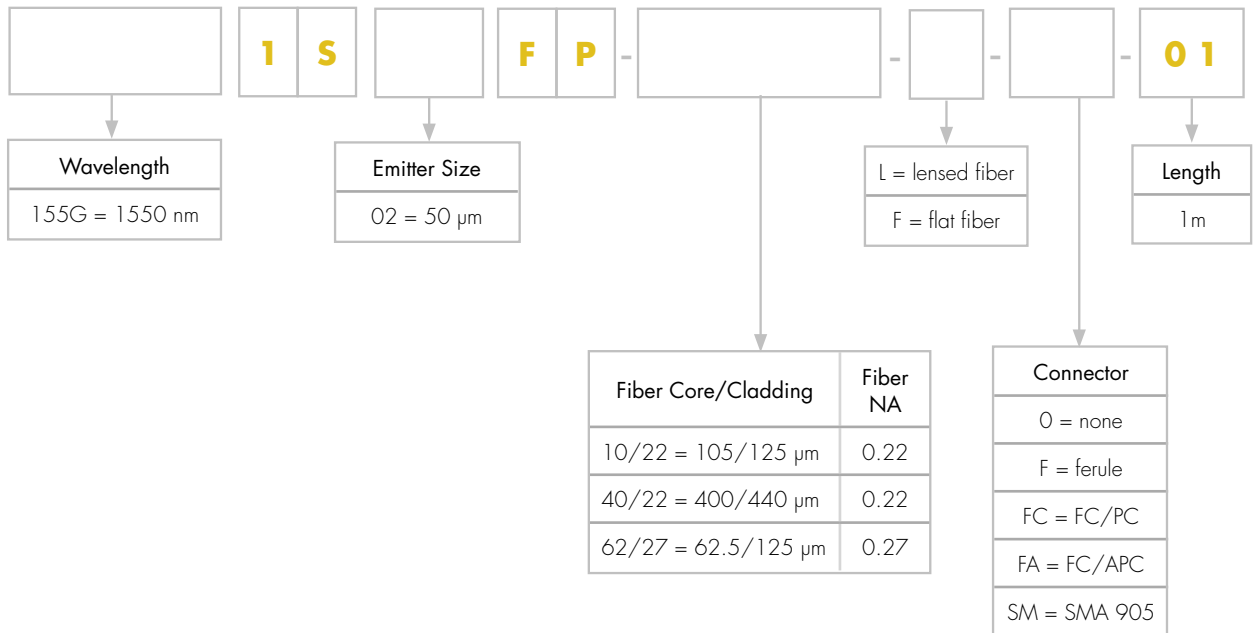


HI155G1S04FP-10/22-L-0-01

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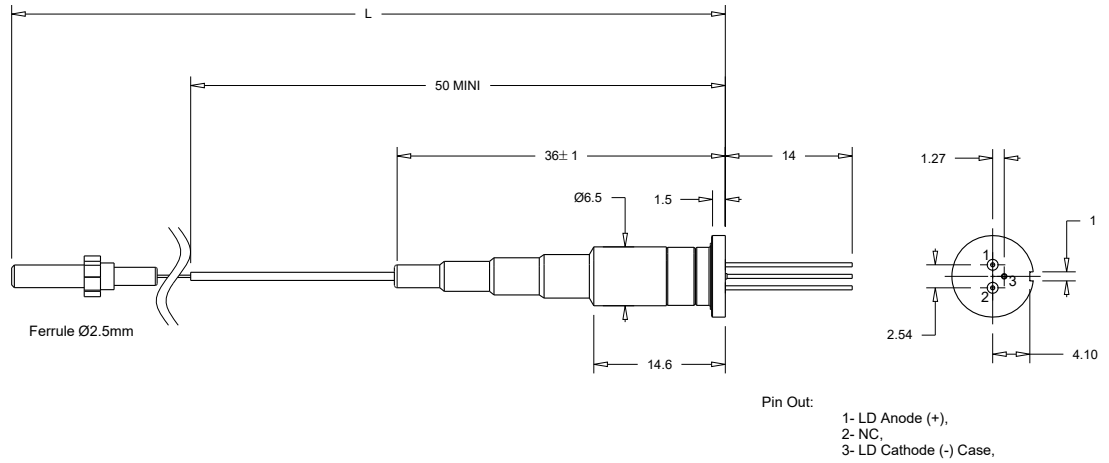
155G1S02FP-62/27-F-0-01



Note: other fiber types, lengths, and connectors are available upon request.

Please contact us for further details.

Package FP Fiber Pigtailed



Product Changes

LASER COMPONENTS reserves the right to make changes to the product(s) or information contained herein without notice. No liability is assumed as a result of their use or application.

Ordering Information

Products can be ordered directly from LASER COMPONENTS or its representatives. For a complete listing of representatives, visit our website at www.lasercomponents.com. Custom designed products are available on request.

Laser Safety

Personal Hazard:

Depending on the mode of operation, these devices emit highly concentrated non visible infrared light which can be hazardous to the human eye. Products which incorporate these devices have to follow the safety precautions given in IEC 60825-1 "Safety of laser products".

Handling Precautions:

Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload.

