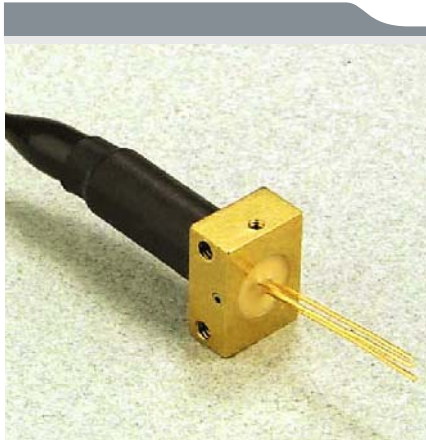


MRLDSPXXXXI Series



Features

- 1310 nm or 1550 nm FP
- High Optical Power
- Low Threshold Current
- High Operating Temperature
- High Speed
- Rear Facet Monitor
- Uncooled
- Coaxial Package
- Includes Optical Isolator
- Singlemode Fiber

Applications

- For OC-3, OC-12, and Gigabit applications

Absolute Maximum Ratings ($T_c = 25^\circ\text{C}$)

Parameter	Symbol	Cond	Rating	Unit
LD Reverse Voltage	V_{rld}	CW	2.5	V
LD Forward Current	I_f	CW	150	mA
PD Forward Current	I_{fpd}	CW	2	mA
PD Reverse Voltage	V_{rpd}	CW	15	V
Case Temperature	T_c	-	-20 to +85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-40 to +85	$^\circ\text{C}$

Optical and Electrical Characteristics - 1310 nm Lasers ($T_c = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Cond	Min	Typ	Max	Unit
Wavelength	λ_p	CW, P_o	1280	1310	1340	nm
Spectral Width	$\Delta\lambda$	CW, RMS, P_o	-	2	5	nm
Threshold Current	I_{th}	CW	-	10	20	mA
Operating Current	I_{op}	CW	-	-	45	mA
Output Power	P_o	CW	See Chart Below			
Forward Voltage	V_f	CW	-	1.2	1.7	V
Rise Time	t_r	-	-	0.5	-	ns
Fall Time	t_f	-	-	0.5	-	ns
Tracking Error	TE	-20 to + 85 $^\circ\text{C}$	-	± 1.5	-	dB
Relative Intensity Noise	RIN	-	-	-	-135	dB/ Hz
Second Order Distortion ^{Note1}	SSO	-	-	-	-48	dBc
Third Order Distortion ^{Note1}	STO	-	-	-	-50	dBc
Monitor Current	I_{pd}	CW, P_o	0.05	-	-	mA
Monitor Dark Current	I_d	$V_{rpd} = 5\text{V}$	-	0.3	1	μA
Monitor Capacitance	C_{pd}	$f = 1\text{ MHz}, V_{rpd} = 5\text{V}$	-	10	-	pF
Optical Isolation	O_{is}	-	40	-	-	dB

Note1: Two tones ($f_1 = 13\text{ MHz}$, $f_2 = 19\text{ MHz}$), OMI = 15% per carrier

MRLDSPXXXXI Series

Output Power (P_o) – 1310 nm ($T_c = 25^\circ\text{C}$)

Part Number (Singlemode)	Min	Typ	Unit
MRLDSPX001I	0.1	0.2	mW
MRLDSPX003I	0.3	0.4	mW
MRLDSPX005I	0.5	0.7	mW
MRLDSPX010I	1	1.2	mW
MRLDSPX020I	2.0	2.5	MW

Optical and Electrical Characteristics - 1550 nm Lasers ($T_c = 25^\circ\text{C}$, unless otherwise specified)

Parameter	Symbol	Cond	Min	Typ	Max	Unit
Wavelength	λ_p	CW, P_o	1520	1550	1580	nm
Spectral Width	$\Delta\lambda$	CW, RMS, P_o	-	3	5	nm
Threshold Current	I_{th}	CW	-	20	35	mA
Operating Current	I_{op}	CW	-	45	60	mA
Output Power	P_o	CW	See Chart Below			
Forward Voltage	V_f	CW	-	1.2	1.7	V
Rise Time	t_r		-	0.5	-	ns
Fall Time	t_f		-	0.5	-	ns
Tracking Error	TE	-20 to +85 °C	-	±1.5	-	dB
Relative Intensity Noise	R_{in}		-	-	-135	dB/ Hz
Monitor Current	I_{pd}	CW, at I_{op}	0.05	-	-	mA
Monitor Dark Current	I_d	$V_{rpd} = 5V$	-	0.3	1	μA
Monitor Capacitance	C_{pd}	$f = 1 \text{ MHz}, V_{rpd} = 5V$	-	10	-	pF
Optical Isolation	O_{is}	-	40	-	-	dB
Second Order Distortion ^{Note1}	SSO	-	-	-	-48	dBc
Third Order Distortion ^{Note1}	STO	-	-	-	-50	dBc

Note1: Two tones ($f_1 = 13 \text{ MHz}$, $f_2 = 19 \text{ MHz}$), OMI = 15% per carrier

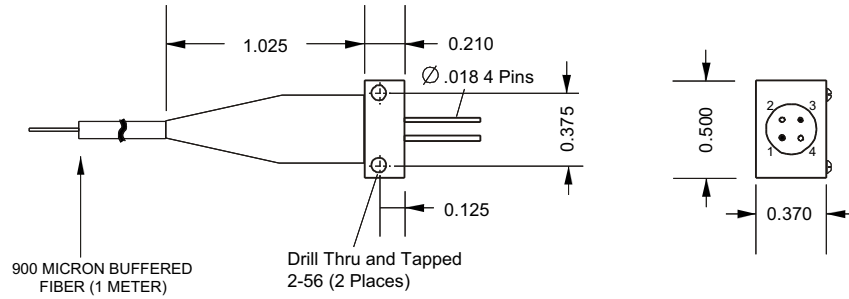
Output Power (P_o) – 1550 nm ($T_c = 25^\circ\text{C}$)

Part Number (Singlemode)	Min	Typ	Unit
MRLDSPX5001I	0.1	0.2	mW
MRLDSPX5003I	0.3	0.4	mW
MRLDSPX5005I	0.5	0.7	mW
MRLDSPX5010I	1	1.2	mW

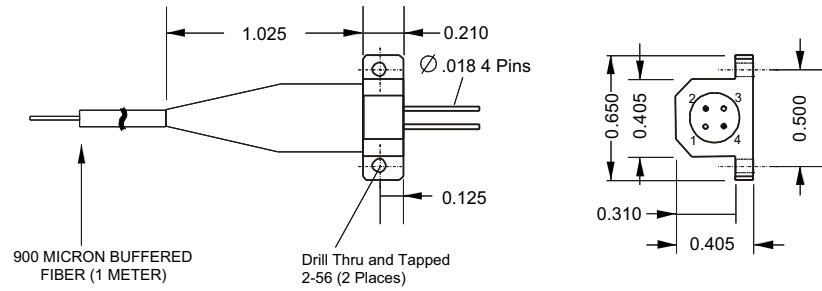
MRLDSPXXXXI Series

Outline Drawing and Connection

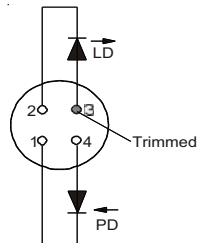
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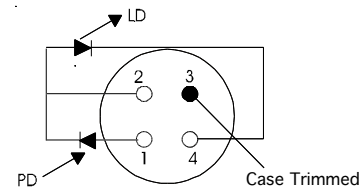
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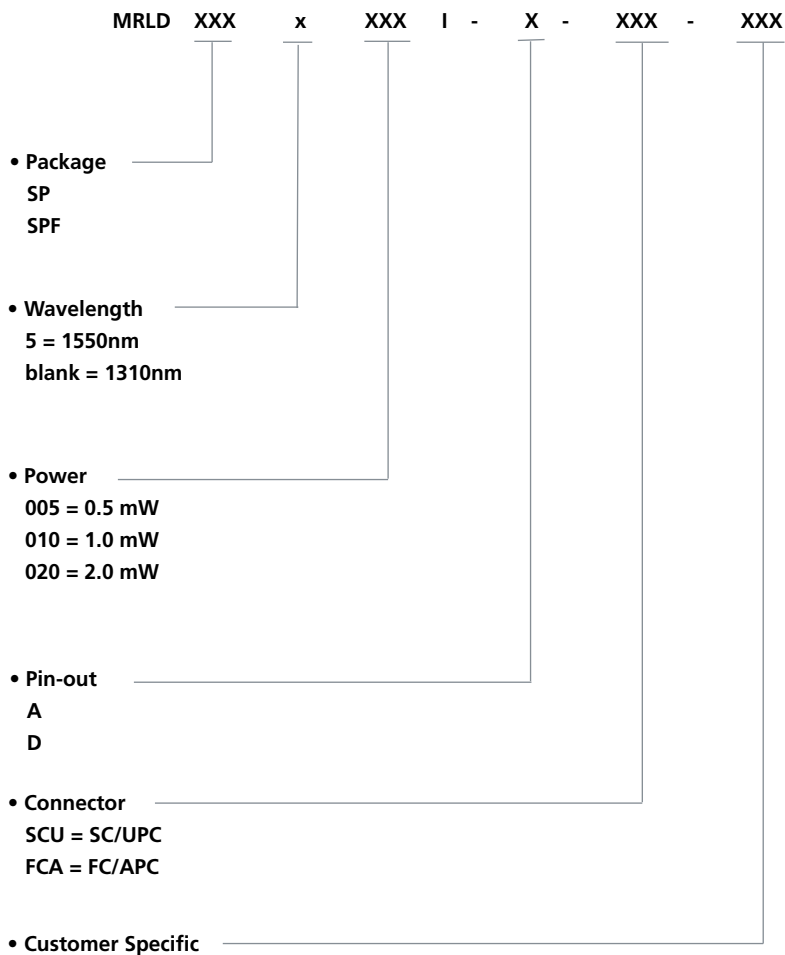


Pinout = "D"



MRLDSPXXXXI Series

Ordering Information:



Warnings

Handling Precautions: This device is susceptible to damage as a result of electrostatic discharge (ESD). A static free environment is highly recommended. Follow guidelines according to proper ESD procedures.

Laser Safety: Radiation emitted by laser devices can be dangerous to human eyes. Avoid eye exposure to direct or indirect radiation.

Legal Notice

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