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1550nm Distributed Feedback Laser Diode Device

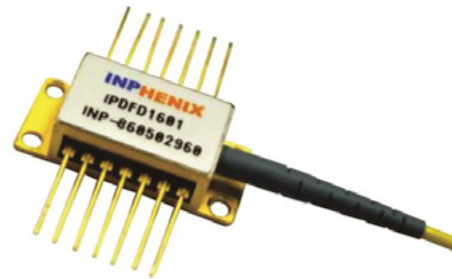
IPDFD1503

Features

- High output power
- Narrow linewidth
- High side mode suppression

Applications

- LiDAR
- Fiber optic sensor
- Metrology



Device Specifications

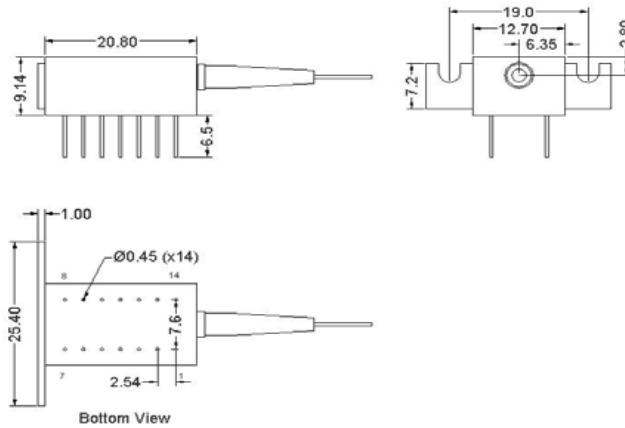
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold Current	I_{th}	-	15	-	mA	CW
Operating Current	I_{op}	-	250	-	mA	CW, $P_f = P_{op}$
Output Power	P_{op}	20	30	-	mW	CW, $I = I_{op}$
Slope Efficiency	S_e	-	0.15	-	W/A	CW, $P_f = P_{op}$
Forward Voltage	V_f	-	-	2.5	V	CW, $P_f = P_{op}$
Peak Wavelength	λ_p	-	1550	-	nm	CW, $P_f = P_{op}$
Linewidth	$\Delta\lambda$	-	50	100	kHz	CW, $P_f = P_{op}$
Peak Wavelength Drift	$D\lambda$	-	-	-	nm/°C	CW, $P_f = P_{op}$
Side Mode Suppression Ratio	SMSR	35	-	-	dB	CW, $P_f = P_{op}$

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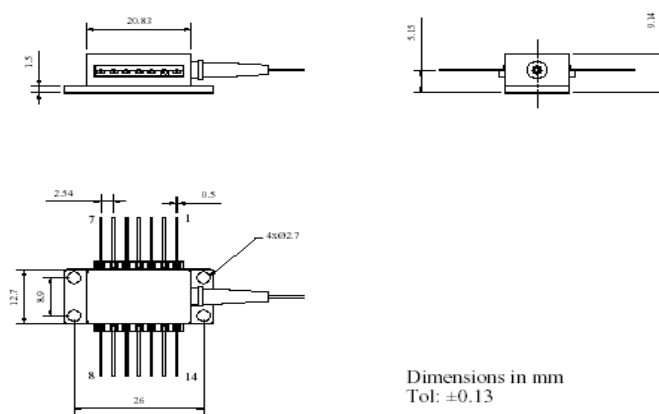
Product Specification, Revision 2.0

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Package Dimensions



14-Pin DIL Package



14-Pin BUT Package

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Pin Definition

14-pin DIL package				14-pin BUT package			
Pin	Function	Pin	Function	Pin	Function	Pin	Function
1	TEC(+)	8	PD(+)	1	Thermistor	8	NC
2	NC	9	LD(-)	2	Thermistor	9	NC
3	NC	10	Case	3	LD(-)	10	NC
4	NC	11	Thermistor	4	PD(+)	11	NC
5	LD(+)	12	Thermistor	5	PD(-)	12	LD (-)
6	NC	13	NC	6	TEC (+)	13	LD (+) Case GND
7	PD(-)	14	TEC (-)	7	TEC (-)	14	NC

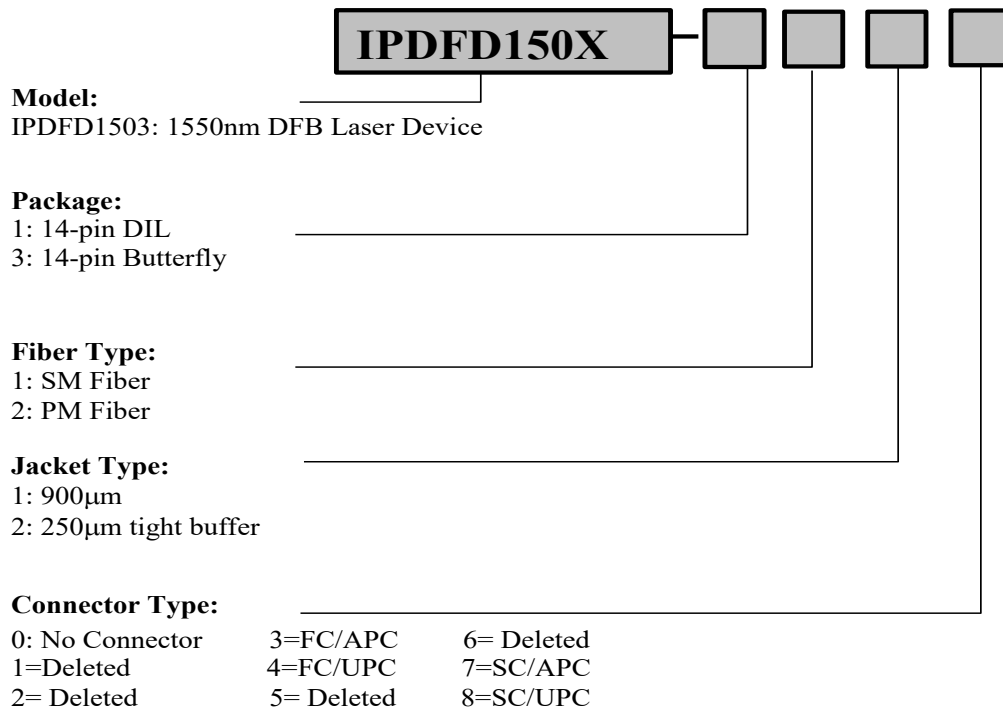
Absolute Maximum Ratings

Parameter	Min.	Max.	Unit
Operating Temperature	- 20	70	°C
Storage Temperature	- 40	85	°C
TEC Drive Current	-	1.5	A
TEC Drive Voltage	-	3.6	V
Maximum Current	350		mA
Thermistor Resistance	10kΩ @ 25°C		
SLD Chip Temperature Setting	25°C		
Fiber Type	SMF		
Fiber Jacket	900 μm or 250 μm tight buffer		
Package	14-pin DIL/14-pin BUT, Others available		

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Part Numbering Structure



Example: IPDFD1503-1110: 1550nm DFB LD in 14-pin DIL with 900 μ m SM fiber, without connector.

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