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16XXnm Distributed Feedback Laser diode Device

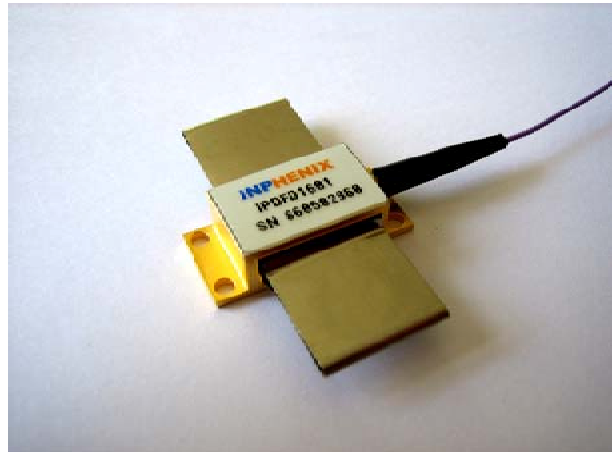
IPDFD16XX (1665/1653nm)

Features

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

Applications

- Fiber Optic Sensor
- Methane Sensor

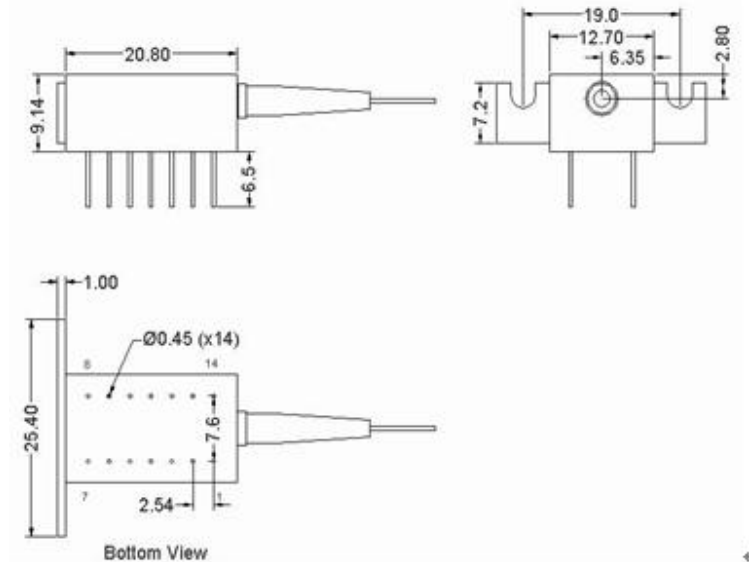


IPDFD16XX Distributed Feedback Laser Device Specifications

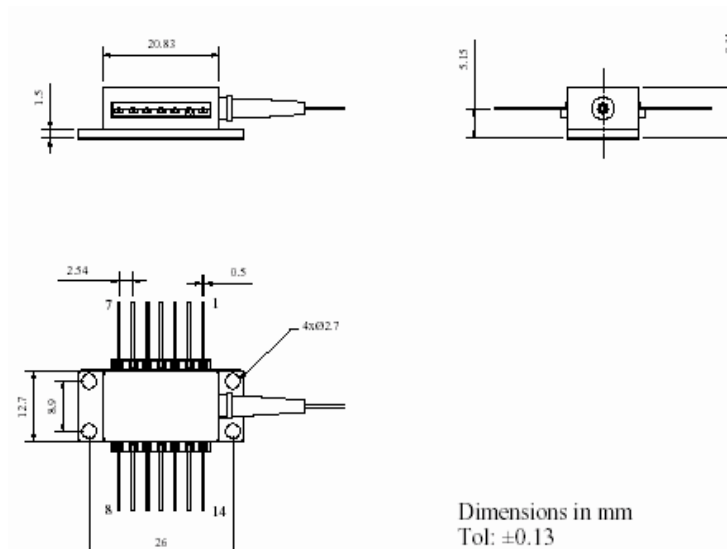
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold current	I_{th}	–	10	25	mA	CW
Operating current	I_{op}	–	–	80	mA	CW, $P_f = P_{op}$
Output power	P_{op}	3	5	–	mW	CW, $I = I_{op}$
Slope efficiency	S_e	0.15	0.23	–	W/A	CW, $P_f = P_{op}$
Forward voltage	V_f	–	–	2	V	CW, $P_f = P_{op}$
Peak Wavelength(IPDFD1601)	λ_p	1660	1665	1670	nm	CW, $P_f = P_{op}$
Peak Wavelength(IPDFD1602)		1650	1653	1660		
Spectral Width	$\Delta\lambda$	–	–	0.2	nm	CW, $P_f = P_{op}$, 20 dB down
Peak Wavelength Drift	$D\lambda$	–	–	0.14	nm/°C	CW, $P_f = P_{op}$
Side mode suppression ratio	SMSR	35	–	–	dB	CW, $P_f = P_{op}$

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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	case
5	LD(+)	12	Thermistor	5	PD(-)	12	LD(-)
6	NC	13	NC	6	TEC(+)	13	LD(+)
7	PD(-)	14	TEC(-)	7	TEC(-)	14	NC

Absolute Maximum Ratings

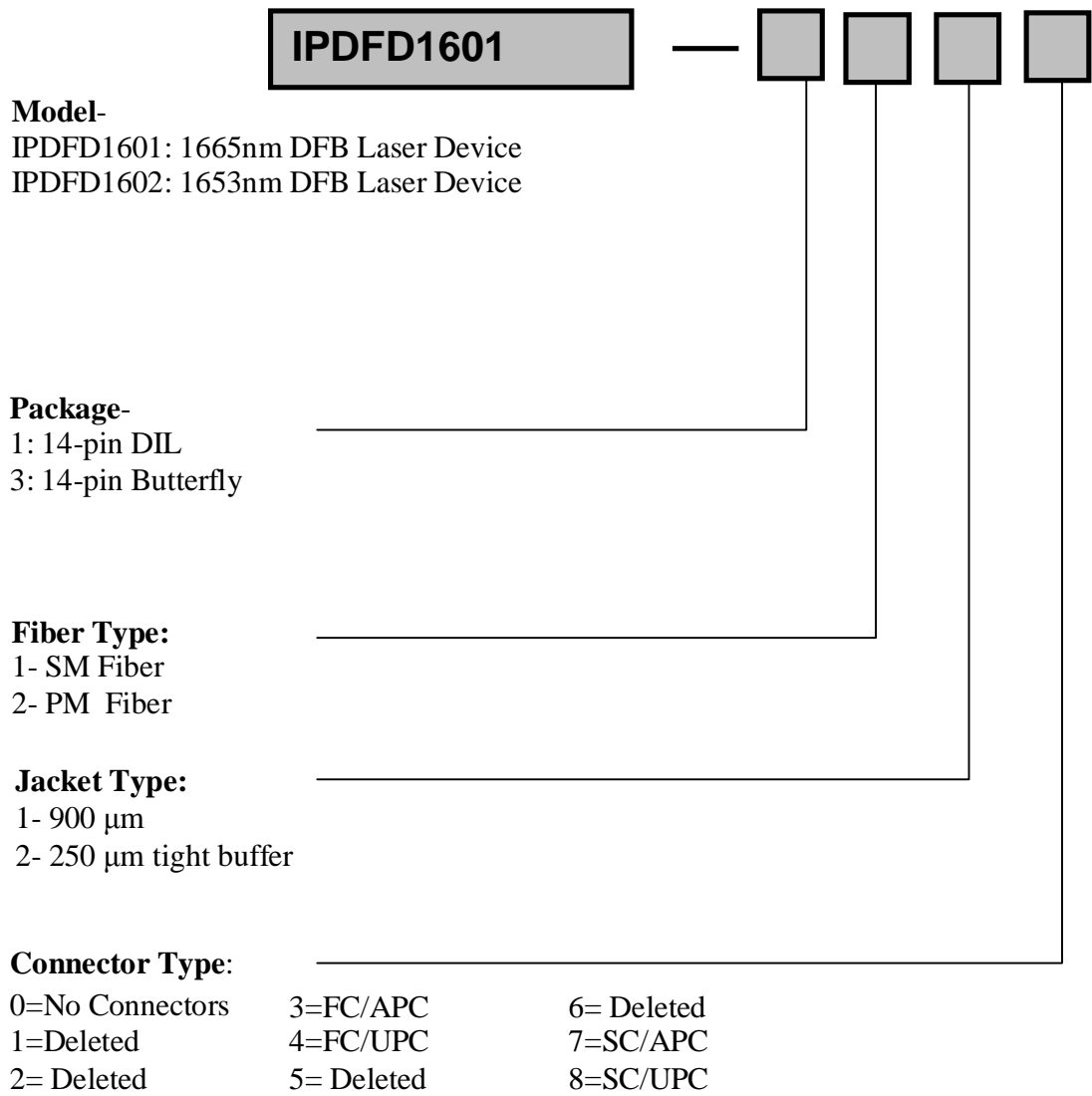
Parameter	Min.	Max.	Unit
Operating Temperature	-20	70	°C
Storage Temperature	-40	85	°C
TEC Drive Current		1.5	A
TEC Drive Voltage		3.6	V
Thermistor Resistance	10 k Ω @ 25 °C		
Laser Chip Temperature Setting	25 °C		
Fiber Type	SMF		
Fiber Jacket	900 μ m or 250 μ m tight buffer		
Package	14-pin DIL/14-pin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

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Part Numbering Structure



Example: IPDFD1602-1110: 1653nm DFB LD in 14-pin DIL with 900 μ m SM fiber, without connector.