



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

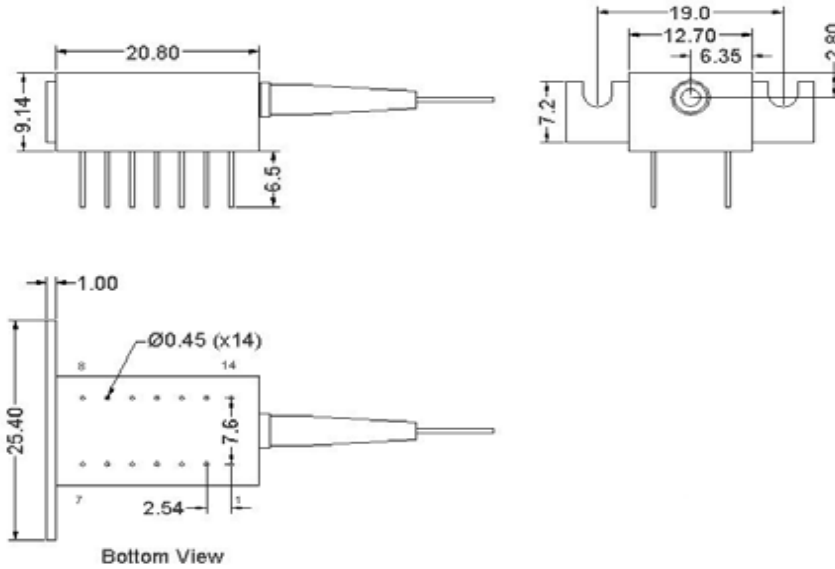


Device Specifications

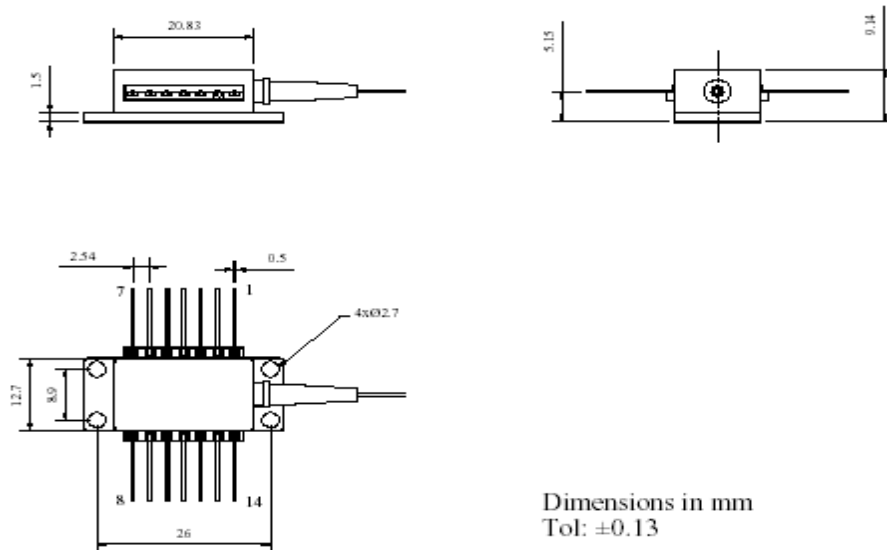
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Threshold Current	I_{th}	-	10	25	mA	CW
Operating Current	I_{op}	-	-	80	mA	CW, $P_f = P_{op}$
Output Power	P_{op}	3	5	-	mW	CW, $I = I_{op}$
Slope Efficiency	S_e	-	0.07	-	W/A	CW, $P_f = P_{op}$
Forward Voltage	V_f	-	-	2	V	CW, $P_f = P_{op}$
Peak Wavelength (IPDFD1601)	λ_p	1660	1665	1670	nm	CW, $P_f = P_{op}$
Peak Wavelength (IPDFD1602)	λ_p	1650	1653	1659	nm	CW, $P_f = P_{op}$
Spectral Width	$\Delta\lambda$	-	-	0.2	nm	CW, $P_f = P_{op}$
Peak Wavelength Drift	$D\lambda$	-	-	0.14	nm/°C	CW, $P_f = P_{op}$
Side Mode Suppression Ratio	SMSR	35	-	-	dB	CW, $P_f = P_{op}$



Package Dimensions



14-Pin DIL Package



Dimensions in mm
Tol: ± 0.13

14-Pin BUT Package



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
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		

INPHENIX

Part Numbering Structure



Model:

IPDFD1601: 1665nm DFB Laser Device
 IPDFD1602: 1653nm DFB Laser Device

Package:

1: 14-pin DIL
 3: 14-pin Butterfly

Fiber Type:

1: SM Fiber
 2: PM Fiber

Jacket Type:

1: 900µm
 2: 250µm tight buffer

Connector Type:

0: No Connector	3=FC/APC	6= Deleted
1=Deleted	4=FC/UPC	7=SC/APC
2= Deleted	5= Deleted	8=SC/UPC

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

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