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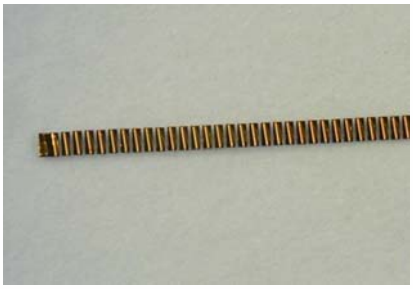
Optoelectronic Chips

Uncooled Fabry-Perot Laser Diode Chips

IPFPC130X / IPFPC150X (1310 nm/1550nm)

Feature



- Multiple Quantum Well (MQW) Active Layer Structure
- Low Threshold and Operating Current
- High Modulation Speed, up to 2.5 Gb/s
- Wide Operational Temperature Range
- Chip, and Chip on Carrier are Available

Applications

- Optical Transmission
- Data Communication
- Local Optical Network
- FTTH (Fiber to the Home)

IPFPC1301 -Uncooled 1310nm FP Laser Diode Chip Specifications @(T_{chip}=25°C)

Parameters	Specifications									Units	Conditions
	IPFPC1301			IPFPC1302			IPFPC1303				
	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
Peak Wavelength λ	1290	1310	1330	1290	1310	1330	1290	1310	1330	nm	CW, Po=5mW
Threshold Current Ith		8	12		11	15		8	12	mA	CW
Operating Current Iop			35			45			35	mA	CW, Po=5mW
Slope Efficiency η	0.3	0.4	-	0.25	0.35	-	0.3	0.4	-	mW/mA	CW, Po=5mW
Spectral Width Δλ	-	1.2	2	-	1.2	2	-	1.2	2	nm	CW, Po=5mW
Beam Divergence θ∥			30			30			20	Deg.	CW, Po=5mW
Beam Divergence θ⊥			40			40			20	Deg.	CW, Po=5mW
Operating Voltage	-	1.1	1.6	-	1.1	1.6	-	1.1	1.6	V	CW, Po=5mW

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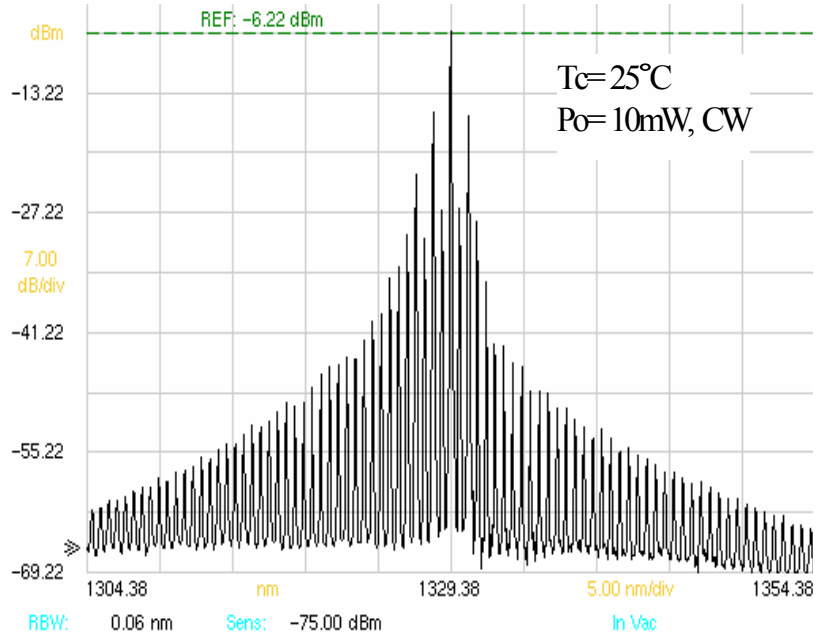

Fig.1 1310nm FP Laser Spectrum

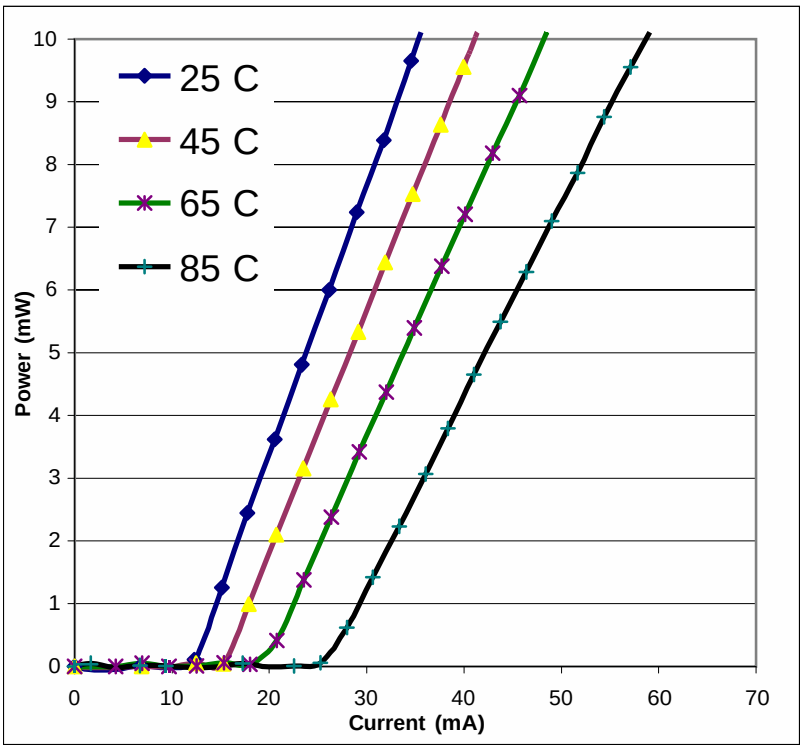

Fig.2 1310nm Laser Light output vs. forward current

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IPFPC1501 Uncooled 1550 nm FP Laser Diode Chip Specifications@ (T_{chip}=25°C)

Parameter	Specifications				Conditions
	Min.	Typ.	Max.	Units	
Peak Wavelength λ	1520	1550	1570	nm	CW, Po=8mW
Threshold Current Ith		12	18	mA	CW
Operating Current Iop			45	mA	CW, Po=8mW
Slope Efficiency η	0.22	0.26	-	mW/mA	CW, Po=8mW
Spectral Width Δλ	-	1.2	2	nm	CW, Po=8mW
Beam Divergence θ∥			30	Deg.	CW, Po=8mW
Beam Divergence θ⊥			40	Deg.	CW, Po=8mW
Operating Voltage	-	1.1	1.6	V	CW, Po=8mW

Absolute Maximum Ratings

Parameter	Maximum Ratings	Units	Conditions
Operating Temperature	-40 ~ +85	°C	-
Storage Temperature	-40 ~ +100	°C	-

Part Numbering Structure

IPFPC1301

Model-
IPFPC1301: 1310nm FP laser chip
IPFPC1302: 1310nm FP laser chip
IPFPC1303: 1310nm FP laser chip with SSC
IPFPC1501: 1550nm FP laser chip

Assembly Options-

- Bare type
- Chip On Carrier
- Chip On Submount

Example: IPFPC1301: 1310 nm FP laser chip.

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