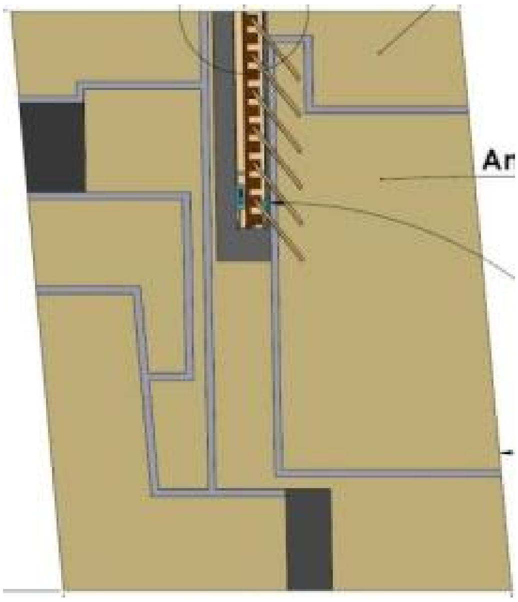
1320nm High-Temperature High-Power DFB Chip 250mW



Product Description

The 1320nm high-temperature high-power DFB laser chip is suitable for operation in high-temperature environments, offering advantages such as ultra-low RIN noise and high output optical power. The output power can reach up to 250mW. Wavelength customization services are available based on customer requirements.

Product features

High power and high temperature design、 No mode hopping over a wide temperature and current range、 Low beam divergence angle、 Low RIN (Relative Intensity Noise)、 High feedback tolerance

Part Number

MP-DFB-1320-250-CoC

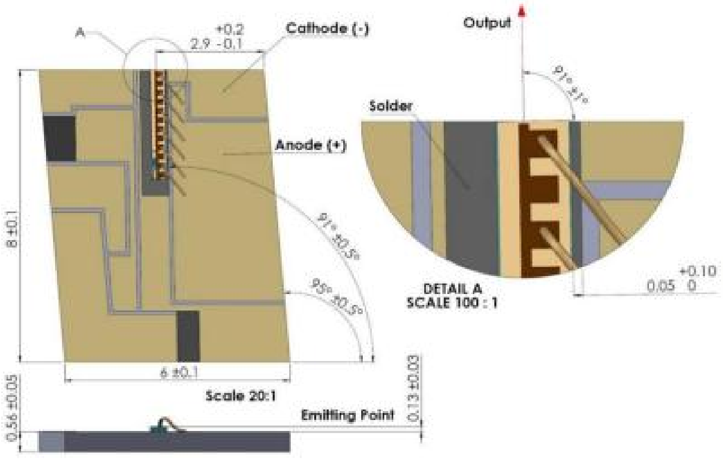
Application area

Optical Transceiver、 Data Center

Core parameters

Wavelength	Output Power
1320nm	250mW

Dimension Drawing



General Parameters

Parameters

Recommended Operating Conditions				
Parameter	Min Value	Typ. Value	Max Value	Unit
Chip Temperature	65	85	105	°C
Forward Current		800	900	mA
Output Power	20		250	mW

Basic Parameters Tested for Each Sample @ CW, 85°C, 800mA				
Parameter	Min Value	Typ. Value	Max Value	Unit
Output Power @ 900mA	250			mW
Forward Voltage		1.5	3	V
Threshold Current		100	130	mA
Power Conversion Efficiency		18		%
Peak Wavelength*	1315	1320	1325	nm
Wavelength Temperature Tuning Coefficient		90		pm/℃
Wavelength Current Tuning Coefficient		2.9		pm/mA
Side Mode Suppression Ratio (SMSR)	40	45		dB
Slow Axis Beam Divergence Angle (FWHM)	7	8	9	deg
Fast Axis Beam Divergence Angle (FWHM)	33	35	37	deg

Polarization Extinction Ratio (PER)	15	20		dB
Polarization		TE		

* Wavelengths in the range of 1270-1330nm can be provided upon request.

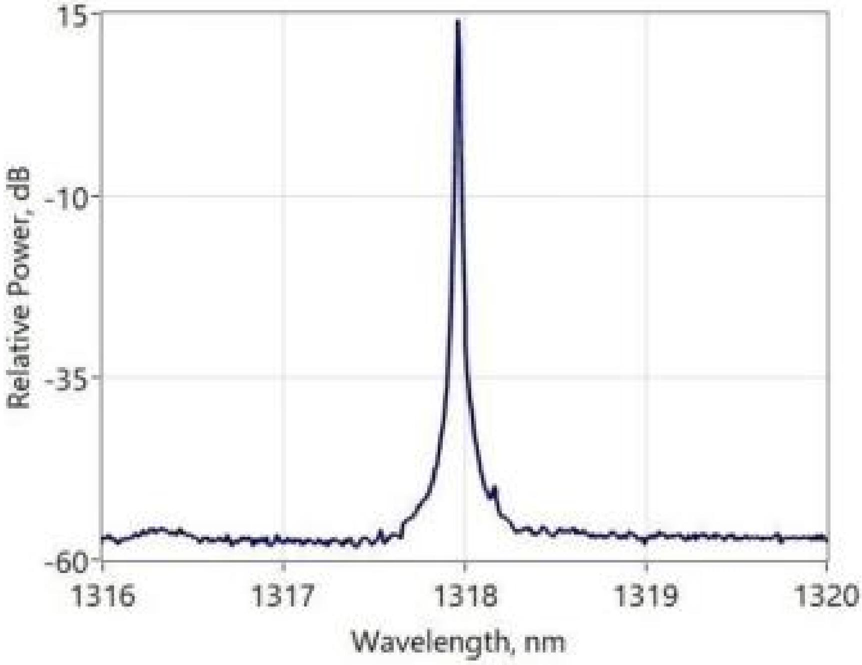
Noise Characteristics (Conditions @ CW, 85°C, 800mA)				
Parameter	Min Value	Typ. Value	Max Value	Unit
Linewidth (Self-Heterodyne @ 80MHz)		1	5	MHz
Relative Intensity Noise (RIN)			-140	dB/Hz
Feedback Sensitivity (optical)			-30	dB

* Average value, measurement range from DC-10GHz

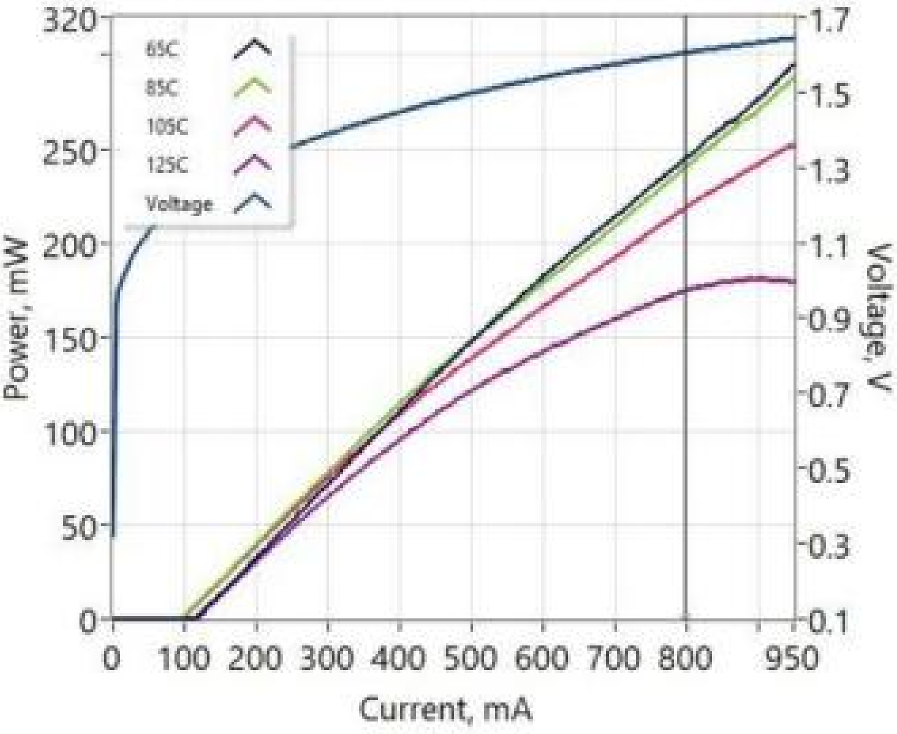
** Single-line spectrum and RIN <-140 dB/Hz

Chip Parameters				
Parameter	Min Value	Typ. Value	Max Value	Unit
Chip Length		3		mm
Front-End Back Reflection		0.01	0.1	%
Back-End Back Reflection	90	99		%

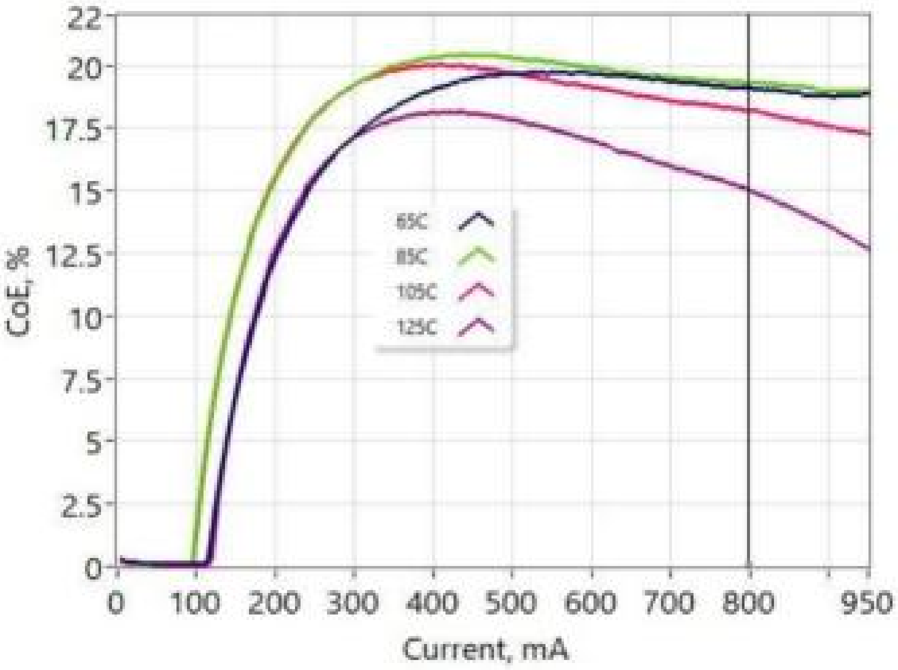
Spectrum



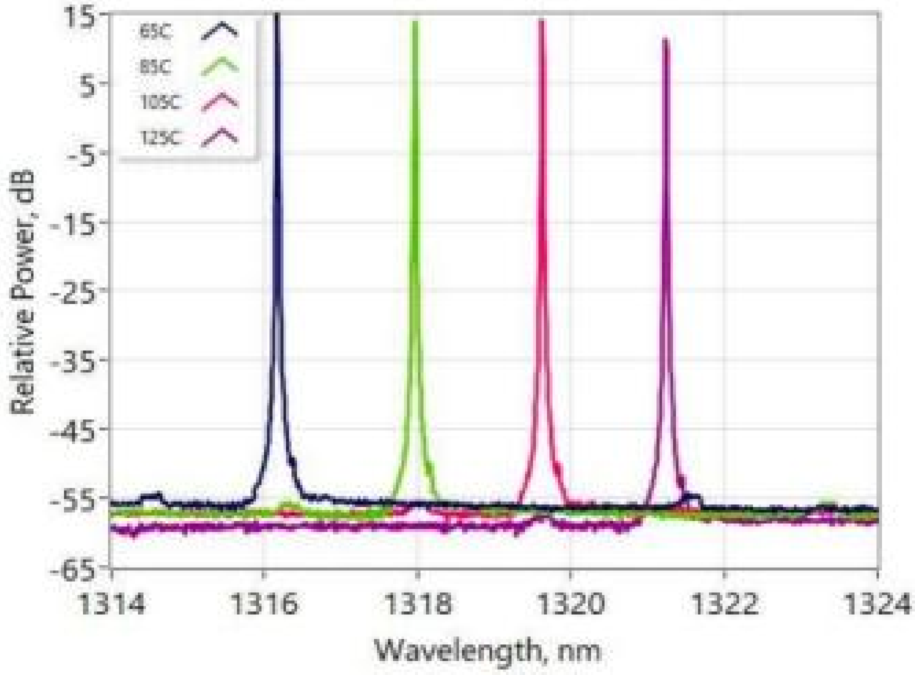
Optoelectronic Current-Voltage-Power Characteristics



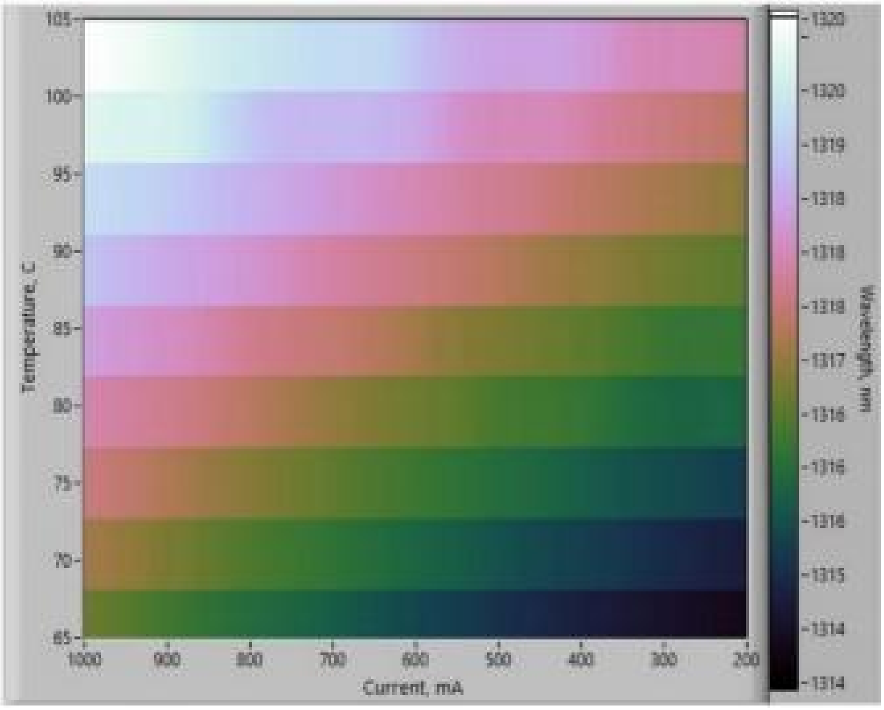
Power Conversion Efficiency



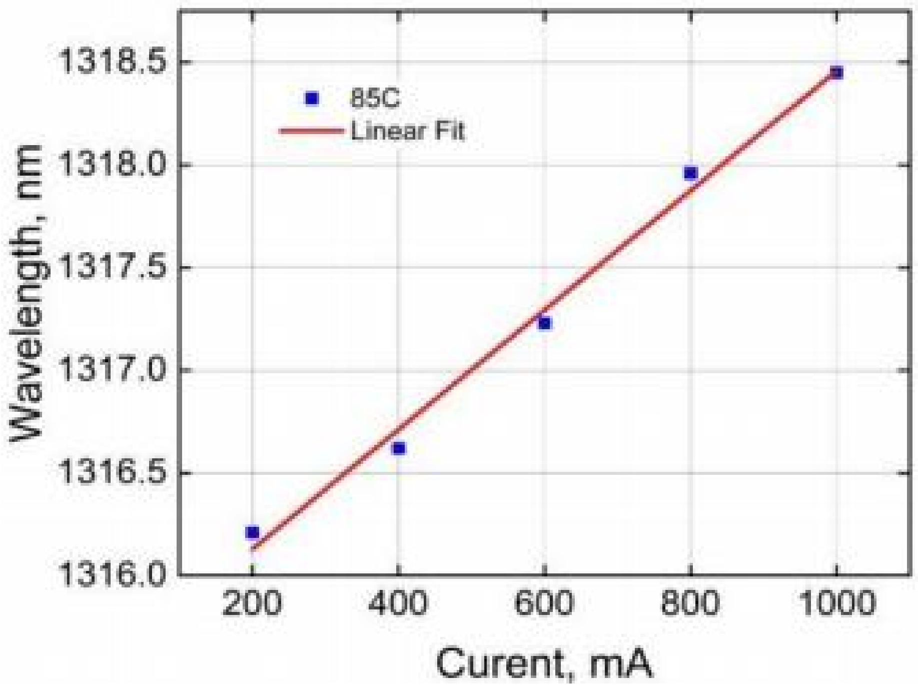
Spectral (resolution 10 pm)



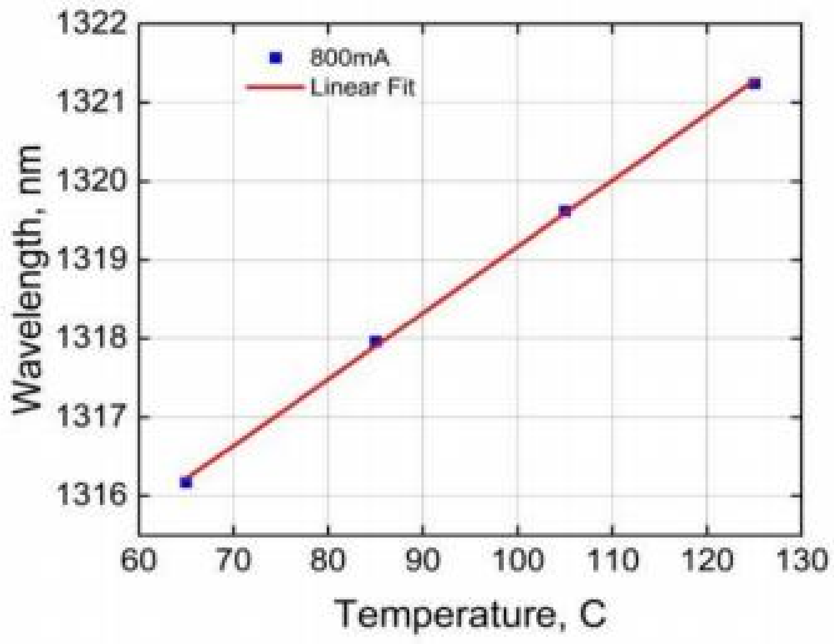
Peak Wavelength Chart



Wavelength-Current Tuning Curve



Wavelength-Temperature Tuning Curve



Absolute Maximum Ratings

Parameters	Min	Max	Unit
Forward Current		950	mA
Reverse Voltage		1	V
Operating Temperature	5	125	°C
Soldering Temperature (max 5 sec)		250	°C
Storage Temperature (in original sealed package)	-40	85	°C