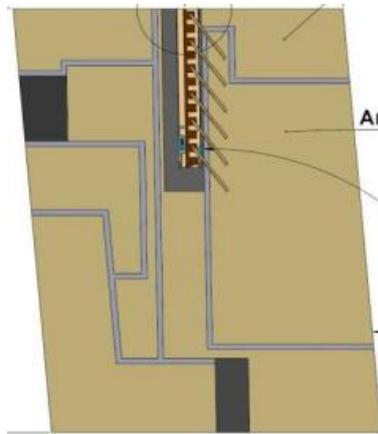


## 1320nm High-Temperature High-Power DFB

### 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

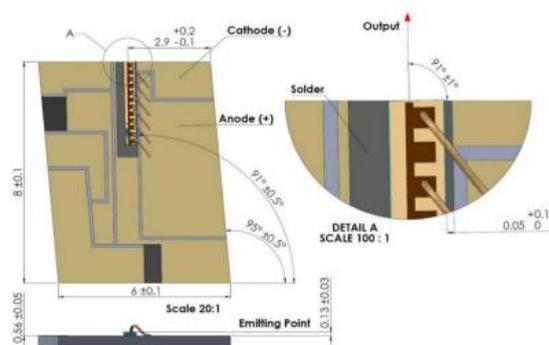
## ● Application area

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/°C
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



<b>Fast Axis Beam Divergence Angle (FWHM)</b>	<b>33</b>	<b>35</b>	<b>37</b>	<b>deg</b>
<b>Polarization Extinction Ratio (PER)</b>	<b>15</b>	<b>20</b>		<b>dB</b>
<b>Polarization</b>		<b>TE</b>		

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

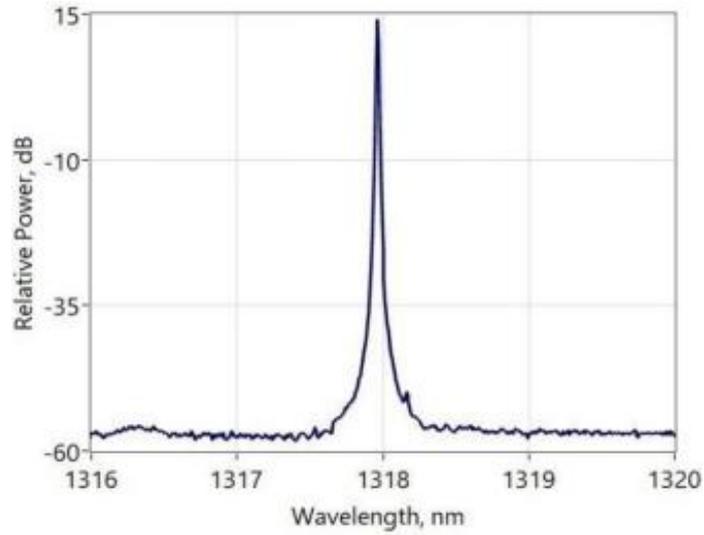
<b>Noise Characteristics (Conditions @ CW, 85°C, 800mA)</b>				
<b>Parameter</b>	<b>Min Value</b>	<b>Typ. Value</b>	<b>Max Value</b>	<b>Unit</b>
<b>Linewidth (Self-Heterodyne @ 80MHz)</b>		<b>1</b>	<b>5</b>	<b>MHz</b>
<b>Relative Intensity Noise (RIN)</b>			<b>-140</b>	<b>dB/Hz</b>
<b>Feedback Sensitivity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

\* Average value, measurement range from DC-10GHz

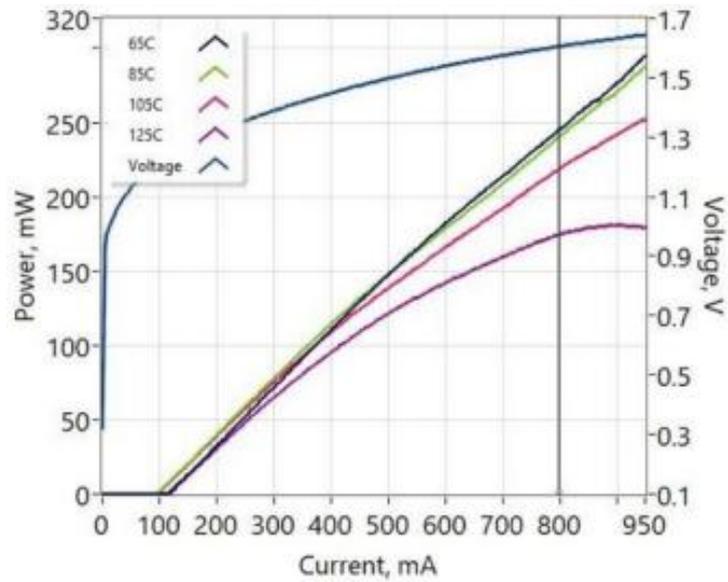
\*\* Single-line spectrum and RIN <-140 dB/Hz

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

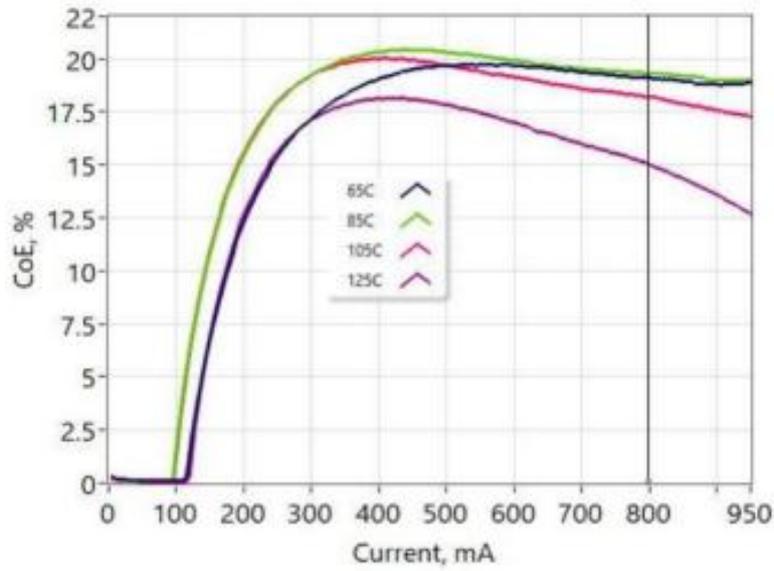
### Spectrum



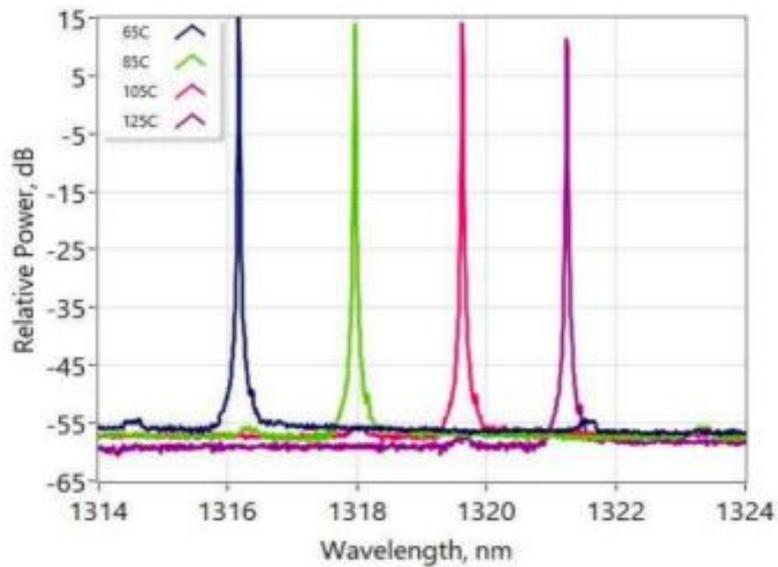
### Optoelectronic Current-Voltage-Power Characteristics



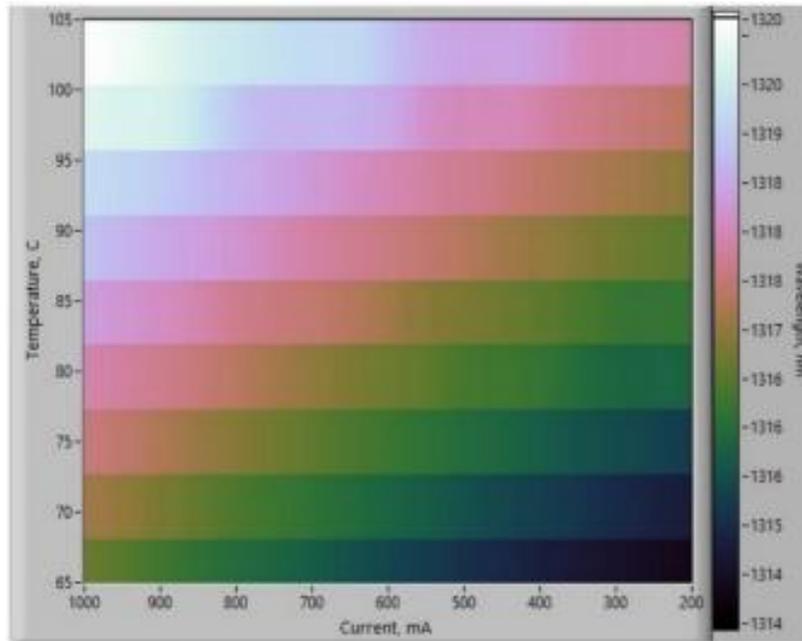
### Power Conversion Efficiency



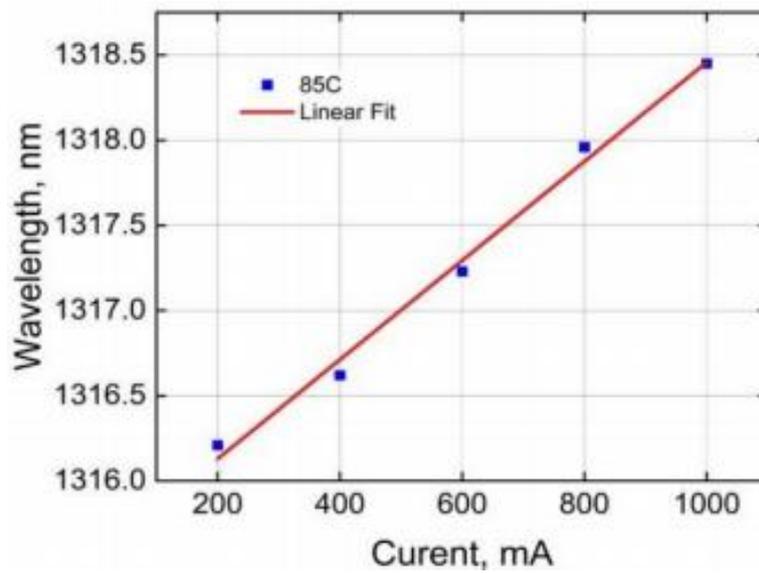
### Spectral (resolution 10 pm)



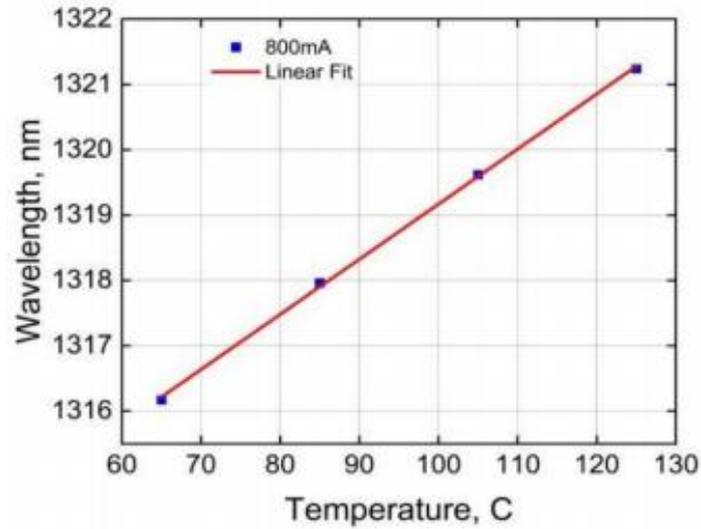
### Peak Wavelength Chart



### 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