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# SE 635

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## DFB LASER DIODE MODULE

Wavelength selection

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### DESCRIPTION

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The SE635 DFB is a family of Laser Diode module in a 14 pin package.

SE 635 contains a DFB chip assembled on a TEC-cooler with a monitoring PIN photodiode and coupled into a single mode fiber. This coupling is made through a tilted fiber to limit the feedback reflections into the DFB.

DFB Laser Diodes are tuned to the specific wavelength corresponding to the Gas of particular interest.

Accurate single mode fiber optical coupling allows stable optical output power. An Optical Isolator can be inserted for highly sensitive detection.

Full MOCVD process for the laser diode and a strong package expertise gives highly reliable laser diode modules.



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### MAIN FEATURES

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- Single mode fiber coupled devices
- Over 1mW CW optical power
- 1.3 $\mu$ m to 1.8 $\mu$ m wavelength coverage
- Accurate wavelength selection ( $\pm$  2nm)
- PIN photodiode for monitoring
- Optical isolator (option)
- Highly reliable MOCVD process

## SPECIFICATIONS

Temperature: 25°C

PARAMETERS	Min.	Typ.	Max.	UNITS
Thermistor (@ 25°C)		10		kΩ
Thermistor coefficient		4		% / °C
TE Cooler : -current - voltage			1 2	A V
Average optical power		0.5		mW
Slope efficiency (@ 500μW)	9	15		μW / mA
Threshold current	20	30	40	mA
Forward voltage		1.2	1.5	V
Serial resistance		3	10	Ohm
Wavelength		on request		nm
Spectral width (-3dB)			0.4	nm
Side mode suppression	30			dB
Temperature drift		1		A° / °C
Current drift		0.1		A° / mA
Monitoring photocurrent		450		μA
Monitoring frequency response (R1=50 Ω)	100			MHz
Relative Intensity Noise (optical reflection < 25 dB)			-120	dB / Hz

### Note:

- More standard wavelengths: 1512nm, 1564nm, 1600nm, 1740nm
- Other wavelengths can be realized on request
- Standard wavelength accuracy is +/- 2nm
- Optical isolator can be inserted on request

## ABSOLUTE MAXIMUM RATINGS

PARAMETERS	Min.	Typ.	Max.	UNITS
Case Temperature range	-20		+60	°C
Storage Temperature	-40		+85	°C

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