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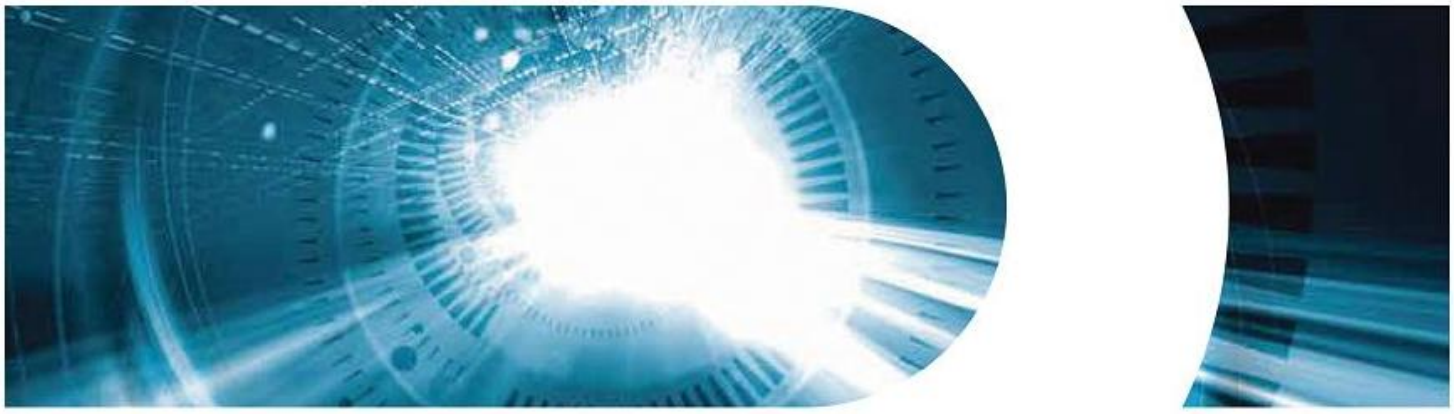


Active Components
Laser Chips on Submount

1999LCV2

1150 mW Kink-Free, 980nm Pump Laser Chip on Submount

Key Features

- Up to 940 mW operating power
- Wavelength range: 970-985nm
- Beam divergence: 6° x 19°
- Telcordia GR-468-CORE qualified
- RoHS compliant

The 1999LCV2 is a high performance chip on AlN submount (CoS) that contains a qualified AlGaAs/GaAs/GaInAs quantum well laser diode.

The Metal Organic Vapor Phase Deposition (MOVPE) strained layer quantum well (SLQW) vertical structure is performed on 3” GaAs substrates whereas facet coatings are made on bars.

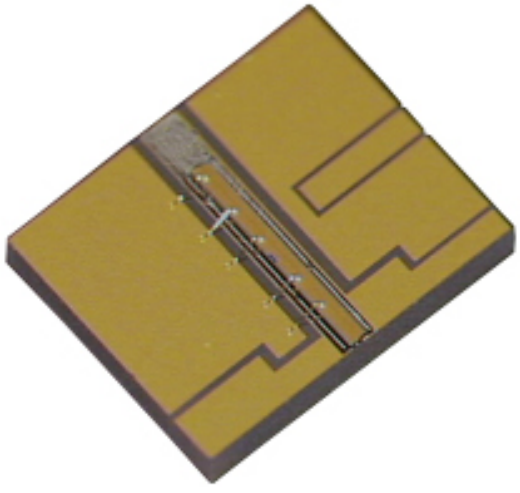
With its low beam divergence, the 1999LCV2 can be easily coupled to a single mode fiber (SMF).

The stringent reliability requirements are achieved through our patent pending innovative technology.

Qualification contains a set of optoelectronic, thermal and mechanical tests. Each laser chip is individually serialized for traceability with a specific set of test data.

The CoS meets the Telcordia™ GR-468-Core requirements.

The 1999LCV2 is available with an operating power up to 940 mW.



For more Info

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Laser 1999LCV2

Chip on Submount

1150 mW Kink-Free, 980 nm Pump Laser

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ELECTRO-OPTICAL **CHARACTERISTICS**

The following parameters are specified BOL at 25 °C for chips mounted p-up on AIN carrier.

Parameters	Conditions	Symbol	Min	Typ	Max	Unit
Threshold current	Linear fit between 6 and 20mW	Ith	-	-	80	mA
Forward voltage	800mA	Vf 800	-	1,55	1,6	V
Operating current	Operating temp = 25°C	Iop	-	-	1200	mA
Optical output power	800mA	Pf 800	630	-	-	mW
	1200mA	Pf 1200	940	-	-	mW
Kink free optical output power	Determined from L-I	P_{KF}	1150	-	-	mW
Peak wavelength	800mA	λpeak	970		985	nm
Main peak spectral width	800mA – half height	λwidth	-	3,5	-	nm
Front facet reflectivity **	966-990nm	-	0,55	1	1,6	%
Back facet reflectivity **	966-990nm	-	93	95	97	%
Polarization extinction ratio TE/TM	800mA	PER	20	-	-	dB
Parallel beam divergence	800mA, FWHM	θ //	4.5	6	7.5	°
Perpendicular beam divergence	800mA, FWHM	θ⊥	17	19	21	°
Spectral shift with current		λI shift	-	0,01	-	nm/mA
Spectral shift with temperature		λT shift	-	0,3	-	nm/K

* Customized AR and HR reflectivity can be proposed upon request

ABSOLUTE MAXIMUM **RATINGS**

Parameters	Conditions	Symbol	Min	Max	Unit
Storage temperature	2000h	T_{stg}	-40	85	°C
Operating temperature		T_{op}	-5	75	°C
LD forward drive current	1 sec. max	I_{f_max}	-	1500	mA
LD reverse voltage		V_{r_max}	-	2.0	V
ESD damage	Human Body model, C = 100 pF, R = 1.5 Ω	V_{ESD}	-	1000	V

Laser 1999LCV2

Chip on Submount

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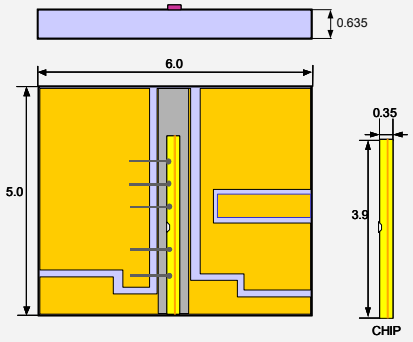
MECHANICAL **CHARACTERISTICS**

Parameters	Min	Typ	Max	Unit
Chip length	3.880	3.900	3.950	mm
Chip width	0.320	0.350	0.380	mm
Chip thickness	0.065	0.090	0.110	mm
AlN submount length	4.950	5.000	5.050	mm
AlN submount width	5.950	6.000	6.050	mm
AlN submount thickness	0.610	0.635	0.660	mm



LASER SAFETY **INFORMATION**

This laser chip emits invisible light. Take appropriate precautions to prevent undue exposure to naked eye when module is in operation. This product is classified Class 4 Laser Product according to IEC-60825-1.

HANDLING

This product is sensitive to electrostatic discharge and should not be handled except at a static free workstation.

Take precautions to prevent ESD; use wrist straps, grounded work surfaces and recognized anti-static techniques when handling the product.

Care should be taken to avoid supply transient currents and voltages. Drive voltage above the maximum specified in absolute maximum rating section may cause permanent damage to the device.

ORDERING **INFORMATION**

PRODUCT FAMILY: 1999LCV2 LASER CHIP ON SUBMOUNT

Part Number	Pump application Wavelength (for indication, depending on FBG design)
40004791	974.5 nm
40805202	976.0 nm
40004793	977.6 nm
3CN20799FA	979.5 nm
3CN20828FA	980.0 nm
3CN20821FA	981.0 nm

3SP Technologies can also develop custom products to meet a wide range of technical requirements. Please contact your Sales Manager for details.

CONTACT **INFORMATION**

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IMPORTANT **NOTICE**

Information in this document is typical and must be specifically confirmed in writing by your supplier before it becomes applicable to any order or contract.

Information is subject to change without notice.

NOTES

3S PHOTONICS