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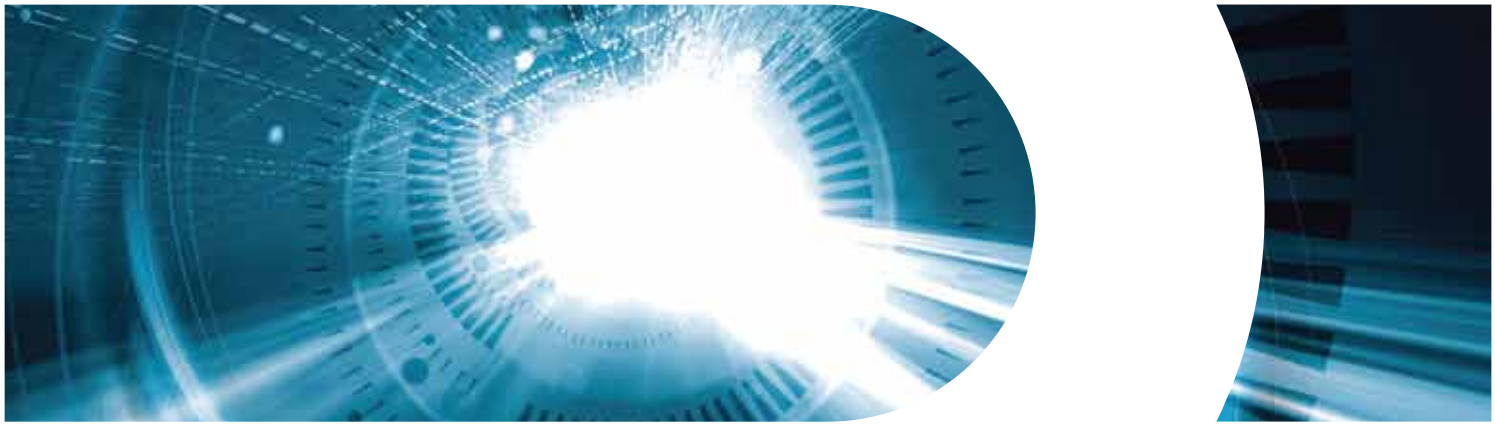


Laser Chip

Key Features

- Wavelength 970-985nm
- Beam Divergence 6° x 18°
- Kink-free power 1000mW
- Submarine operation
- Telcordia GR-468-CORE
- RoHS 6/6

Applications

- Low noise broadband EDFA
- Direct Diode Frequency Doubling
- Laser seeding

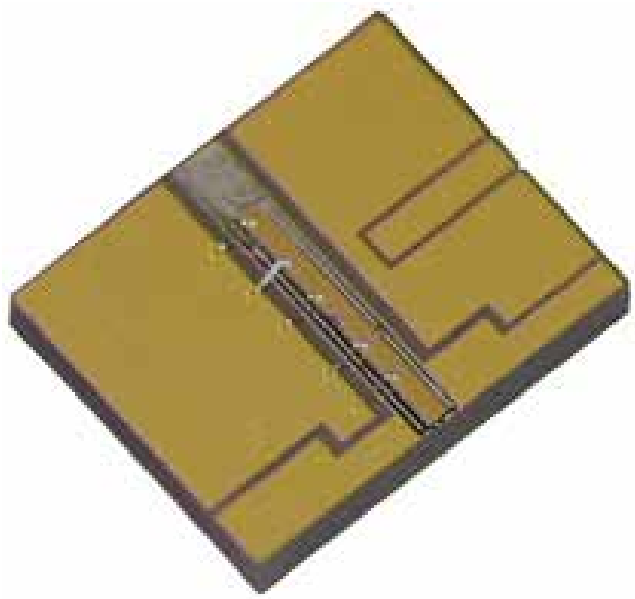
1999 LCv2 CoS

980nm Pump Laser Chip On Submount

1999 LCv2 chip on submount contains a submarine qualified AlGaAs/GaAs/GaInAs quantum well high performance pump laser chip. With its low beam divergence, the 1999 LCv2 chip on submount can be easily coupled to a single mode fiber (SMF).

It has been designed for application in low noise broadband Erbium Doped Fiber Amplifiers (EDFA). The stringent reliability requirements are achieved through our innovative manufacturing 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.



For more Info

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1999 LCv2 CoS

980nm Pump Laser Chip On Submount

ELECTRO-OPTICAL **CHARACTERISTICS**

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

Parameters	Test conditions	Symb	Min	Typ	Max	Units
Threshold current	25°C	I_{th}			80	mA
Forward voltage	800mA	$V_{op}800$		1,55	1,6	V
Operating optical power	800mA	$P_{op}800$	630			mW
	1200mA	$P_{op}1200$	920		-	
Kink free optical output power	Determined from L-I	P_{KF}	1000	-	-	mW
Peak wavelength	25°C, Iop	λ_{peak}	970		985	nm
Spectral width	25°C, Iop	λ_{rms}		3,5		nm
Front facet reflectivity	966-990nm	-	-	1**	-	%
Back facet reflectivity	966-990nm	-	-	95**	-	%
Polarization extinction ratio TE/TM	Chip FF emission		20	-	-	dB
Parallel beam divergence	800mA, FWHM	θ~	6	7	8.5	°
Perpendicular beam divergence	800mA, FWHM	θ⊥	16	18	20	°
Spectral shift with current		$\lambda_{I\ shift}$		0,01		nm/mA
Spectral shift with temperature		$\lambda_{T\ shift}$		0,3		nm/K

* End of Life (EOL) criteria: If EOL= IfBOL+10% (BOL= Beginning of Life)
** Customized AR and HR reflectivity can be proposed upon request

Absolute Maximum **Ratings**

Exposing the device to stresses above those listed in this section could cause permanent damage. The device is not meant to operate under conditions outside the operational limits described in subsequent sections. Exposure to absolute maximum rating conditions for extended periods may adversely affect device reliability.

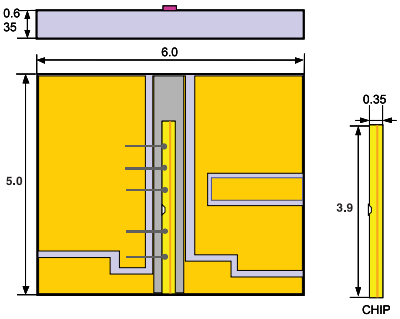
Parameter Conditions	Symbol	Min	Max	Unit
Storage temperature	T_{stg}	-40	85	°C
Operating temperature	T_{op}	0	75	°C
LD forward drive current (1s max)	I_{f_max}, 25°C	-	800	mA
LD reverse voltage	V_{r_max}	-	2	V
ESD*	V_{ESD}	-	1000	V

* Human Body model

Mechanical **Details**

Parameters	Min	Typ	Max	Unit
Chip length		-	3,9	mm
Chip width		-	0,350	mm
Chip thickness	0,08	-	0,10	mm
AlN carrier length	-	5	-	mm
AlN carrier width	-	6	-	mm
AlN carrier thickness	-	0,635	-	mm

CHIP ON SUBMOUNT DIMENSIONS (mm)



Qualification & **Reliability**

The 1999 LCv2 Chip on Submount is qualified based on Telcordia GR-468-Core recommendations.

Kokyo 株式会社光響
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1999 LCv2 CoS

980nm Pump Laser Chip On Submount

Laser Safety **Information**

Take appropriate precautions to prevent undue exposure to naked eye. This product is classified Class 4 Laser Product according to IEC-825-1.

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 and over voltage. Over voltage above the maximum specified in absolute maximum rating section may cause permanent damage to the device.

Ordering **Information**

1999 LCv2 Laser chip on submount

Product Family: 1999LC
Part Number: 40004791/93 (TBC)

Revised March 2012

Please note: 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.
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ORDERING **INFO**

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

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