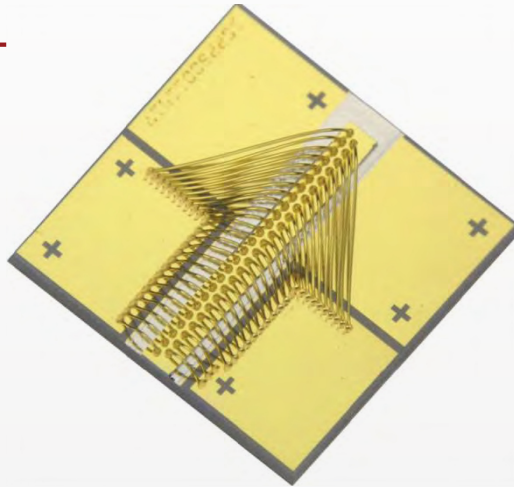


II-VI




SES4-808A/B/C-01 4W 808nm 90 μ m High Power Single Emitter Laser Diode on Submount

The II-VI SES4-808A/B/C-01 single emitter laser diode has been designed to provide the high output power, high coupling efficiency and high reliability required for both solid-state laser pumping and direct laser applications.

The proprietary E2 front mirror passivation process, developed at our Zurich site, prevents Catastrophic Optical Damage (COD) to the laser diode facet even at extremely high output powers. The single emitter laser diodes are p-side down mounted on an optimized submount providing very low thermal resistance.

Features:

- 3.6mm x 0.4mm laser diode
- 90 μ m wide emitter
- 4W operating power (p-side down mounted)
- Highly reliable single quantum well MBE structure
- RoHS compliant 

Applications:

- Solid-state laser pumping
- Medical
- Analytical
- Printing



4W 808nm 90µm High Power Single Emitter Laser Diode on Submount

Characteristics

Parameters at 25°C

Parameter	Symbol	Typ	Unit
CW Output Power	P_{op}	4	W
Center Wavelength ¹			
SES4-808A-01	λ_{cA}	806 ± 3	nm
SES4-808B-01	λ_{cB}	803 ± 3	
SES4-808C-01	λ_{cC}	808 ± 2.5	
Spectral Width (FWHM)	$\Delta\lambda$	2	nm
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	0.3	nm/°C
Beam Divergence (FWHM)			
Parallel to Junction	$\theta_{//}$	6	deg
Perpendicular to Junction	θ_{\perp}	27	
Polarization	–	TE	–
Threshold Current	I_{th}	600	mA
Slope Efficiency	$\eta_D = P_{op}/(I_{op} - I_{th})$	1.1	W/A
Conversion Efficiency	$H = P_{op}/(V_{op} \times I_{op})$	50	%
Series Resistance	R_s	0.03	Ω
Operating Current	I_{op}	4	A
Operating Voltage	V_{op}	1.9	V

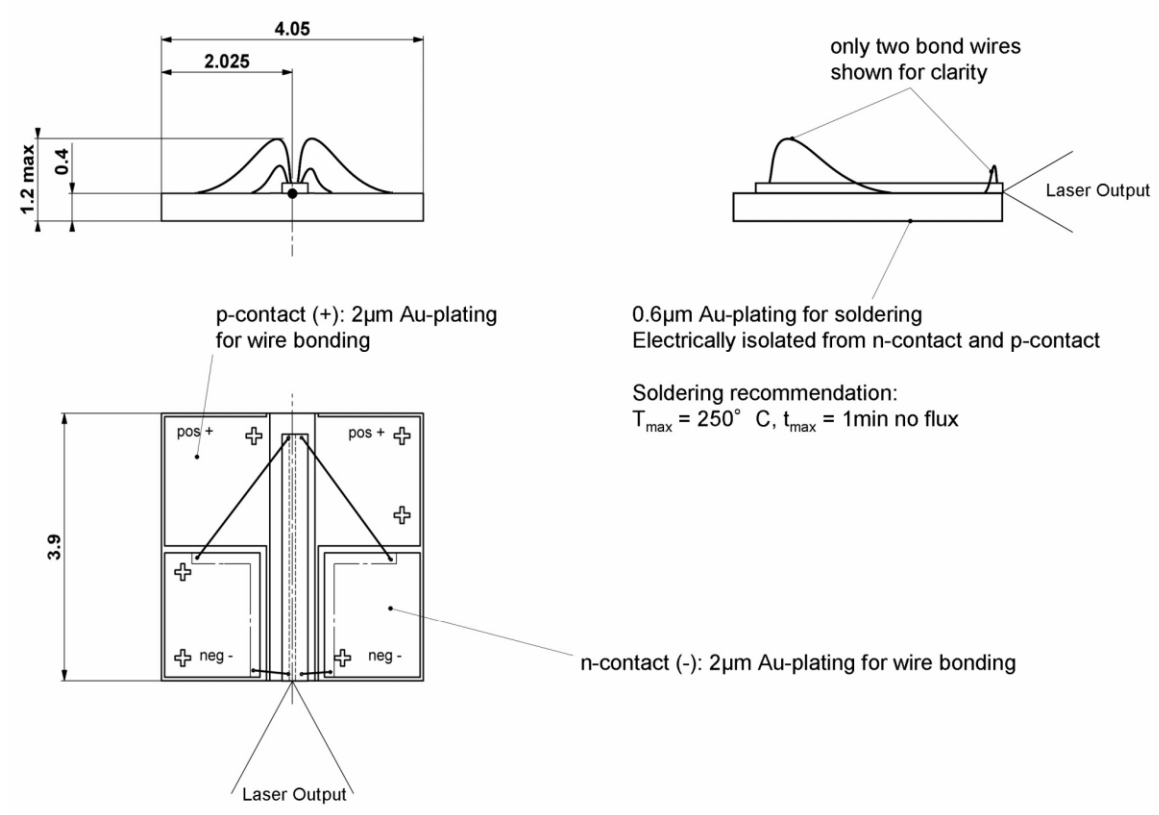
¹ Reduced wavelength window available on request.

Chip Dimensions

Parameter	Symbol	Typ	Unit
Chip Width	b	400	µm
Resonator Length	l	3600	µm
Chip Thickness	d	150	µm
Emitter Width	w	90	µm

4W 808nm 90μm High Power Single Emitter Laser Diode on Submount

Package Dimensions (mm)



4W 808nm 90µm High Power Single Emitter Laser Diode on Submount

RoHS Compliance

II-VI is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

Ordering Information

SES4-808A-01	4W 806 ± 3 nm Single Emitter Laser Diode on Submount
SES4-808B-01	4W 803 ± 3 nm Single Emitter Laser Diode on Submount
SES4-808C-01	4W 808 ± 2.5 nm Single Emitter Laser Diode on Submount

Important Notice

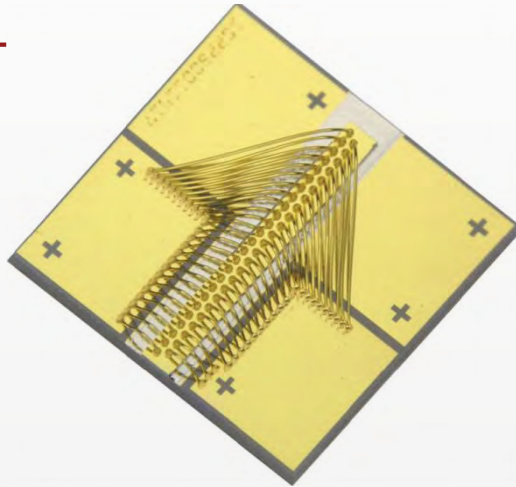
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Safety Labels



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

II-VI




SES8-808A/B/C-01 8W 808nm 190 μ m High Power Single Emitter Laser Diode on Submount

The II-VI SES8-808A/B/C-01 single emitter laser diode has been designed to provide the high output power, high coupling efficiency and high reliability required for both solid-state laser pumping and direct laser applications.

The proprietary E2 front mirror passivation process, developed at our Zurich site, prevents Catastrophic Optical Damage (COD) to the laser diode facet even at extremely high output powers. The single emitter laser diodes are p-side down mounted on an optimized submount providing very low thermal resistance.

Features:

- 3.6mm x 0.5mm laser diode
- 190 μ m wide emitter
- 8W operating power (p-side down mounted)
- Highly reliable single quantum well MBE structure
- RoHS compliant 

Applications:

- Solid-state laser pumping
- Medical
- Analytical
- Printing

8W 808nm 190µm High Power Single Emitter Laser Diode on Submount

Characteristics

Parameters at 25°C

Parameter	Symbol	Typ	Unit
CW Output Power	P_{op}	8	W
Center Wavelength ¹			
SES8-808A-01	λ_{cA}	806 ± 3	nm
SES8-808B-01	λ_{cB}	803 ± 3	
SES8-808C-01	λ_{cC}	808 ± 2.5	
Spectral Width (FWHM)	$\Delta\lambda$	2	nm
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	0.3	nm/°C
Beam Divergence (FWHM)			
Parallel to Junction	$\theta_{//}$	6	deg
Perpendicular to Junction	θ_{\perp}	32	
Polarization	–	TE	–
Threshold Current	I_{th}	1.2	A
Slope Efficiency	$\eta_D = P_{op}/(I_{op} - I_{th})$	1.1	W/A
Conversion Efficiency	$H = P_{op}/(V_{op} \times I_{op})$	50	%
Series Resistance	R_s	0.03	Ω
Operating Current	I_{op}	8	A
Operating Voltage	V_{op}	1.9	V

¹ Reduced wavelength window available on request.

Chip Dimensions

Parameter	Symbol	Typ	Unit
Chip Width	b	500	µm
Resonator Length	l	3600	µm
Chip Thickness	d	150	µm
Emitter Width	w	190	µm

Distributor



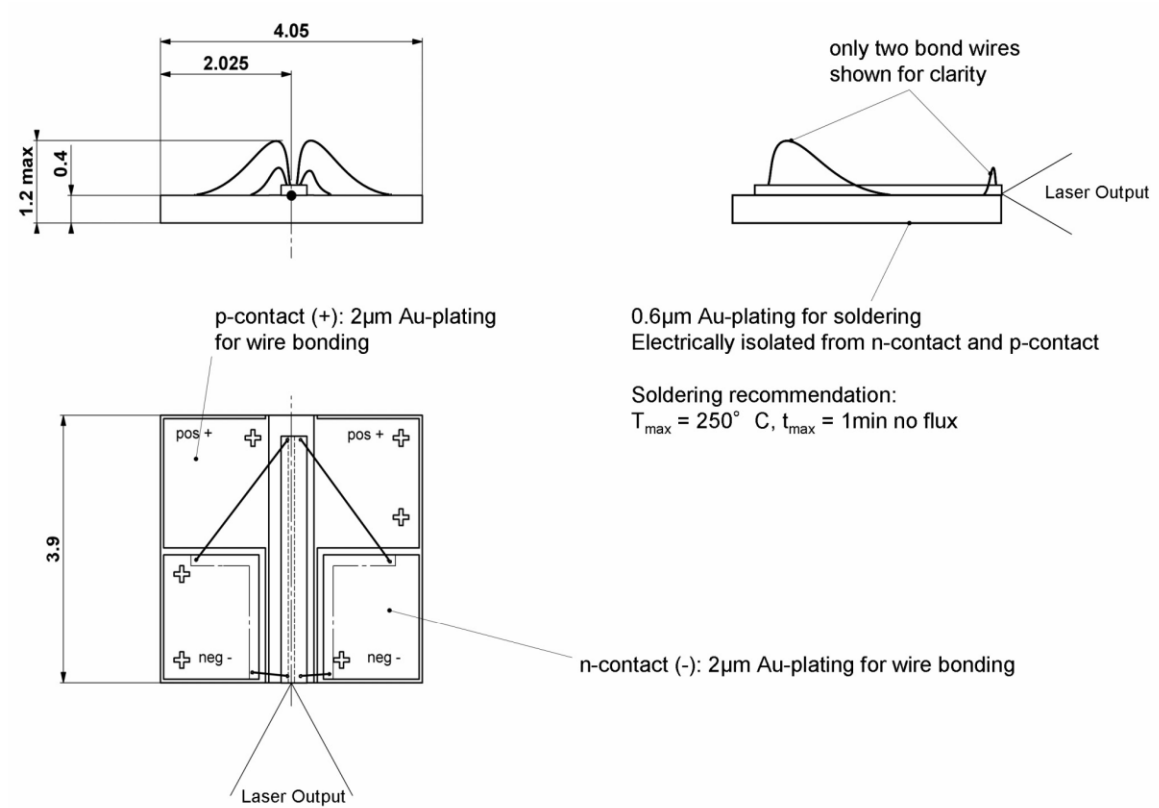
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Contact us


8W 808nm 190μm High Power Single Emitter Laser Diode on Submount

Package Dimensions (mm)



8W 808nm 190µm High Power Single Emitter Laser Diode on Submount

RoHS Compliance

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Ordering Information

SES8-808A-01	8W 806 ± 3 nm Single Emitter Laser Diode on Submount
SES8-808B-01	8W 803 ± 3 nm Single Emitter Laser Diode on Submount
SES8-808C-01	8W 808 ± 2.5 nm Single Emitter Laser Diode on Submount

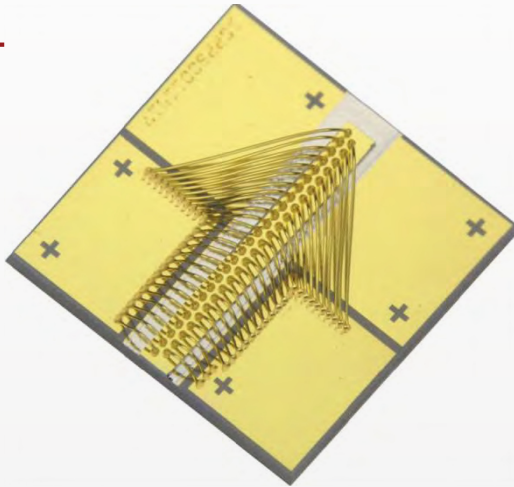
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Safety Labels



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.


II-VI

SES9-9xx-01
**9W 9xxnm 90 μ m
High Power Single Emitter
Laser Diode on Submount**

The II-VI SES9-9xx-01 single emitter laser diode series has been designed to provide the high output power, high coupling efficiency and high reliability required for pumping next generation fiber lasers and for other high power laser diode applications. The proprietary E2 front mirror passivation process, developed at our Zurich site, prevents Catastrophic Optical Damage (COD) to the laser diode facet even at extremely high output powers. The single emitter laser diodes are p-side down mounted on an optimized submount providing very low thermal resistance.

9W 9xxnm 90µm High Power Single Emitter Laser Diode on Submount

Features:

- 3.6mm x 0.4mm laser diode
- 90µm wide emitter
- 9W operating power (p-side down mounted)
- Highly reliable single quantum well MBE structure
- Standard wavelength at 915, 940 and 975nm (other available on request)
- RoHS compliant 

Applications:

- Fiber laser pumping
- Material processing
- Printing
- Medical

Characteristics

Parameters at 25°C

Parameter	Symbol	Typ	Unit
CW Output Power	P_{op}	9	W
Center Wavelength ¹			
SES9-915-01	λ_c915	915 ± 10	nm
SES9-940-01	λ_c940	940 ± 10	
SES9-975-01	λ_c975	975 ± 10	
Spectral Width (FWHM)	$\Delta\lambda$	4	nm
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	0.3	nm/°C
Beam Divergence (FWHM)			
Parallel to Junction	$\theta_{//}$	8	deg
Perpendicular to Junction	θ_{\perp}	23	
Polarization	–	TE	–
Threshold Current	I_{th}	500	mA
Slope Efficiency	$\eta_D = P_{op}/(I_{op} - I_{th})$	1.0	W/A
Conversion Efficiency	$H = P_{op}/(V_{op} \times I_{op})$	> 50	%
Series Resistance	R_s	0.03	Ω
Operating Current	I_{op}	9.5	A
Operating Voltage	V_{op}	2.2	V

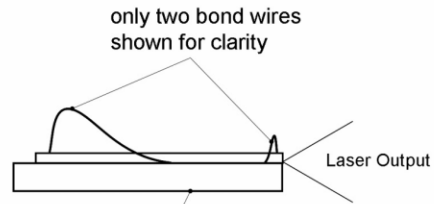
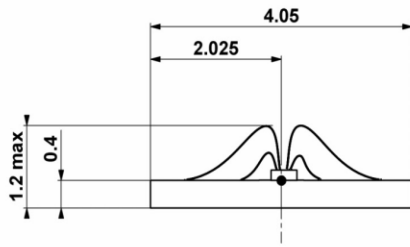
¹ Reduced wavelength window/extended range available on request (900-1070nm).

Chip Dimensions

Parameter	Symbol	Typ	Unit
Chip Width	b	400	µm
Resonator Length	l	3600	µm
Chip Thickness	d	150	µm
Emitter Width	w	90	µm

9W 9xxnm 90μm High Power Single Emitter Laser Diode on Submount

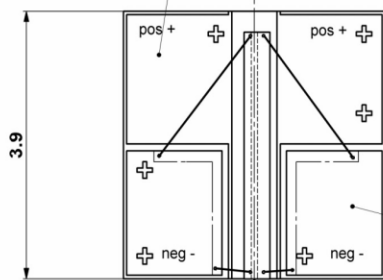
Package Dimensions (mm)



p-contact (+): 2μm Au-plating for wire bonding

0.6μm Au-plating for soldering
Electrically isolated from n-contact and p-contact

Soldering recommendation:
 $T_{max} = 250^{\circ} C$, $t_{max} = 1min$ no flux



n-contact (-): 2μm Au-plating for wire bonding

Laser Output

9W 9xxnm 90µm High Power Single Emitter Laser Diode on Submount

RoHS Compliance

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Ordering Information

SES9-915-01	9W 915nm Single Emitter Laser Diode on Submount
SES9-940-01	9W 940nm Single Emitter Laser Diode on Submount
SES9-975-01	9W 975nm Single Emitter Laser Diode on Submount

Important Notice

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Safety Labels



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