



AC5110 Series

1.25 Gbps 1550 nm Fabry Perot Laser Chips

Description

The AC5110 series lasers are semiconductor InAlGaAs Fabry Perot laser working at the 1550 nm range wavelength. The device can be delivered in chip, chip on carrier, and laser bar forms. This high performance, and high reliability laser is suitable for applications up to 1.25 Gb/s in short haul links or local area networks, including OC-3 and OC-12 applications.

Features

- 1550 nm typical emission wavelength
- High power over wide temperature range (5 mW over -40 to 70°C)
- High Reliability
- Multi-quantum Well (MQW) active layer

Applications

- Telecommunication
- Data Communication
- Storage area networks

Absolute Maximum Rating

Symbol	Parameter	Ratings	Unit
P_o	Light output power	10	mW
V_{RL}	Reverse Voltage (Laser diode)	2	V
T_o	Operation temperature	$-40 \sim +70$	$^{\circ}\text{C}$
T_{stg}	Storage temperature	$-40 \sim +125$	$^{\circ}\text{C}$

Electrical/Optical Characteristics ($T_c=25^{\circ}\text{C}$)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{th}	Threshold current	CW		10	15	mA
I_{op}	Operating current	CW, $P_o = 5\text{mW}$		27	35	mA
V_{op}	Operating voltage	CW, $P_o = 5\text{mW}$		1.15	1.5	V
η	Slope efficiency	CW, $P_o = 5\text{mW}$	0.25	0.3		mW/mA
λ_c	Center Wavelength	CW, $P_o = 5\text{mW}$	1520	1550	1580	nm
$\Delta\lambda$	Spectral width (RMS)	CW, $P_o = 5\text{mW}$		3	4	nm

$\theta_{//}$	Beam divergence angle (parallel)	CW, $P_o = 5\text{mW}$	12	15	20	Deg.
θ_{\perp}	Beam Divergence angle (perpendicular)	CW, $P_o = 5\text{mW}$	35	40	45	Deg.
Tr,Tf	Rise and fall time	If=lth, $P_o = 5\text{mW}$, 10~90%		200	240	ps

Physical Dimensions (Tolerance: +/- 10%)

Parameter	Typ.	Unit
Die Length	250	μm
Die Width	254	μm
Die Thickness	100	μm

Ordering Information:

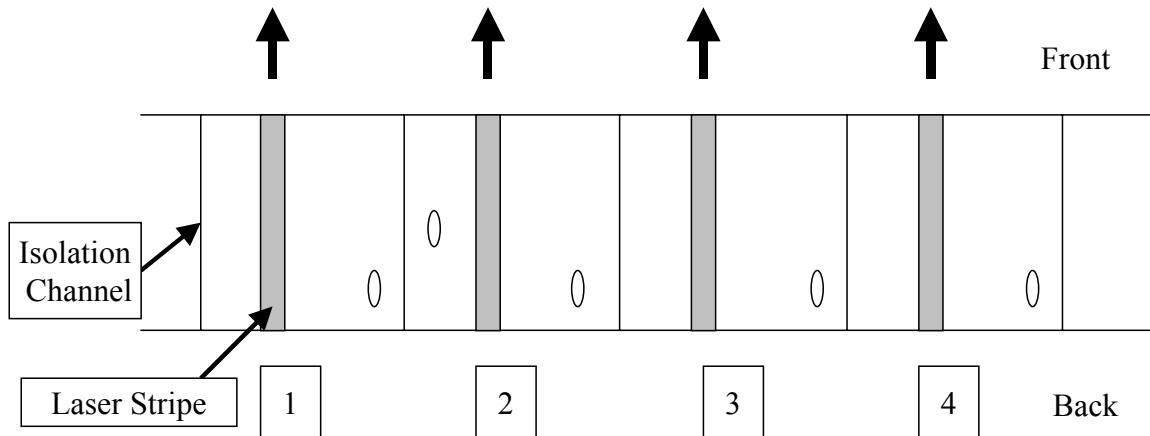
AC5110-X

X=A for chip on carrier (custom carrier)

X=B for bar form

X=C for bare dies form

Outline Drawings for Bar Form (-B type)



Pass: 1 mark at the right side (e.g. chip #1,3,4)

Fail: 2 marks at both sides (e.g. chip #2)

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