



## AC5130 Series

### 10 Gbps 1310 nm Fabry Perot Laser Chips

#### Description

The AC5130 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 10 Gb/s in short haul links or local area networks.

#### Features

- 1550 nm typical emission wavelength
- High power over wide temperature range (10 mW over  $-40$  to  $85^{\circ}\text{C}$ )
- 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	$-40 \sim +85$	$^{\circ}\text{C}$
$T_{stg}$	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, $P_o = 5\text{mW}$		35	45	mA
$V_{op}$	Operating voltage	CW, $P_o = 5\text{mW}$		1.15	1.5	V
$\eta$	Slope efficiency	CW, $P_o = 5\text{mW}$	0.15	0.17		mW/mA
$\lambda_c$	Center Wavelength	CW, $P_o = 5\text{mW}$	1520	1550	1580	nm
$\Delta\lambda$	Spectral width (RMS)	CW, $P_o = 5\text{mW}$		2	4	nm

$\theta_{//}$	Beam divergence angle (parallel)	CW, $P_o = 5mW$	12	15	20	Deg.
$\theta_{\perp}$	Beam Divergence angle (perpendicular)	CW, $P_o = 5mW$	35	40	45	Deg.
Tr,Tf	Rise and fall time	If=lth, $P_o = 5mW$ , 10~90%		40	50	ps

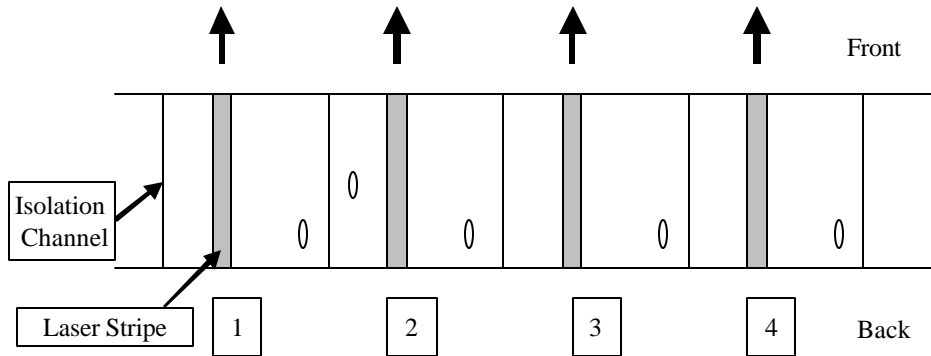
**Physical Dimensions (Tolerance: +/- 10%)**

Parameter	Typ.	Unit
Die Length	250	$\mu m$
Die Width	254	$\mu m$
Die Thickness	100	$\mu m$

**Ordering Information:**

AC5130-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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