



## AC2210-X-Y Series\*

### Uncooled 1.25 Gbps 1310 nm DFB Laser in TO Package



#### Description

The AC2210-X-Y series laser is an uncooled semiconductor InAlGaAs MQW-DFB laser working at 1310 nm wavelength. The device is delivered in a hermetic TO-56 package with integrated InGaAs photodiode for optical power monitoring. This high performance, and high reliability laser is suitable for applications up to 1.25 Gbps in fiber optics links.

#### Features

- 1310 nm typical emission wavelength
- High power over wide temperature range.
- High side-mode-suppression ratio (typical  $\geq 40\text{dB}$ )
- High Reliability
- Multi-quantum Well (MQW) active layer

#### Applications

- Telecommunication
- Data Communication
- Analog fiber optic links
- Storage area networks
- Access Networks

#### Absolute Maximum Rating

Symbol	Parameter	Ratings	Unit
$V_{RL}$	Reverse Voltage (Laser diode)	2	V
$I_{FL}$	Forward Current (Laser diode)	100	mA
$V_{RD}$	Reverse Voltage (Photodiode)	20	V
$I_{FD}$	Forward current (Photodiode)	2	mA
$T_C$	Case temperature	-40 ~ +85**	°C
$T_{stg}$	Storage temperature	-40 ~ +100	°C

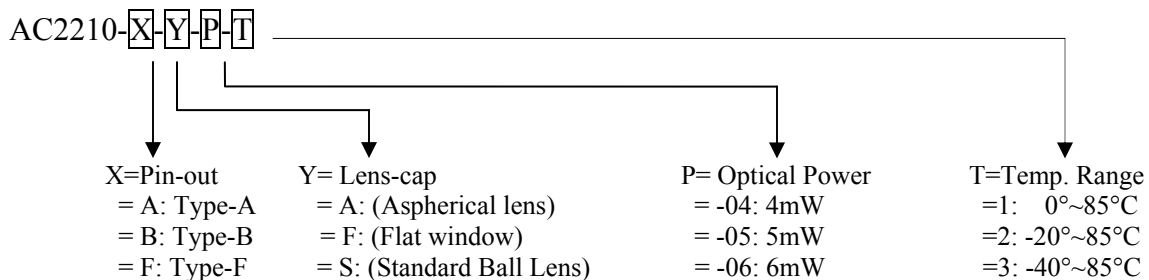
\*\* Case temperature rating is same as option -T. (See ordering information on page 2.)

(\*Previous model number AC3610-X-Y)


**Electrical/Optical Characteristics** ( $T_c=25^\circ\text{C}$ , unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
$I_{th}$	Threshold current	CW		10	15	mA
$P_o$	Optical Power Option	-04	CW, $I_{FL}=I_{th}+20\text{mA}$	4		mW
		-05	CW, $I_{FL}=I_{th}+20\text{mA}$	5		
		-06	CW, $I_{FL}=I_{th}+20\text{mA}$	6		
$V_{op}$	Operating voltage	CW, $I_{FL}=I_{th}+20\text{mA}$		1.2	1.6	V
$\lambda_c$	Center Wavelength	CW, $I_{FL}=I_{th}+20\text{mA}$	1290	1310	1330	nm
SMSR	Side-mode suppression ratio	CW, $I_{FL}=I_{th}+20\text{mA}$	30	40		dB
$\theta_{//}$	Beam divergence angle (parallel)	CW, $I_{FL}=I_{th}+20\text{mA}$		25 (8)		Deg.
$\theta_{\perp}$	Beam divergence angle (perpendicular)	CW, $I_{FL}=I_{th}+20\text{mA}$		38 (13)		Deg.
$T_r, T_f$	Rise and fall time	$I_{FL}=I_{th}+20\text{mA}$ , 20~80%			200	ps
$I_{mon}$	Monitor current (Photodiode)	CW, $V_{RD}=1\text{V}$	0.1	0.5		mA
$I_D$	Dark current (Photodiode)	$V_{RD}=10\text{V}$			0.1	$\mu\text{A}$
$C_t$	Capacitance (Photodiode)	$V_{RD}=10\text{V}$ , $f=1\text{MHz}$		10	20	pF
F	Focus length	Aspherical lens cap "A"	7.2	7.5	7.8	mm

Note: ( ) applied to the lens-cap types (-A, and -S)

**Ordering Information:**


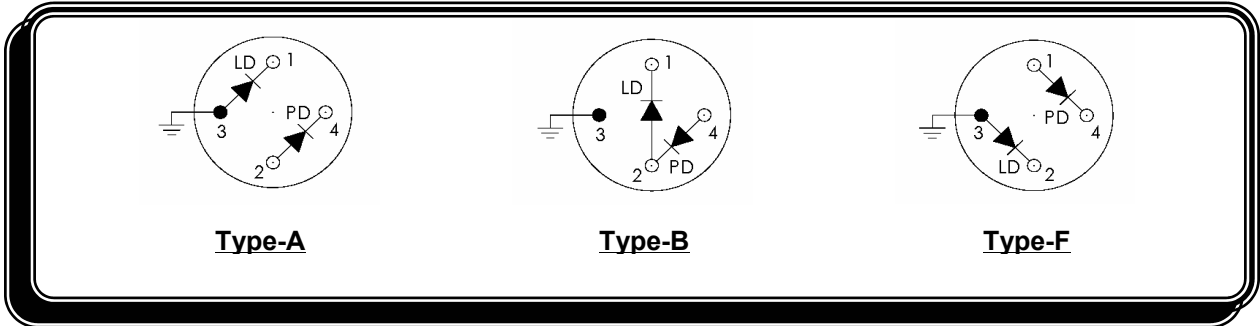
(See options next page)

Example: AC2210-B-A-04-1 is an Archcom 1.25 Gbps 1310 nm DFB laser, with Type-B pin-out, Aspherical lens cap, output power of 4 mW, with temp. range of  $0^\circ\sim 85^\circ\text{C}$



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**Pin-out Options (Bottom View)**



**Package dimensions (in mm):**

