



AC5611-X-Y Series Uncooled 1.25 Gbps 1550 nm DFB Laser in TO Package



Description

The AC5611-X-Y series laser is a wider operating temperature range uncooled semiconductor InAlGaAs MQW-DFB laser working at 1550 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 short haul links or local area networks.

Features

- 1550 nm typical emission wavelength
- High power over wide temperature range
- High side-mode-suppression ratio (Typical $\geq 35\text{dB}$)
- High Reliability
- Multi-quantum Well (MQW) active layer
- Aspherical lens TO package

Applications

- Telecommunication
- Data Communication
- 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	0 ~ +85	$^{\circ}\text{C}$
T_{stg}	Storage temperature	-40 ~ +100	$^{\circ}\text{C}$


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		
V_{op}	Operating voltage	CW, $I_{FL}=I_{th}+20\text{mA}$		1.2	1.6	V
λ_c	Center Wavelength	CW, $I_{FL}=I_{th}+20\text{mA}$	1530	1550	1570	nm
SMSR	Side-mode suppression ratio	CW, $I_{FL}=I_{th}+20\text{mA}$	30	35		dB
$\theta_{//}$	Beam divergence angle (parallel)	CW, $I_{FL}=I_{th}+20\text{mA}$		24 (8)		Deg.
θ_{\perp}	Beam divergence angle (perpendicular)	CW, $I_{FL}=I_{th}+20\text{mA}$		48 (16)		Deg.
T_r, T_f	Rise and fall time	$I_{FL}=I_{th}+20\text{mA}$, 10~90%		200	240	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	μA
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:

 AC5611-**X**-**Y**-**P**

X=Pin-out

= A: Type-A

= B: Type-B

= F: Type-F

Y= Lens cap

= A: Aspherical lens

= F: Flat window

= S: Standard Ball Lens

P= Optical Power

= -04: 4mW

= -05: 5mW

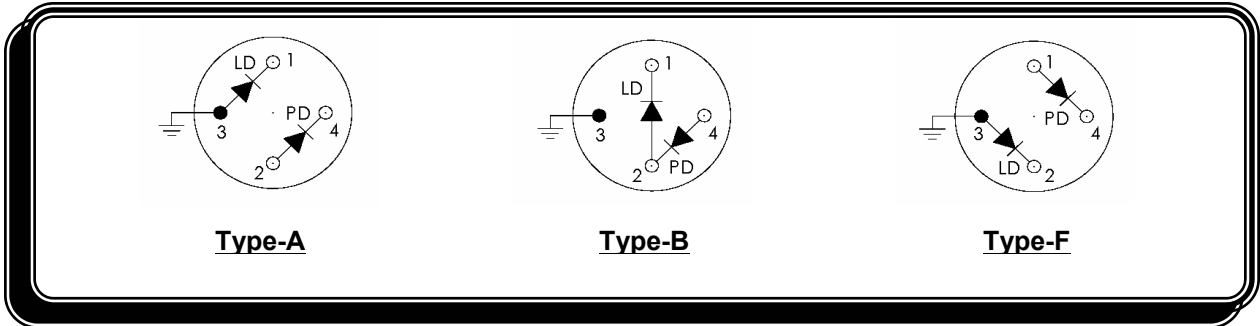
(See options next page)

Example: AC5611-A-A-04 is an Archcom 1.25 Gbps 1550 nm DFB laser, with Type-A pin-out, Aspherical lens cap, output power of 4 mW.



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Pin-out Options (Bottom View)



Package dimensions (in mm):

