



Preliminary

AC6221 Series

2.5 Gbps Receiver in 5-pin TO Package



Features:

- Wide dynamic range with differential output
- Low power +3.3V operation
- Wide operation temperature (-40°C~+85°C)
- High reliability
- Suitable for 2.5Gbps applications needing receptacle or pigtail module

Applications: Telecom and Datacom

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power Supply	V_{cc}	3.0	3.3	3.6	V
Supply Current ⁽¹⁾	I_{cc}		42	58	mA
Photodetector Bias	V_{PD}		3.3		V
Bandwidth	BW	1.5	2.0		GHz
Low-Frequency Cut Off	LF		5		kHz
Rise Time/Fall Time ^(2,3)	T_r/T_f			150	ps
Wavelength	λ	1100		1650	nm
Single Ended Output Impedance	R_o		50		Ohms
Saturation Power ^(3,4)	P_{sat}		0		dBm
Sensitivity ^(3,4)	P_{sens}		-24	-23	dBm
Conversion Gain ⁽⁵⁾		1400	1800		kV/W
Differential Output Voltage	V_{diff}		330		mVpp

(1) No Loads

(2) 20% to 80% at -15dBm input

(3) $\lambda=1310\text{nm}$, 0.9A/W

(4) BER = 10^{-10} , PRBS $2^{31}-1$, ER = 10dB

(5) Single ended output voltage (peak to peak) to optical power swing (OMA)

Absolute Maximum Ratings:

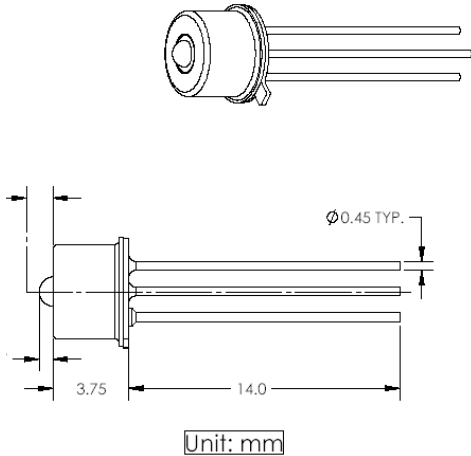
Parameter	Symbol	Min	Max	Unit
Case Temperature	T_C	-40	+85	$^\circ\text{C}$
Storage Temperature	T_{stg}	-40	100	$^\circ\text{C}$
Humidity Range	RH	5	95	%
Amplifier Bias Voltage	V_{ccmax}		3.6	V
Input Optical Power	P_{max}		+6	dBm
Load Solder Temp. and Time			260 $^\circ\text{C}$, 10sec	

Outline Drawing (Customer special order is available):

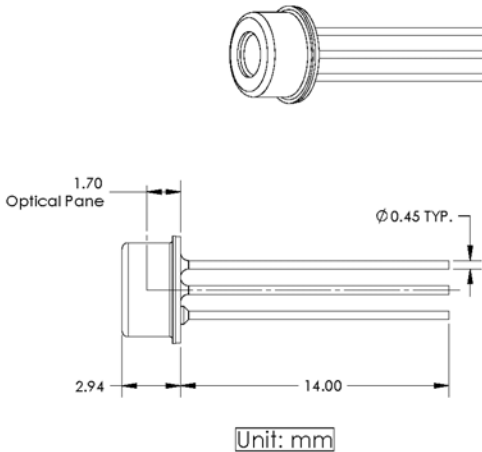
Lens Options

Y = S for ball lens, Y = F for flat window,

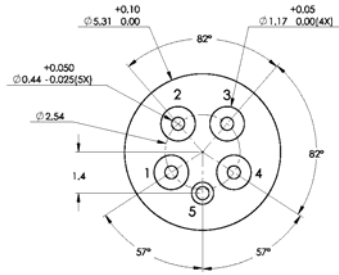
Y = S (Ball lens)



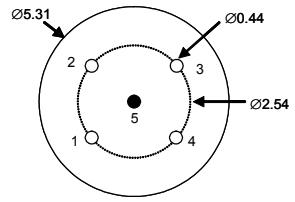
Y = F (Flat window)



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**Bottom View for
Pin-out "B" and "E"**



**Bottom View for
Pin-out "F"**

5-pin Pin-out Assignment			
Pin #	"B"	"E"	"F"*
1	Dout-P	V _{PD}	Dout-P
2	V _{CC}	Dout-N	V _{PD}
3	V _{PD}	Dout-P	V _{CC}
4	Dout-N	V _{CC}	Dout-N
5	GND	GND	GND

Note: "F" uses alternate 5-pin header. See Bottom View drawings

Ordering Information:

AC6221-W-X

W = Pin-out: "B," "E" or "F" see table and bottom views.

X = TO-cap: "S" for Ball lens, "F" for Flat window

Example: **AC6221-B-S** is an Archcom 5-pin, 2.5 Gbps TO-Can receiver with Type-B pin-out and ball lens

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