



## Preliminary Data Sheet

### AC6531 Series

#### 10 Gbps High Gain Long Wavelength Single Mode ROSA



AC6531 with 6-pin  
XMD flex circuit

#### Features:

- Large area photodiode for excellent coupling from SM fibers
- High Gain TIA with high sensitivity
- Low cost TO-46 package with differential output
- Wide operation temperature (-40°C to +85°C)
- Suitable for 10 Gbps applications needing receptacle style connectorization

Available with a flex circuit configuration

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Power Supply	$V_{cc}$	3.135	3.3	3.465	V
Supply Current <sup>(1)</sup>	$I_{cc}$	31	33	35	mA
Photodetector Bias	$V_{PD}$		3.3		V
Bandwidth	BW	6	7		GHz
Low-Frequency Cut Off	LF		20		kHz
Group Delay Variation <sup>(2)</sup>	GDV		$\pm 35$		ps
Wavelength	$\lambda$	1250		1600	nm
Optical Overload <sup>(3,4)</sup>	$P_{over}$	+3	+4		dBm
Sensitivity <sup>(3,4)</sup>	$P_{sens}$		-18	-16.5	dBm
Conversion Gain <sup>(5)</sup>		3000	4300	5600	V/W
Max. Diff. Output Voltage	$V_{diff}$		450		mVpp

(1) No Loads

(2) 1 GHz to 8 GHz

(3)  $\lambda=1550$  nm

(4) BER =  $10^{-12}$ , PRBS  $2^{31}-1$ , ER = 10 dB

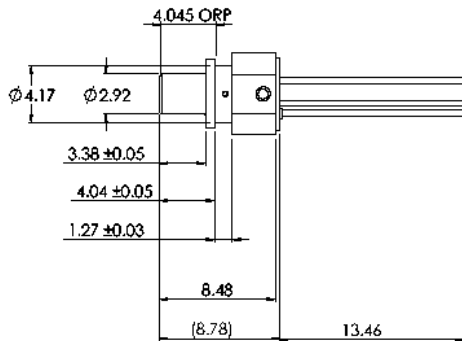
(5) Single ended output voltage (peak to peak) to optical power swing (OMA)

#### Absolute Maximum Ratings:

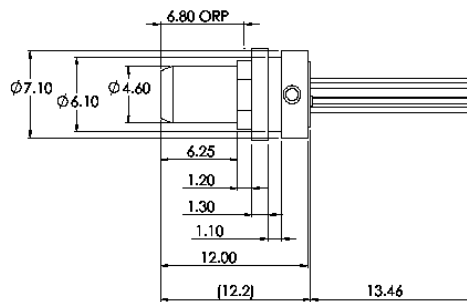
Parameter	Symbol	Min	Max	Unit
Case Temperature	$T_c$	-40	+85	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40	100	$^\circ\text{C}$
Humidity Range	RH	5	95	%
Amplifier Bias Voltage	$V_{ccmax}$		4	V
Input Optical Power	$P_{max}$		+5	dBm
Load Solder Temp. and Time			260 $^\circ\text{C}$ , 10sec	



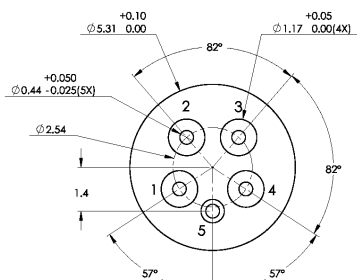
Outline Drawing (Customer special order is available):



**Plastic LC 5-pin version**



**Plastic SC 5-pin version**

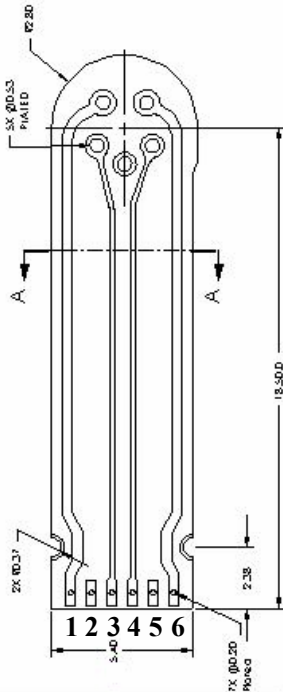


**Bottom View**

<b>5-pin straight lead Pin-out Assignment</b>	
Pin #	"B"
1	Dout-P
2	Vcc
3	Vpd
4	Dout-N
5	GND



### 6-pin Flex Circuit (Trace View)



6-pin Flex Pin-out	
Pin #	FL2
1	Vcc
2	GND
3	Dout-P
4	Dout-N
5	GND
6	Vpd

### Ordering Information:

#### AC6531-B-YZ-FL2

**B** = Pin-out: “B” see 5-pin straight lead pin-out Assignment table.

**YZ** = Receptacle type: “L1” for LC Plastic, “L2” for LC Metal, “L3” for LC metal (-27dB ORL), “S1” for SC plastic

**FL2** = Flex circuit option “FL2” for 6-pin flex

Example: **AC6531-B-L1-FL2** is an Archcom 5-pin, 10 Gbps High Gain ROSA for SM fiber with type-B pin-out with low cost plastic LC receptacle and 6-pin flex circuit.

Archcom Technology, Inc. reserves the right to make changes in design, specifications and other information at any time without prior notice. Information in this data sheet is believed to be reliable. However, no responsibility is assumed for possible inaccuracy or omission.