

## VONU2150-08

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### Description

The VONU2150 series optical receiver modules are designed in single-mode fiber pigtailed modules featuring compact size, wide bandwidth, low-noise, AGC functionality and integrated impedance-matched broadband photodiode. The devices support the wide bandwidth which can deliver up to 110 CATV analog signals and 80 digital signals in 70~770MHz and 36 satellite (CS-If, BS-If) analog signals in 950~2150MHz or different combination of analog and digital channels, including the HDTV broadcast system. The VONU2150 modules also provide AGC functionality to keep stable RF electrical output in +/- 2dB within -2~-8dBm optical input power. Modules also can be used in both 1310nm and 1550nm optical network applications.

### Features

- ❑ Wide bandwidth from 70 up to 2150MHz
- ❑ Compact size for easy ONU design
- ❑ Build-in AGC within -2~-8dBm optical input
- ❑ Excellent RF frequency and distortion characteristics
- ❑ Robust compact size design

### Applications

- ❑ CATV HFC forward path
- ❑ FTTx optical nodes design
- ❑ PON/QAM system design



**VONU2150-08**

**Absolute Maximum Ratings**

Exceeding the conditions specified below may result in permanent damage to the module

Parameter	Symbol	Min	Max	Unit
Operating Case Temperature	Top	-20	85	°C
Storage Temperature	Tstg	-20	85	°C
Humidity at 85°C	RH	--	95	%

**Electrical/Optical Characteristics**

Parameters are at 25°C unless otherwise noted

Parameter	Symbol	Min	Typical	Max	Unit
Optical Power	P <sub>in</sub>	-8	-5	-2	dBm
Detection Wavelength range	λ	1200	1310/1550	1650	nm
Optical Return Loss	ORL	40	--	--	dB
Optical Connector	--	SC/UPC			--
Fiber Length	L	48	50	52	cm
Power Dissipation	P <sub>dis</sub>	--	--	2	W
Power Supply					
Pin 1	V <sub>cc</sub>	--	6	--	V
Pin 5,6	V <sub>cc</sub> , -V <sub>cc</sub>	--	15	--	V

**RF Characteristics**

Parameters are at 25°C unless otherwise noted

Parameter	Symbol	Specifications		Unit
Channel Loading	--	110Chs analog+ 80Chs digital @70~770MHz, 36Chs (BS-If, CS-If) @950~2150MHz		Chs
RF output AGC	--	+/-2 @ Pin from -8dBm to -2dBm		dB
RF Output	R <sub>out</sub>	Analog Ch: 80, Digital Ch: 70		dBuV
VSWR	V <sub>s</sub>	<2.5		--
Impedance	IP	75		Ohm
Frequency Bandwidth	BW	70~2150		MHz
Frequency Response	Fr	70~770MHz +/- 1.5	950~2150MHz +/-2.0	dB
Distortion:		70~770MHz	950~2150MHz	
C/R Ratio *1	CNR	>46	>26	dBc
Composite Triple Beat *2	CTB	<-60	--	dBc
Composite 2 <sup>nd</sup> Order *2	CSO	<-58	--	dBc
3 <sup>rd</sup> Order Intermodulation *2	IMD3	--	<-60	dBc

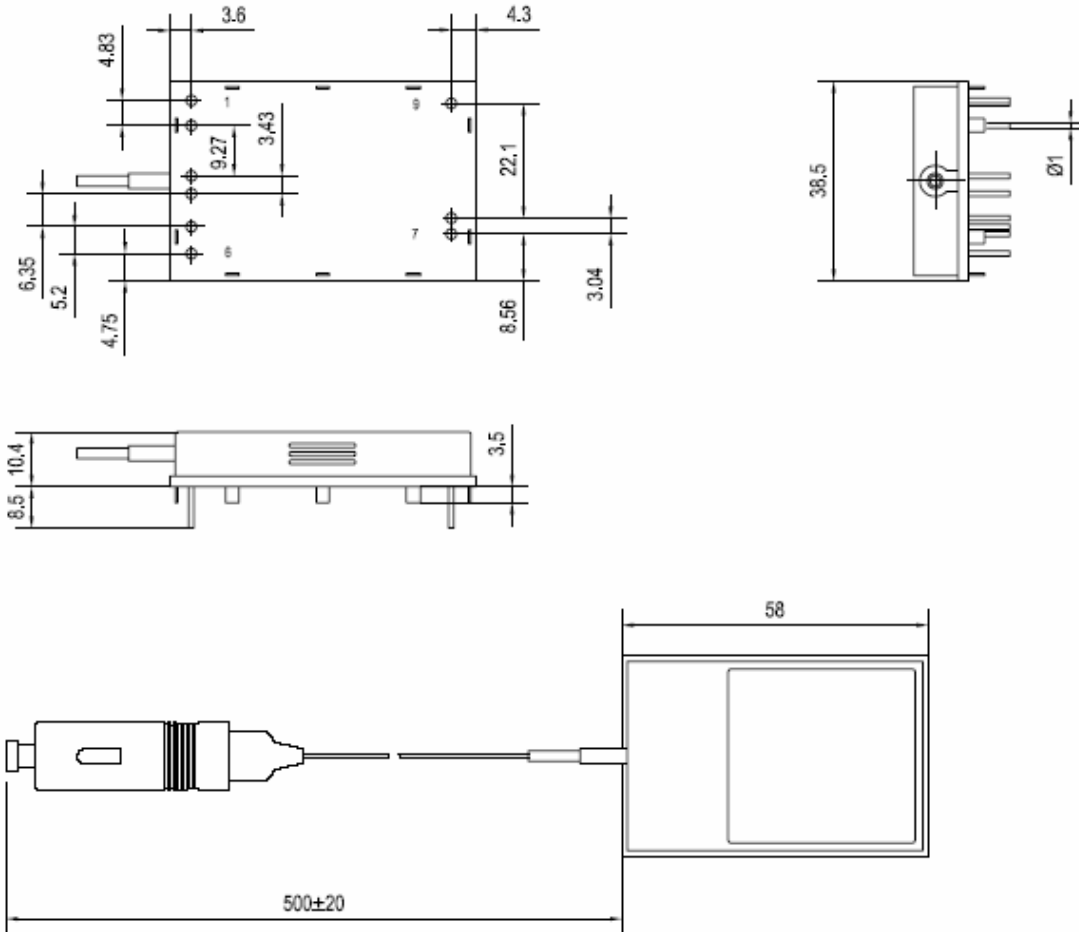
\*1 The optical input power is -8dBm (optical loss >17dB).

\*2 The optical input power is -2dBm, and optical loss >11dB.

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Outline dimensions:

Units: mm



Pin Assignment:

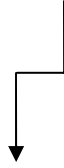
Pin #	Description
1	+6V
2	GND
3	RF Output
4	GND
5	+15V(AGC,PD +Bias)
6	-15V(AGC -Bias)
7	PDI Monitor
8	GND
9	GND

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### Ordering options:

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-2 to -8 dBm optical  
input