

# ORB-100

## Micro CATV Optical Receiver

### APPLICATION

Fenger ORB-100 is a high performance 1GHz CATV optical receiver for converting TV signal from optical fiber network into RF signal over coax cabling in residential homes. This product features compact size, high CNR, low distortion, low power consumption, easy installation and cost effectiveness. It supports conventional analog TV RF as well as Digital Video Broadcasting signals. RF output level can be adjusted with manual gain control. The ORB-100 is the first choice for building a Cable TV FTTH HFC Networks.



**GaAs  
amplifier**

### FEATURES & BENEFITS

- **Designed for CATV HFC and FTTH networks**
- **RF channel, full GaAs with low noise amplifier circuit, higher output power, higher gain, lower distortion**
- **With AGC optical input, keep the output level basically unchanged**
- **High quality aluminum shell with good heat dissipation ability**

### ORDERING INFORMATION

534391 ORB-100 Micro CATV Optical Receiver

# MANUFACTURING SPECIFICATION

## GENERAL

Model	ORB-100
Application	CATV HFC and FTTH Networks

## OPTICAL PARAMETERS

Working Wavelength	1100~1600 nm
Responsivity	$\geq 0.9$ A/W
Input Power (Analog TV)	0... -15 dBm
Input Power (Digital TV)	0... -23 dBm
AGC Range	0... -15 dBm
Optical Return Loss	$\geq 45$ dB
Optical Fiber Type	Single Mode
Connector Type	SC/APC

## RF PARAMETERS

Frequency Range	47~1002 MHz
Flatness	$\pm 1.0$ dB
Output Level	$\geq 100$ dB $\mu$ V @ AGC range
Level Adjusting	0~20 dB
RF Connector	F - female
Return Loss	$\geq 14$ dB
Output Impedance	75 Ohm
MER (Pin: 0... -15 dBm)	$\geq 36$ dB
MER (Pin: -16... -22 dBm)	$\geq 28$ dB
BER (Pin: +2... -22 dBm)	$< 1.0E-9$ dB
CNR	$\geq 51$ dB @ -2 dBm receiving
CSO	$\geq 65$ dB
CTB	$\geq 62$ dB

## OTHER PARAMETERS

Operating Voltage	+5 VDC
Power Consumption	$< 4$ W
Temperature Range	0...+50 °C
Net Weight	0.10 Kg
Dimensions LxWxH	87 x 70 x 22 mm

### Notes

- 1) Maximum Optical Input Level (no damage of photo diode): +2 dBm
- 2) External Power Supply 5V/1A included

### Double color LED for optical power indication

RED:	$< -22$ dBm
GREEN:	-18 dBm... $< +2$ dBm
RED Flash:	$> +2$ dBm
GREEN Flash:	-22 dBm... $< -18$ dBm