CHF1000280AA

1 GHz Optical Receiver Module

40 to 1000 MHz Optical Receiver Module +28 dBmV RF Output

1. Product profile

1.1 General description

The module is in a SOT115U package (see Fig.1), is equipped with a FC/APC or SC/APC Connector, a single mode optical input suitable for 1100 to1660 nm wavelengths, a terminal to monitor the photo diode current, and an electrical output having a characteristic impedance of 75Ω. The module accepts optical receive power in the range -8～+2dBm and RF output can achieve +88 dBμV/ch (@ 0dBm input) within the 40 to 1000 MHz frequency range.

CAUTION

This device is sensitive to Electro Static Discharge (ESD). Therefore care should be taken during transport and handling.

1.2 Features and benefits

- Excellent linearity
- Excellent distortion performance
- Low input referred noise
- Standard CATV Package

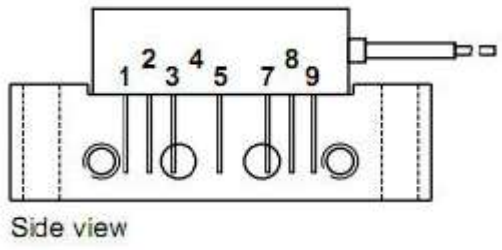


Fig.1 Simplified outline.

PIN	DESCRIPTION
1	current monitor
2	common
3	common
5	$+V_B$ of the amplifier
7	common
8	common
9	output

SOT115U

1.3 Applications

- CATV systems operating with a forward path frequency range of 40 to 1000 MHz.

1.4 Handling

- Fiberglass optical coupling
- Maximum tensile strength= 5 N
- Minimum bending radius=35mm

2. LIMITING VALUES

In accordance With the Absolute Maximum Rating System

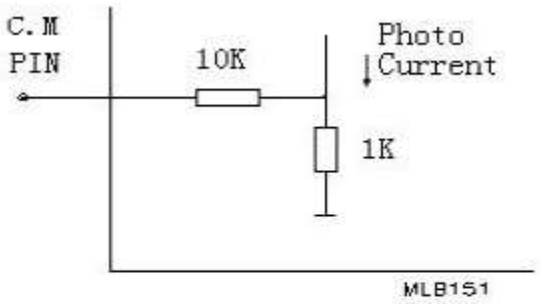
SYMBOL	PARAMETER	CONDITION	MIN	MAX	UNITS
Pin	Input Optical Power			3	mW
Tstg	Storage Temperature		-40	+85	°C
Top	Operating Temperature		-20	+85	°C
ESD	ESD Sensitivity	Human Body Model; R = 1.5kΩ; C = 100pF	500		V

3. CHARACTERISTICS

Tmb = 24°C, VB=24VDC, Zs=ZL=75Ω

SYMBOL	PARAMETER	UNIT	MIN	TYP	MAX	CONDITIONS
F	Frequency Range	MHz	40		1000	
S_λ	Spectral Sensitivity	A/W	0.85			λ = 1310 ±20 nm
		A/W	0.9			λ = 1550 ±20 nm
λ	Optical Wavelength	nm	1100		1660	
Vc.m	Voltage of C.M. Pin	mV	850			λ = 1310 ±20 nm; 0 dBm Optical Input Power; VB=24Vdc
RFout	RF Output Level	dBmV		28		m = 3.7%; F = 1000 MHz; Optical power received at 0 dBm
Vo	Output Voltage	dBµV		88		
FL	Flatness of Frequency Response	dB			±0.65	F = 40 to 1000 MHz
CTB	Composite Triple Beat	dBc		-70		70 PAL-D channels flat; m = 3.7%; measured at 543.25 MHz; Optical receiving power at 0 dBm
CSO	Composite Second Order	dBc		-66		
CNR	Carrier-to-Noise Ratio	dB		52		Optical receiving power at 0 dBm
S11	Input Return Loss, Optical	dB			-45	
S22	Output Return Loss, RF	dB			-12	F = 40 to 800 MHz
					-8	F = 800 to 1000 MHz
Itot	Total Current Consumption	mA	160	175	190	VB=24Vdc

4. PHOTODIODE CURRENT MONITOR PIN

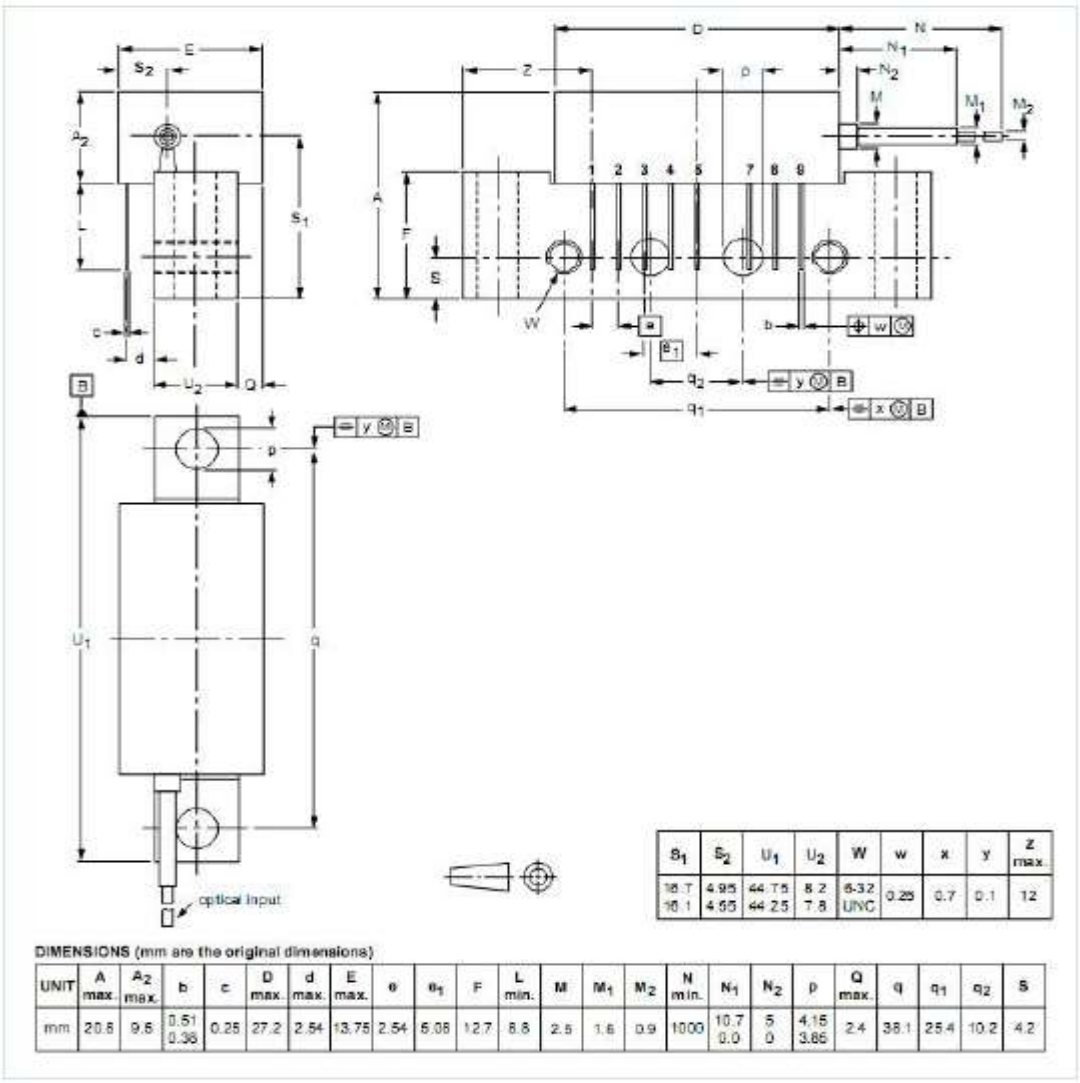


CURRENT MONITOR PIN

5. PACKAGE OUTLINE

Rectangular single-ended package; aluminum flange; 2 vertical mounting holes; 2 x 6-32 UNC and 2 extra horizontal mounting holes; optical input; 7 gold-plated in-line leads.

SOT115U



S_1	S_2	U_1	U_2	W	w	x	y	Z max
16.7 16.1	4.95 4.55	44.75 44.25	8.2 7.8	6-32 UNC	0.25	0.7	0.1	12

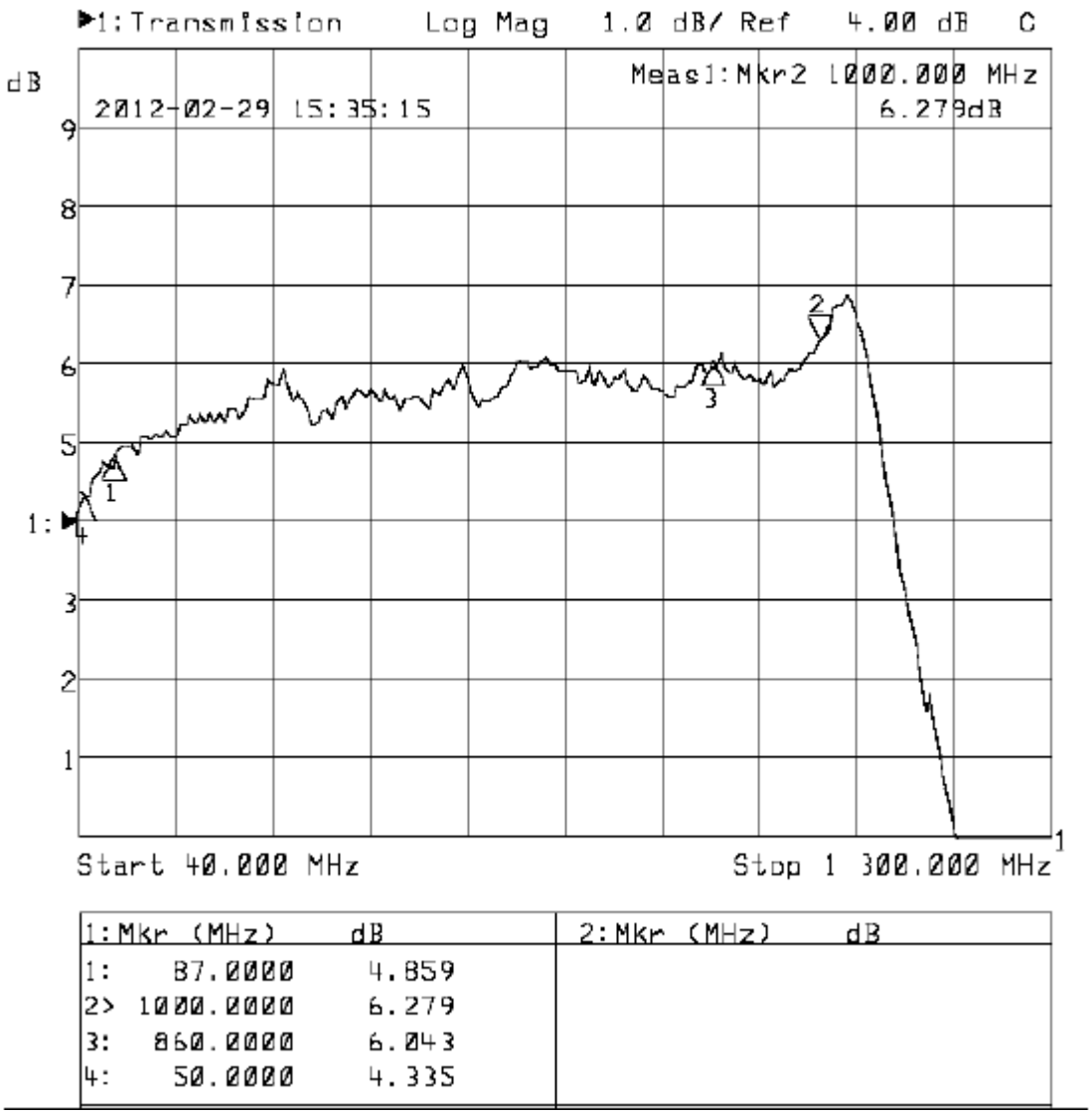
DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A_2 max.	b	c	D max.	d max.	E max.	e	e_1	F	L min.	M	M_1	M_2	N min.	N_1	N_2	p	Q max.	q	q_1	q_2	S
mm	20.6	9.5	0.51 0.38	0.25	27.2	2.54	13.75	2.54	5.08	12.7	8.8	2.5	1.6	0.9	1000	10.7 0.0	5 0	4.15 3.85	2.4	38.1	25.4	10.2	4.2

Units in millimeters (mm).

6. Appendix

6.1 FLATNESS OF FREQUENCY RESPONSE



6.2 ORDERING INSTRUCTIONS

To Order, Contact: Chips Technology Circuits, 48 Farrand Street, Bloomfield, NJ 07003
Phone: +1 973-748-6172
FAX: +1 973-748-9306 Email: purchctc@chipstech.com