

40 to 870 MHz Optical Receiver Module +30 dBmV RF Output, +8Vdc SOT115U AGC

1. Product profile

1.1 General description

The module is in a SOT115U package (see Fig.1), operates from a **+8Vdc** power supply, is equipped with automatic gain control (AGC), a FC/APC or SC/APC Connector, a single mode optical input suitable for 1100 to 1650 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 +90dBμV/ch (@ 0dBm input) within the 40 to 870 MHz frequency range.

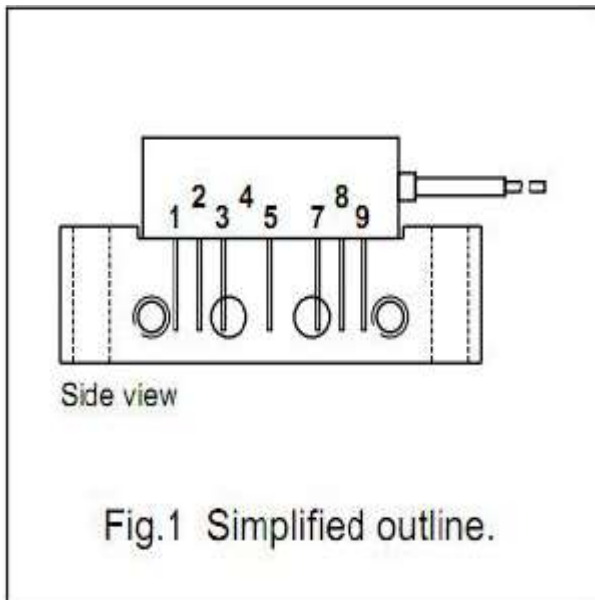
CAUTION



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

1.2 Features and benefits

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



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 870 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

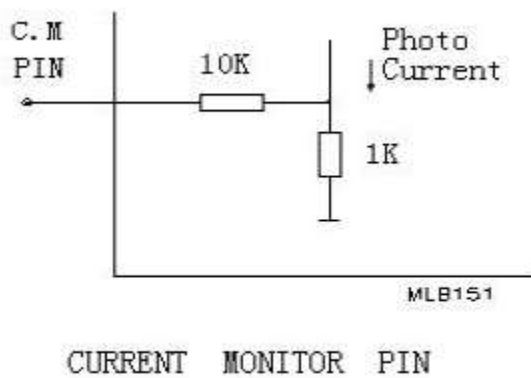
SYMBOL	PARAMETER	CONDITION	MIN	MAX	UNITS
Pin	Input Optical Power			3	mW
Tstg	Storage Temperature		-40	+85	°C
Top	Operating Temperature		-20	+85	°C
ESD	ESD Sensitivity	Human Body Model; R = 1.5kΩ; C = 100pF	500		V

3. CHARACTERISTICS

Tmb = 24°C, VB=24VDC, Zs=ZL=75Ω

SYMBOL	PARAMETER	UNIT	MIN	TYP	MAX	CONDITIONS
F	Frequency Range	MHz	40		870	
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		1650	
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	20		30	m = 3.7%; F = 870 MHz;
Vo	Output Voltage	dBμV	80		90	Optical power received at 0 dBm
FL	Flatness of Frequency Response	dB			±0.75	F = 40 to 870 MHz
CTB	Composite Triple Beat	dBc		-70		60 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 Domain	dB			-45	
S22	Output Return Loss, RF Domain	dB			-12	F = 40 to 870 MHz
Itot	Total Current Consumption	mA	220	230	240	VB=8Vdc

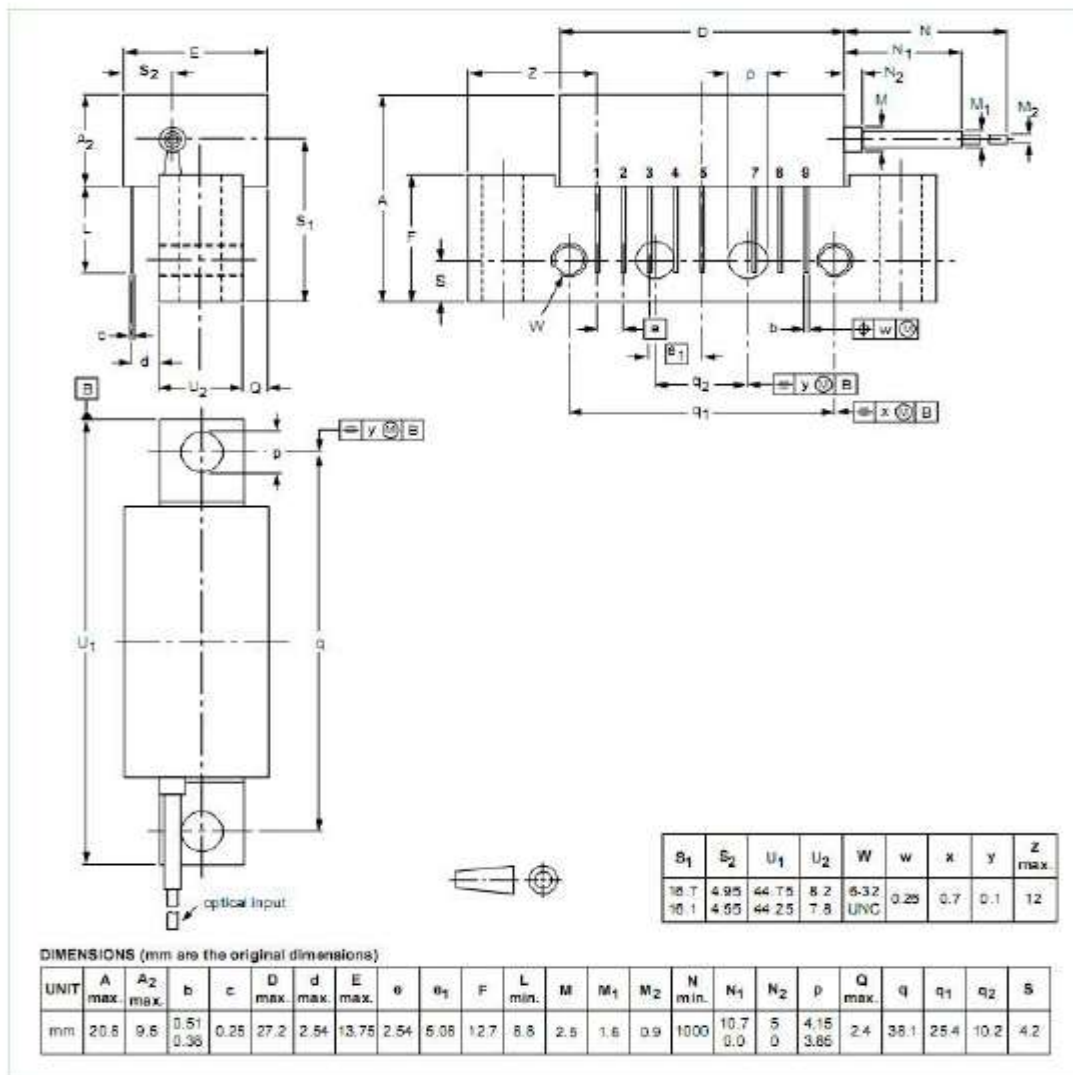
4. PHOTODIODE CURRENT MONITOR PIN



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.

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Units in millimeters (mm).

