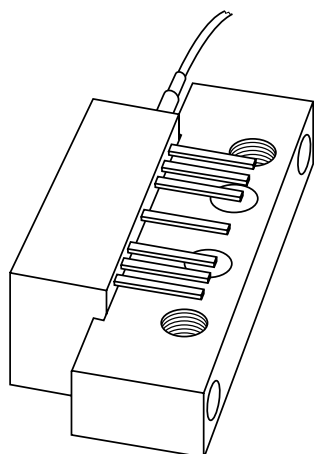


DATA SHEET



BGY67BO Optical receiver module

Product specification
Supersedes data of 1998 Mar 13

2001 Sep 27

Optical receiver module

BGY67BO

FEATURES

- Excellent linearity
- Extremely low noise
- Excellent flatness
- Standard CATV outline
- Rugged construction
- Gold metallization ensures excellent reliability.

APPLICATIONS

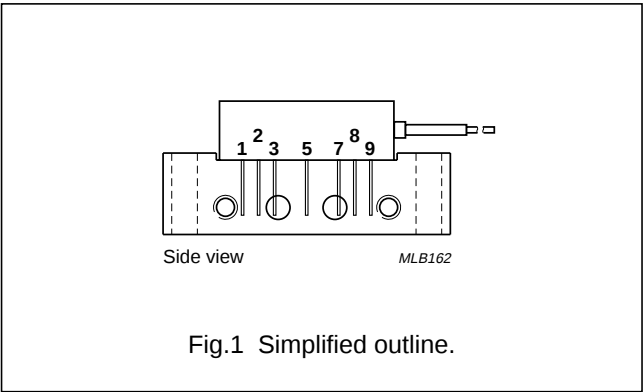
- Reverse receiver amplifier in two-way CATV systems in the 5 to 300 MHz frequency range.

DESCRIPTION

Hybrid high dynamic range optical amplifier module in a SOT115U package operating at a voltage supply of 24 V (DC). The module contains a monomode optical input suitable for wavelengths from 1290 to 1600 nm, a terminal to monitor, the pin diode current and an electrical output with an impedance of 75 Ω.

PINNING - SOT115U

PIN	DESCRIPTION
1	monitor current
2	common
3	common
5	+V _B
7	common
8	common
9	output



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
f	frequency range		5	300	MHz
S ₂₂	output return losses	f = 5 to 300 MHz	15	–	dB
	optical input return losses		40	–	dB
d ₂	second order distortion		–	–70	dBc
F	equivalent noise input	f = 10 to 300 MHz	–	7	pA/√Hz
I _{tot}	total current consumption (DC)	V _B = 24 V	160	190	mA

HANDLING

Fibreglass optical coupling: maximum tensile strength = 5 N; minimum bending radius = 35 mm.

CAUTION
This product is supplied in anti-static packing to prevent damage caused by electrostatic discharge during transport and handling. For further information, refer to Philips specs.: SNW-EQ-608, SNW-FQ-302A and SNW-FQ-302B.

Optical receiver module

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LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
f	frequency range		5	300	MHz
T _{stg}	storage temperature		−40	+85	°C
T _{mb}	operating mounting base temperature		−20	+85	°C
P _{in}	optical input power	continuous	−	5	mW
ESD	ESD sensitivity	human body model; R = 1.5 kΩ; C = 100 pF	500	−	V

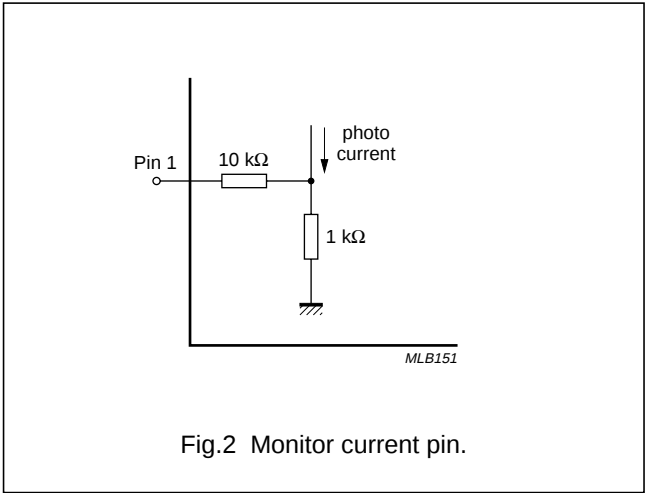
CHARACTERISTICS

Table 1 Bandwidth 5 to 300 MHz; V_B = 24 V; T_{mb} = 30 °C; Z_L = 75 Ω.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
S	responsivity	λ = 1300 nm	800	−	V/W
FL	flatness of frequency response		−	±0.3	dB
S ₂₂	output return losses	f = 5 to 300 MHz	15	−	dB
	optical input return losses		40	−	dB
d ₂	second order distortion	note 1	−	−70	dB
d ₃	third order distortion	note 2	−	−80	dB
F	equivalent noise input	f = 10 to 300 MHz	−	7	pA/√Hz
S _λ	spectral sensitivity	λ = 1310 ±20 nm	0.85	−	A/W
		λ = 1550 ±20 nm	0.9	−	A/W
λ	optical wavelength		1290	1600	nm
L	length of optical fibre	fibre; SM type; 9/125 μm	1	−	m
I _{tot}	total current consumption (DC)	note 3	160	190	mA

Notes

1. Two laser test; each laser with 40% modulation index;
f_p = 20.25 MHz; P_p = 0.5 mW;
f_q = 34 MHz; P_q = 0.5 mW;
measured at f_p + f_q = 54.25 MHz.
2. Three laser test; each laser with 40% modulation index;
f_p = 125.25 MHz; P_p = 0.33 mW;
f_q = 110.25 MHz; P_q = 0.33 mW;
f_r = 135.25 MHz; P_r = 0.33 mW;
measured at f_p + f_q − f_r = 100.25 MHz.
3. The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.



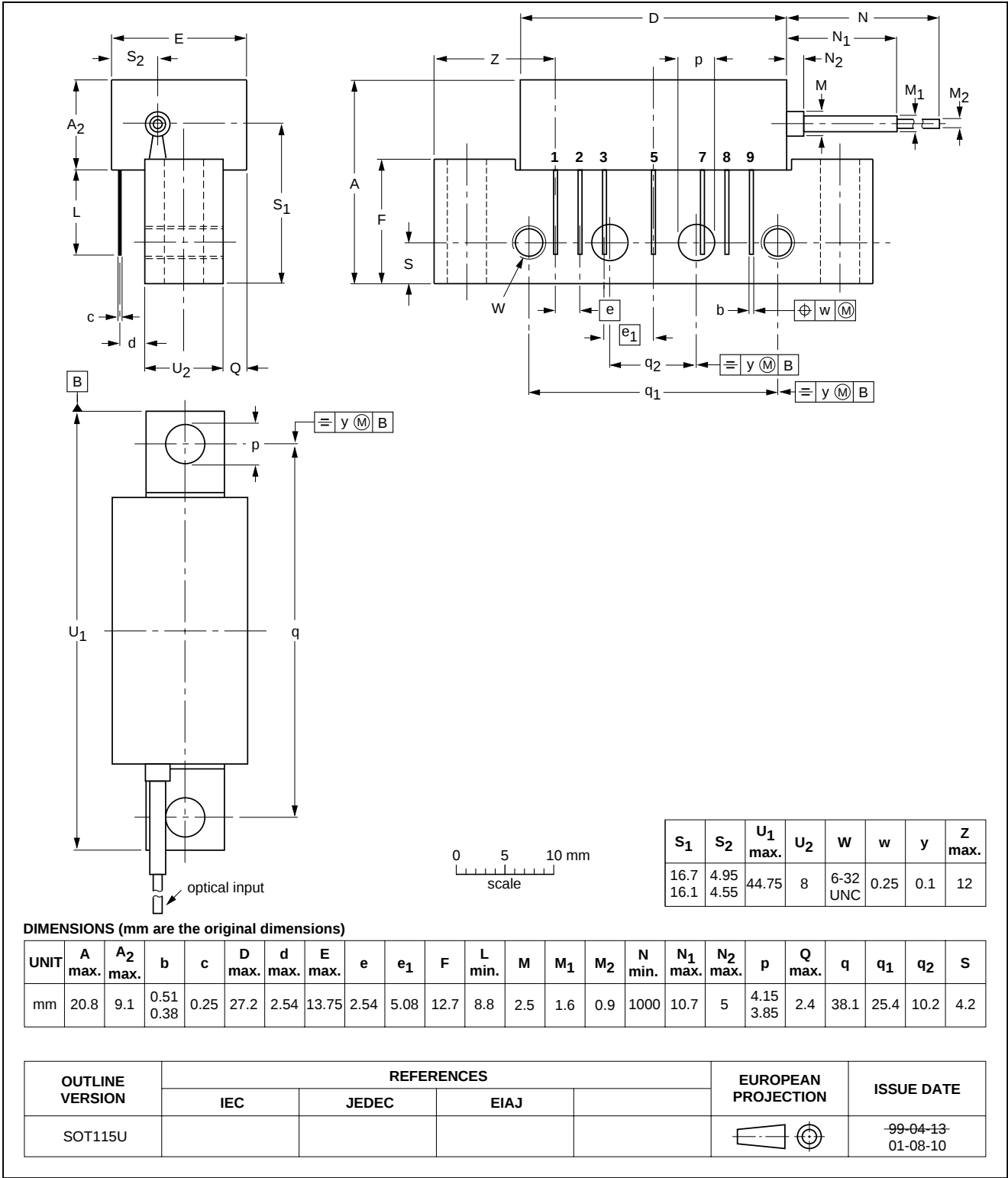
Optical receiver module

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PACKAGE OUTLINE

Rectangular single-ended package; aluminium 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



Optical receiver module

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DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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NOTES

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NOTES

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