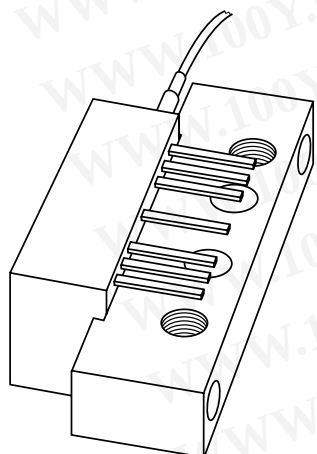


DATA SHEET



BGE887BO Optical receiver module

Product specification
Supersedes data of 2000 Apr 10

2001 Sep 27

勝特力材料 886-3-5753170
勝特力电子(上海) 86-21-34970699
勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Optical receiver module

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FEATURES

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

APPLICATIONS

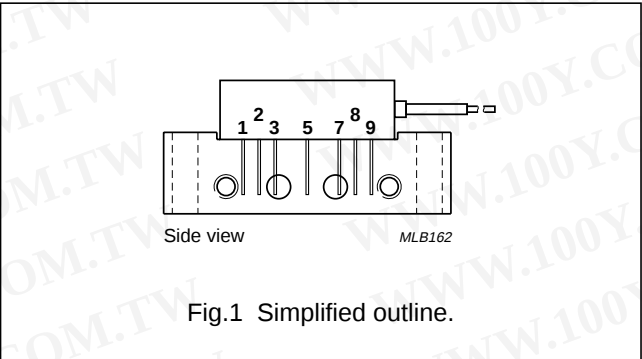
- CATV systems operating in the 40 to 860 MHz frequency range.

DESCRIPTION

Hybrid high dynamic range optical receiver 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		40	860	MHz
S ₂₂	output return losses	f = 40 to 860 MHz	11	–	dB
	optical input return losses		45	–	dB
d ₂	second order distortion	f = 324.25 MHz	–	–70	dBc
F	equivalent noise input	f = 40 MHz	–	7	pA/ $\sqrt{\text{Hz}}$
I _{tot}	total current consumption (DC)	V _B = 24 V	175	205	mA

HANDLING

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

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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		40	860	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

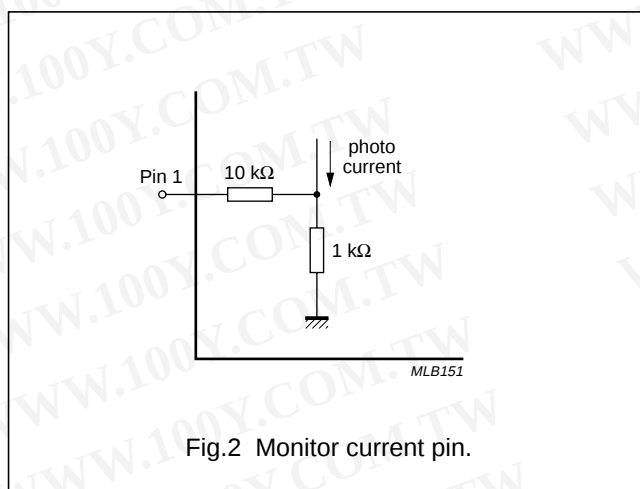
CHARACTERISTICS

Table 1 Bandwidth 40 to 860 MHz; V_B = 24 V; T_{mb} = 30 °C; Z_S = Z_L = 75 Ω

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
S	responsivity	λ = 1300 nm	800	–	V/W
V _{pin 1}	pin 1 monitor voltage	λ = 1300 nm	0.75	1	V/mW
FL	flatness of frequency response		–	±0.5	dB
S ₂₂	output return losses	f = 40 to 860 MHz	11	–	dB
	optical input return losses		45	–	dB
d ₂	second order distortion	note 1	–	-70	dB
d ₃	third order distortion	note 2	–	-80	dB
F	equivalent noise input	f = 40 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	175	205	mA

Notes

- Two laser test; each laser with 40% modulation index;
 f_p = 135 MHz; P_p = 0.5 mW;
 f_q = 189.25 MHz; P_q = 0.5 mW;
 measured at f_p + f_q = 324.25 MHz.
- Three laser test; each laser with 40% modulation index;
 f_p = 326.25 MHz; P_p = 0.33 mW;
 f_q = 333.25 MHz; P_q = 0.33 mW;
 f_r = 335.25 MHz; P_r = 0.33 mW;
 measured at f_p + f_q – f_r = 324.25 MHz.
- The module normally operates at V_B = 24 V but is able to withstand supply transients up to 30 V.



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SOT115U

s_1	s_2	U_1 max.	U_2	W	w	y	Z max.
16.7	4.95	44.75	8	6-32	0.25	0.1	12
16.1	4.55			UNC			

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 max.	N ₂ max.	p	Q max.	q	q ₁	q ₂	S
mm	20.8	9.1	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	5	4.15 3.85	2.4	38.1	25.4	10.2	4.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT115U						99-04-13 01-08-10

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.
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Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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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.

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NOTES

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