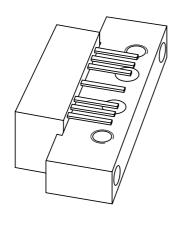
DISCRETE SEMICONDUCTORS

DATA SHEET



BGY883 860 MHz, 15 dB gain push-pull amplifier

Product specification Supersedes data of 1997 Apr 14

2001 Oct 31





860 MHz, 15 dB gain push-pull amplifier

BGY883

FEATURES

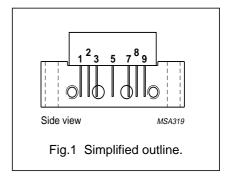
- · Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- Gold metallization ensures excellent reliability.

DESCRIPTION

Hybrid amplifier module designed for CATV systems operating over a frequency range of 40 to 860 MHz at a voltage supply of 24 V (DC).

PINNING - SOT115J

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



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f = 50 MHz	14.5	15.5	dB
		f = 860 MHz	15	_	dB
I _{tot}	total current consumption (DC)	V _B = 24 V	_	235	mA

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
Vi	RF input voltage	_	65	dBmV
T _{stg}	storage temperature	-40	+100	°C
T _{mb}	operating mounting base temperature	-20	+100	°C

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CHARACTERISTICS

Table 1 Bandwidth 40 to 860 MHz; $V_B = 24 \text{ V}$; $T_{case} = 30 \,^{\circ}\text{C}$; $Z_S = Z_L = 75 \,^{\circ}\Omega$

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Gp	power gain	f = 50 MHz	14.5	_	15.5	dB
		f = 860 MHz	15	_	_	dB
SL	slope cable equivalent	f = 40 to 860 MHz	0	_	2	dB
FL	flatness of frequency response	f = 40 to 860 MHz	_	_	±0.3	dB
s ₁₁	input return losses	f = 40 to 80 MHz	20	_	_	dB
		f = 80 to 160 MHz	18.5	_	_	dB
		f = 160 to 320 MHz	17	_	_	dB
		f = 320 to 640 MHz	15.5	_	_	dB
		f = 640 to 860 MHz	14	_	_	dB
S ₂₂	output return losses	f = 40 to 80 MHz	20	_	_	dB
		f = 80 to 160 MHz	18.5	_	_	dB
		f = 160 to 320 MHz	17	_	_	dB
		f = 320 to 640 MHz	15.5	_	_	dB
		f = 640 to 860 MHz	14	_	_	dB
S ₂₁	phase response	f = 50 MHz	-45	_	+45	deg
СТВ	composite triple beat	49 channels flat; V _o = 44 dBmV; measured at 859.25 MHz	_	_	-61	dB
X _{mod}	cross modulation	49 channels flat; V _o = 44 dBmV; measured at 55.25 MHz	_	_	-61	dB
CSO	composite second order distortion	49 channels flat; V _o = 44 dBmV; measured at 860.5 MHz	-	_	-61	dB
d_2	second order distortion	note 1	_	_	-68	dB
Vo	output voltage	d _{im} = -60 dB; note 2	58.5	60	_	dBmV
F	noise figure	f = 50 MHz	_	 -	6	dB
		f = 550 MHz	_	_	7	dB
		f = 650 MHz	_	_	7.5	dB
		f = 750 MHz	_	_	8	dB
		f = 860 MHz	_	1-	8.5	dB
I _{tot}	total current consumption (DC)	note 3	_	_	235	mA

Notes

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1. f_p = 55.25 MHz; V_p = 44 dBmV; f_q = 805.25 MHz; V_q = 44 dBmV; measured at f_p + f_q = 860.5 MHz.
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2. Measured according to DIN45004B:

$$\begin{split} &f_p = 851.25 \text{ MHz; } V_p = V_o; \\ &f_q = 858.25 \text{ MHz; } V_q = V_o - 6 \text{ dB;} \\ &f_r = 860.25 \text{ MHz; } V_r = V_o - 6 \text{ dB;} \\ &\text{measured at } f_p + f_q - f_r = 849.25 \text{ MHz.} \end{split}$$

3. The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.

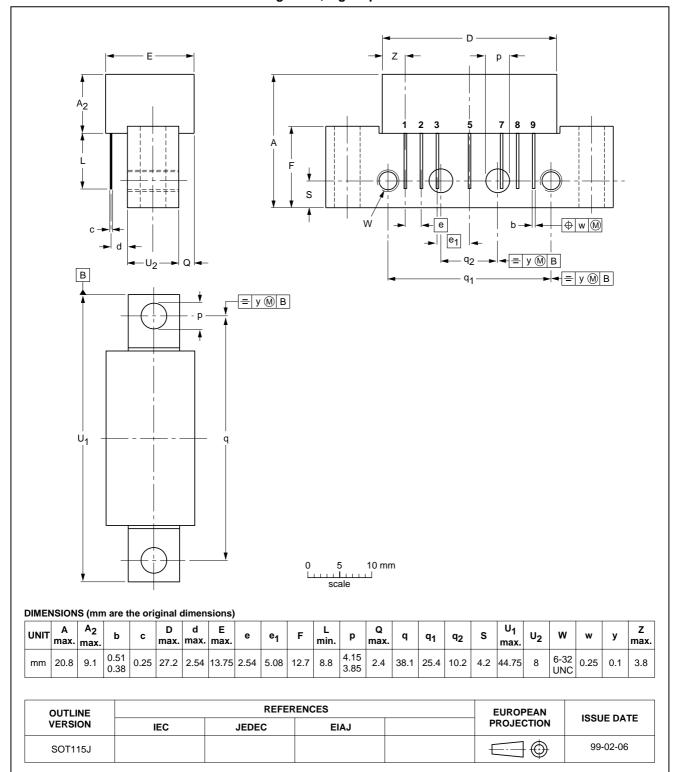
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PACKAGE OUTLINE

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

SOT115J



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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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NOTES

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NOTES

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