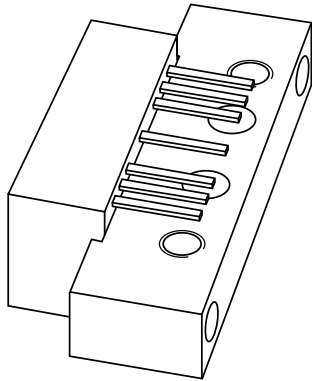


DATA SHEET



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

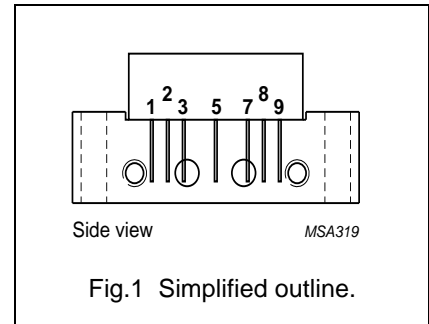
- Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- Gold metallization ensures excellent reliability.

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
V _i	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; $V_B = 24$ V; $T_{case} = 30$ °C; $Z_S = Z_L = 75$ Ω

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G _p	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
CTB	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
V _o	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	–	–	8.5	dB
I _{tot}	total current consumption (DC)	note 3	–	–	235	mA

Notes

- 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.
- Measured according to DIN45004B:
f_p = 851.25 MHz; V_p = V_o;
f_q = 858.25 MHz; V_q = V_o – 6 dB;
f_r = 860.25 MHz; V_r = V_o – 6 dB;
measured at f_p + f_q – f_r = 849.25 MHz.
- The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.

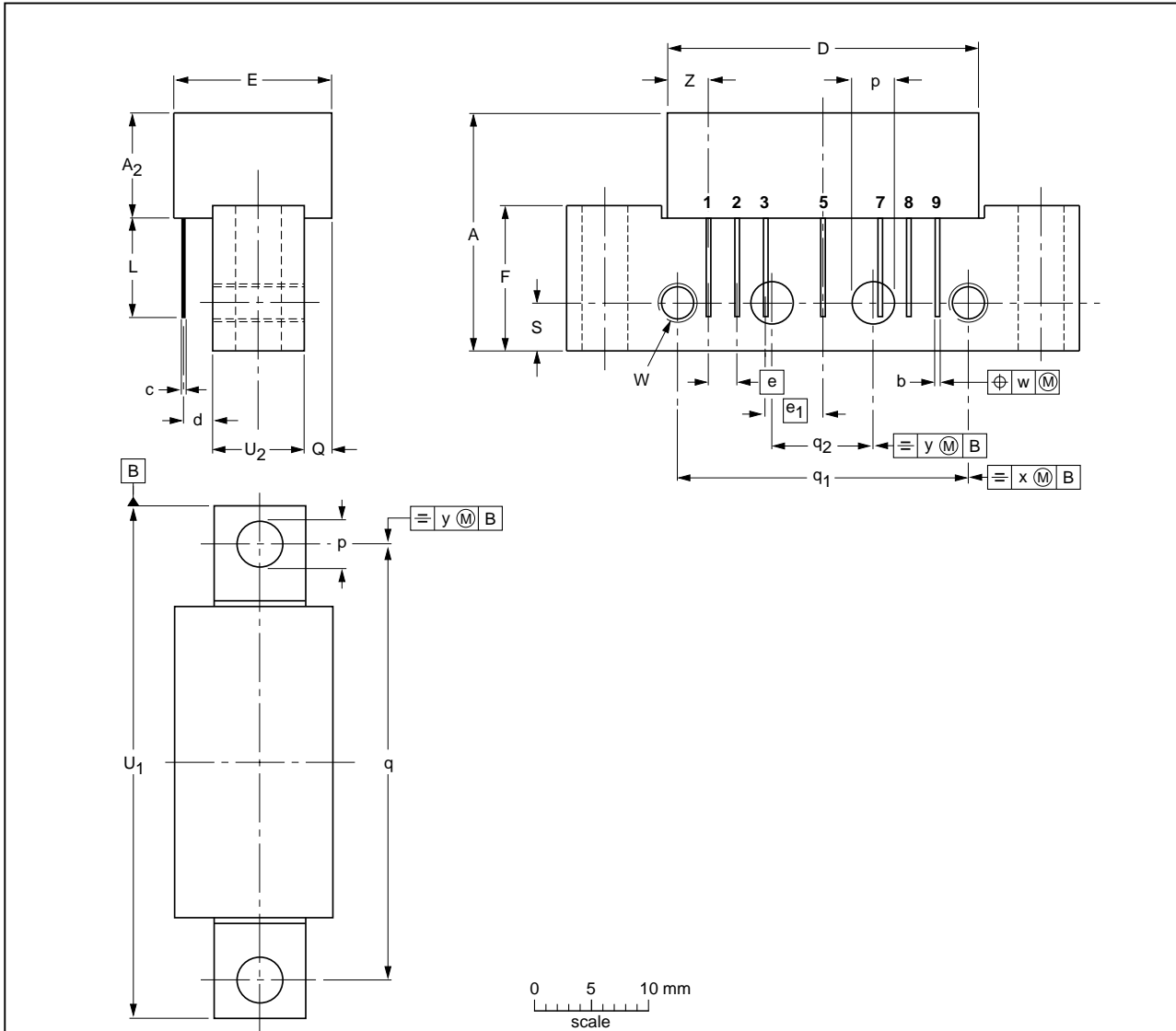
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PACKAGE OUTLINE

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



DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A ₂ max.	b	c	D max.	d	E max.	e	e ₁	F	L min.	p	Q max.	q	q ₁	q ₂	S	U ₁	U ₂	W	w	x	y	Z max.
mm	20.8	9.5	0.51 0.38	0.25	27.2	2.04 2.54	13.75	2.54	5.08	12.7	8.8	4.15 3.85	2.4	38.1	25.4	10.2	4.2	44.75 44.25	8.2 7.8	6-32 UNC	0.25	0.7	0.1	3.8

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT115J						04-02-04 10-06-18

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DATA SHEET STATUS

DOCUMENT STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITION
Objective data sheet	Development	This document contains data from the objective specification for product development.
Preliminary data sheet	Qualification	This document contains data from the preliminary specification.
Product data sheet	Production	This document contains the product specification.

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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