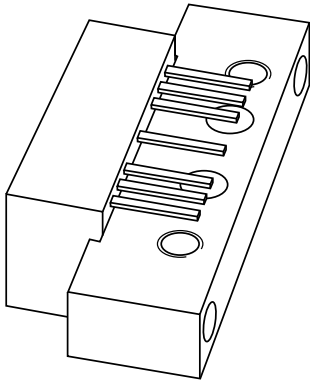


DATA SHEET



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

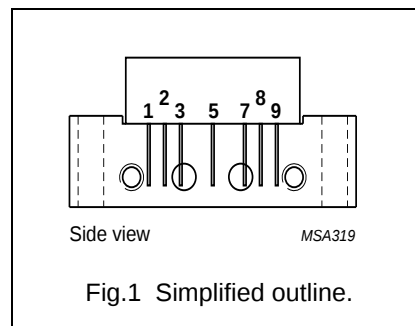
- Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- Gold metallization ensures excellent reliability.

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; $V_B = 24\text{ V}$; $T_{\text{case}} = 30\text{ }^{\circ}\text{C}$; $Z_S = Z_L = 75\text{ }\Omega$

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

Notes

- $f_p = 55.25\text{ MHz}$; $V_p = 44\text{ dBmV}$;
 $f_q = 805.25\text{ MHz}$; $V_q = 44\text{ dBmV}$;
measured at $f_p + f_q = 860.5\text{ MHz}$.
- Measured according to DIN45004B:
 $f_p = 851.25\text{ MHz}$; $V_p = V_o$;
 $f_q = 858.25\text{ MHz}$; $V_q = V_o - 6\text{ dB}$;
 $f_r = 860.25\text{ MHz}$; $V_r = V_o - 6\text{ dB}$;
measured at $f_p + f_q - f_r = 849.25\text{ MHz}$.
- The module normally operates at $V_B = 24\text{ V}$, but is able to withstand supply transients up to 30 V.

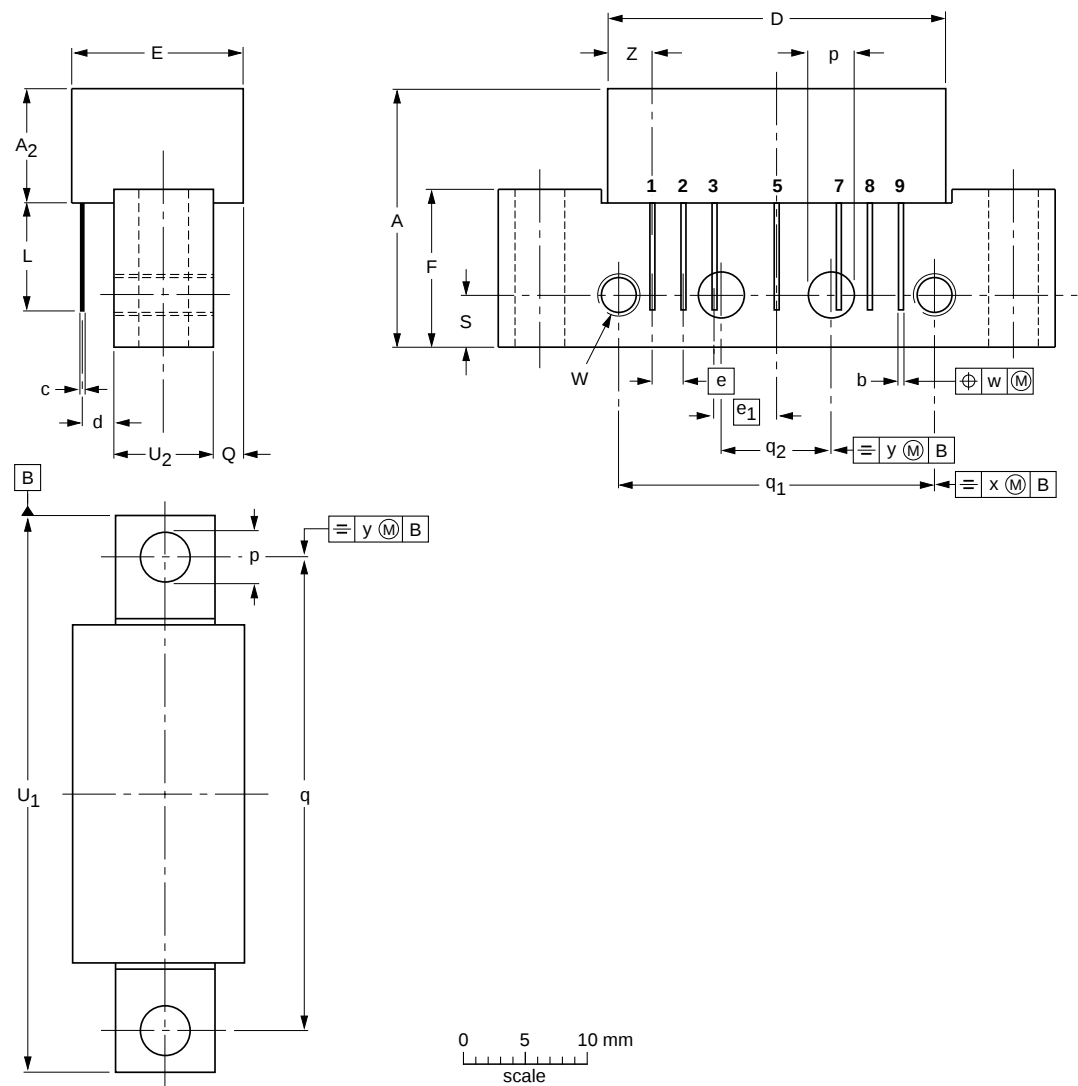
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PACKAGE OUTLINE

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

860 MHz, 15 dB gain push-pull amplifier

BGY883

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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