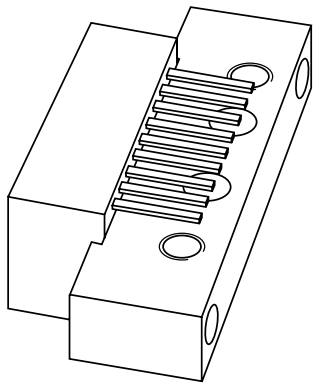


DATA SHEET



BGX885N

**860 MHz, 17 dB gain push-pull
amplifier**

Product specification
Supersedes data of 1997 Mar 26

2001 Nov 14

860 MHz, 17 dB gain push-pull amplifier

BGX885N

FEATURES

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

DESCRIPTION

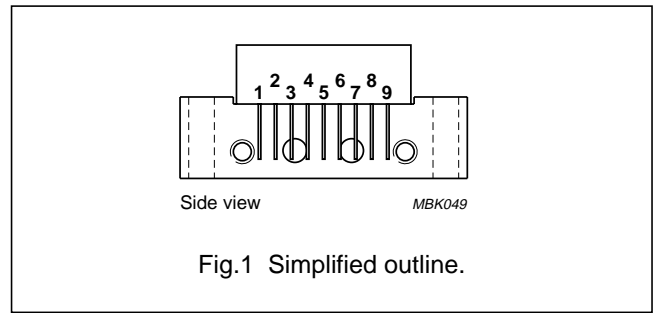
The BGX885N is a hybrid amplifier module designed for CATV/MATV systems operating over a frequency range of 40 to 860 MHz at a voltage supply of 24 V (DC).

PINNING - SOT115D

PIN	DESCRIPTION
1	input; note 1
2, 3	common
4	60 mA supply terminal
5, 6, 7	common
8	+V _B
9	output; note 1

Note

1. Pins 1 and 9 carry DC voltages.



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f = 50 MHz	16.5	17.5	dB
		f = 750 MHz	17.3	–	dB
I _{tot}	total current consumption (DC)	V _B = 24 V	–	240	mA

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V _B	DC supply voltage	–	26	V
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; $T_{mb} = 30$ °C; $Z_S = Z_L = 75$ Ω

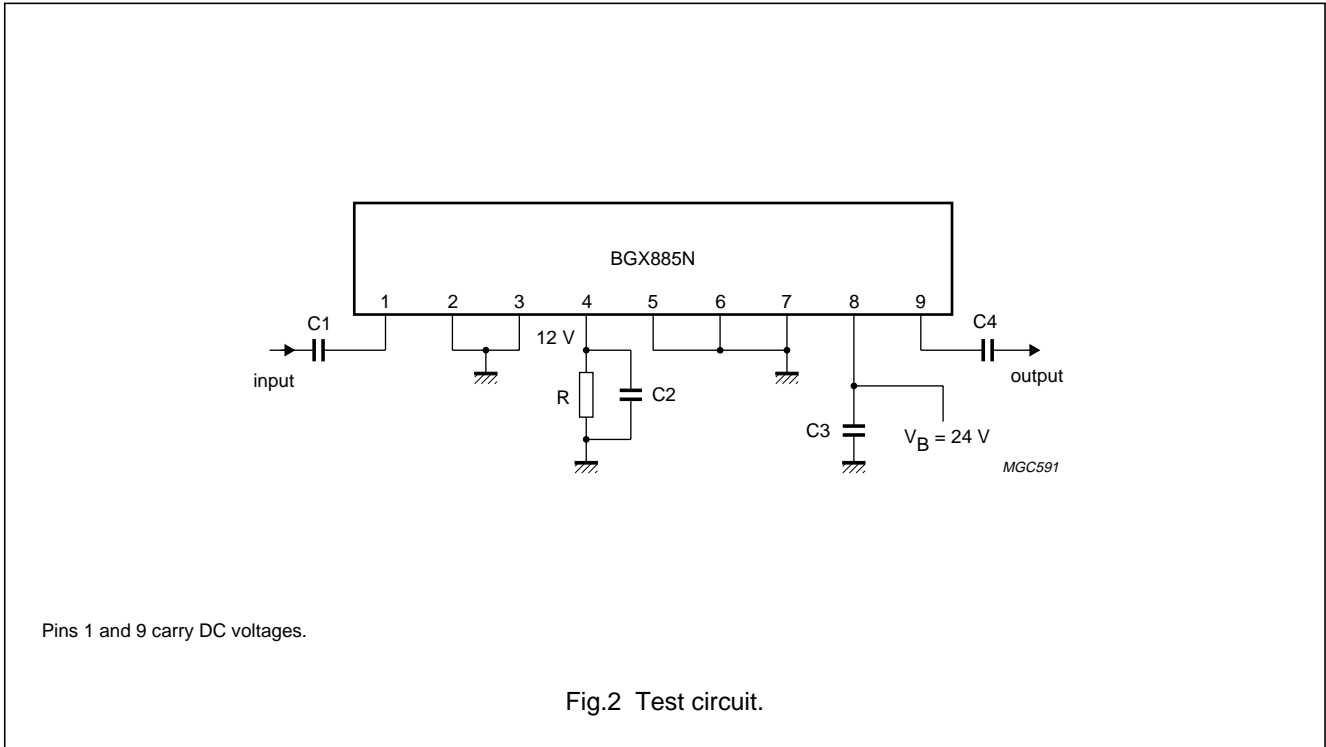
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	power gain	f = 50 MHz	16.5	17.5	dB
		f = 750 MHz	17.3	–	dB
SL	slope cable equivalent	f = 40 to 860 MHz	0.2	1.4	dB
FL	flatness of frequency response	f = 40 to 860 MHz	–	± 0.3	dB
S_{11}	input return losses	f = 40 MHz; note 1	20	–	dB
		f = 800 to 860 MHz	10	–	dB
S_{22}	output return losses	f = 40 MHz; note 1	20	–	dB
		f = 640 to 860 MHz	15	–	dB
d_2	second order distortion	note 2	–	–53	dB
V_o	output voltage	$d_{im} = -60$ dB; note 3	61	–	dBmV
		$d_{im} = -60$ dB; note 4	60	–	dBmV
NF	noise figure	f = 50 MHz	–	7.5	dB
		f = 350 MHz	–	7.5	dB
		f = 550 MHz	–	7.5	dB
		f = 650 MHz	–	7.5	dB
		f = 750 MHz	–	8	dB
		f = 860 MHz	–	8	dB
I_{tot}	total current consumption (DC)	note 5	–	240	mA

Notes

- Decrease per octave of 1.5 dB.
- $f_p = 349.25$ MHz; $V_p = V_o = 59$ dBmV;
 $f_q = 403.25$ MHz; $V_q = V_o$;
measured at $f_p + f_q = 752.5$ MHz.
- Measured according to DIN45004B:
 $f_p = 341.25$ MHz; $V_p = V_o$;
 $f_q = 348.25$ MHz; $V_q = V_o - 6$ dB;
 $f_r = 350.25$ MHz; $V_r = V_o - 6$ dB;
measured at $f_p + f_q - f_r = 339.25$ 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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List of components (see Fig.2)

COMPONENT	DESCRIPTION	VALUE
C1, C3, C4	ceramic multilayer capacitor	1 nF (max.)
C2	ceramic multilayer capacitor	1 nF
R	resistor	200 Ω, 1 W

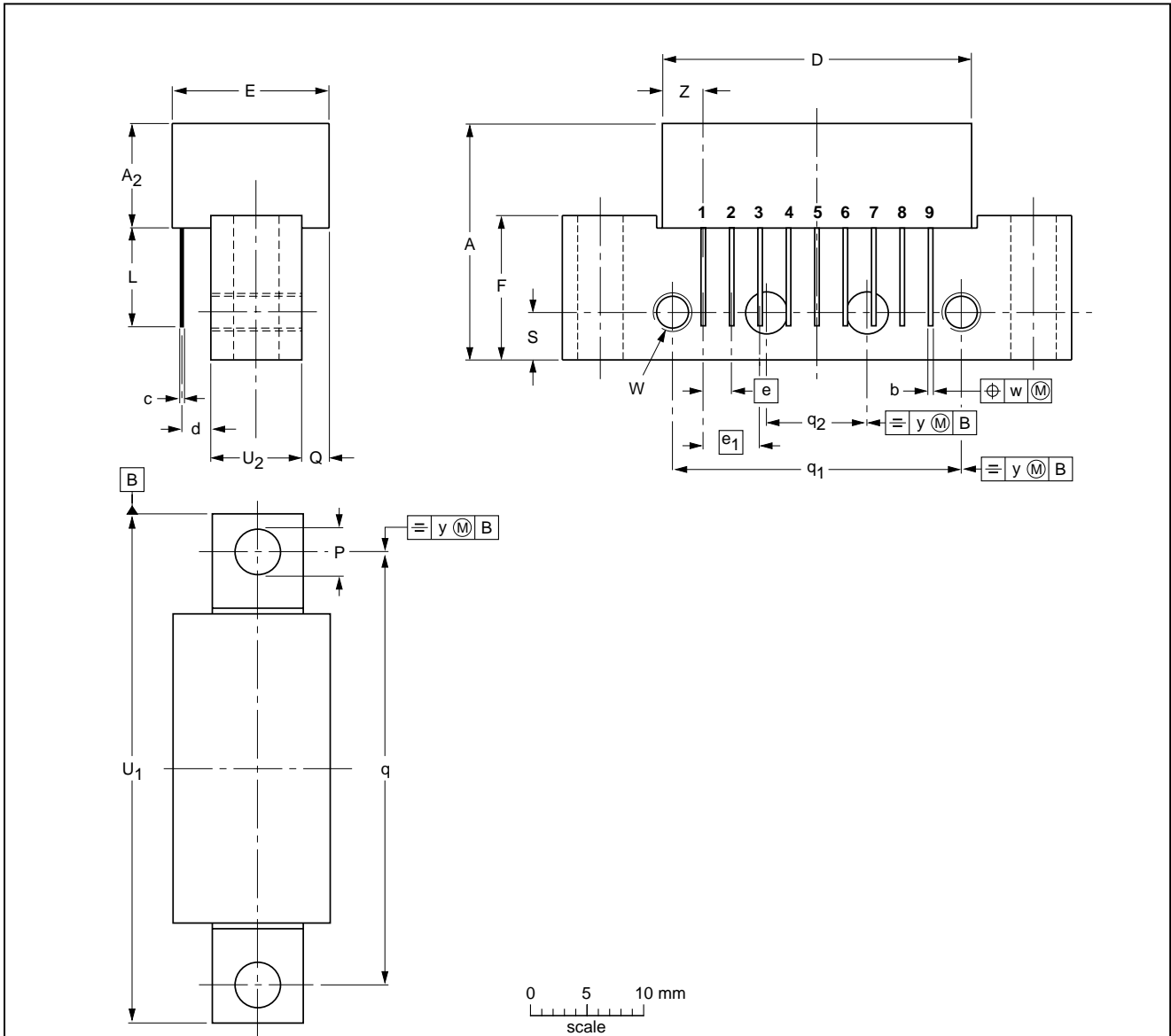
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PACKAGE OUTLINE

Rectangular single-ended package; aluminium flange; 2 vertical mounting holes; 2 x 6-32 UNC and 2 extra horizontal mounting holes; 9 gold-plated in-line leads

SOT115D



DIMENSIONS (mm are the original dimensions)

UNIT	A max.	A ₂ max.	b	c	D max.	d max.	E max.	e	e ₁	F	L min.	∅ P	Q max.	q	q ₁	q ₂	S	U ₁ max.	U ₂	W	w	y	Z max.
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	4.15 3.85	2.4	38.1	25.4	10.2	4.2	44.75	8	6-32 UNC	0.25	0.1	3.8

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT115D						97-04-10

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DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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