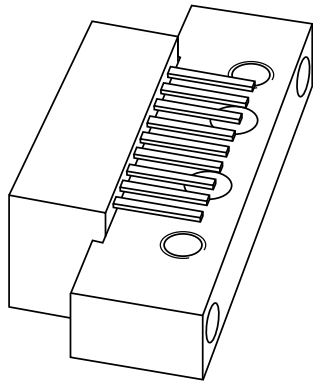


# DATA SHEET



## **BGE885**

860 MHz, 17 dB gain push-pull  
amplifier

Product specification  
Supersedes data of 1999 Mar 30

2001 Oct 31



# 860 MHz, 17 dB gain push-pull amplifier

**BGE885**

## FEATURES

- Excellent linearity
- Extremely low noise
- Rugged construction
- TiPtAu metallized crystals ensure optimal reliability.

## DESCRIPTION

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

## PINNING - SOT115D

PIN	DESCRIPTION
1	input; note 1
2	common
3	common
4	12 V, 60 mA supply terminal
5	common
6	common
7	common
8	+V <sub>B</sub>
9	output; note 1

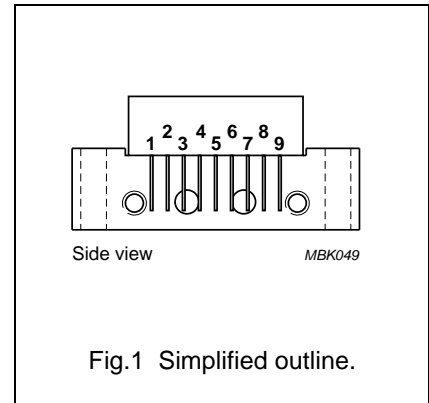


Fig.1 Simplified outline.

### Note

1. Pins 1 and 9 carry DC voltages.

## QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G <sub>p</sub>	power gain	f = 50 MHz	16.5	17.5	dB
I <sub>tot</sub>	total current consumption (DC)	V <sub>B</sub> = 24 V	–	240	mA

## LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V <sub>B</sub>	DC supply voltage	–	28	V
V <sub>i</sub>	RF input voltage	–	65	dBmV
T <sub>stg</sub>	storage temperature	–40	+100	°C
T <sub>mb</sub>	operating mounting base temperature	–20	+100	°C

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

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**CHARACTERISTICS**Bandwidth 40 to 860 MHz;  $V_B = 24\text{ V}$ ;  $T_{mb} = 30\text{ °C}$ ;  $Z_S = Z_L = 75\ \Omega$ 

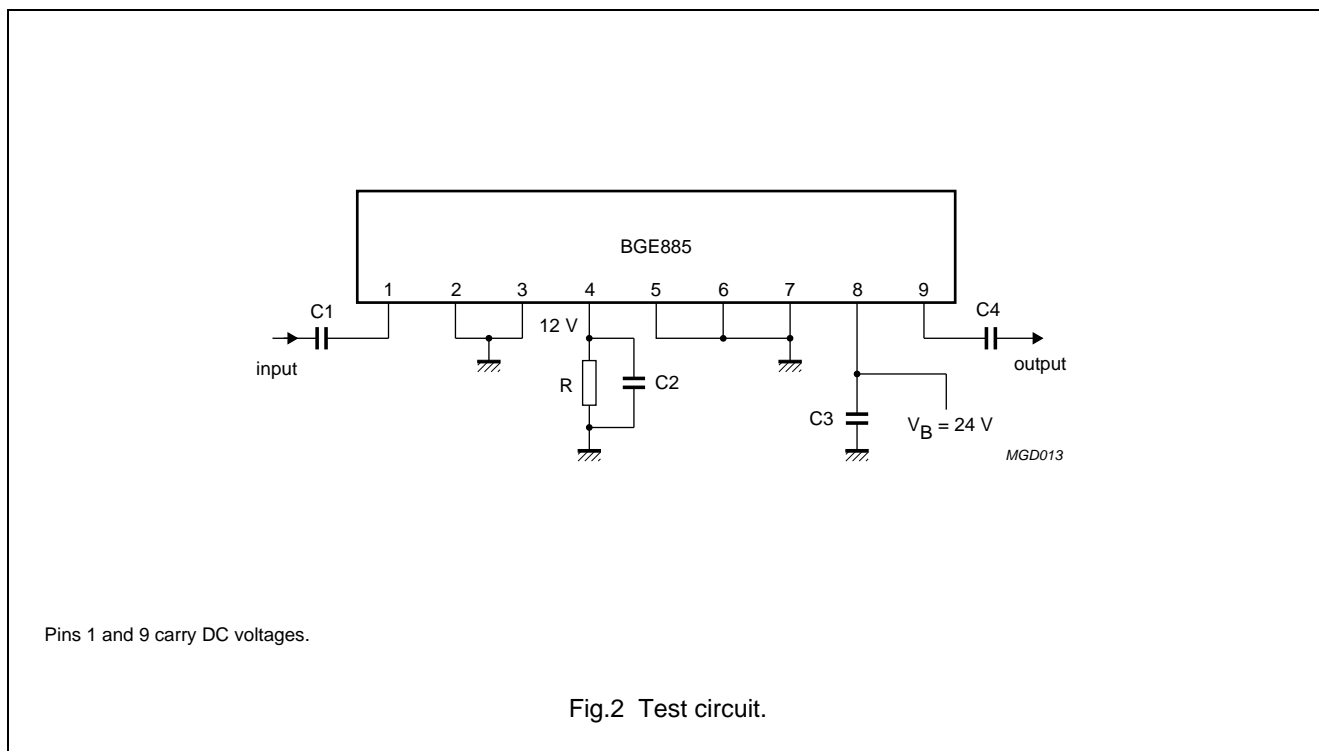
SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$G_p$	power gain	$f = 50\text{ MHz}$	16.5	17.5	dB
SL	slope cable equivalent	$f = 40\text{ to }860\text{ MHz}$	0.2	1.2	dB
FL	flatness of frequency response	$f = 40\text{ to }860\text{ MHz}$	–	$\pm 0.5$	dB
$S_{11}$	input return losses	$f = 40\text{ to }450\text{ MHz}$	14	–	dB
		$f = 450\text{ to }860\text{ MHz}$	10	–	dB
$S_{22}$	output return losses	$f = 40\text{ to }450\text{ MHz}$	14	–	dB
		$f = 450\text{ to }860\text{ MHz}$	10	–	dB
$d_2$	second order distortion	note 1	–	–53	dB
$V_o$	output voltage	$d_{im} = -60\text{ dB}$ ; note 2	59	–	dBmV
F	noise figure	$f = 350\text{ MHz}$	–	7.5	dB
		$f = 860\text{ MHz}$	–	8	dB
$I_{tot}$	total current consumption (DC)	note 3	–	240	mA

**Notes**

- $f_p = 349.25\text{ MHz}$ ;  $V_p = 59\text{ dBmV}$ ;  
 $f_q = 403.25\text{ MHz}$ ;  $V_q = 59\text{ dBmV}$ ;  
measured at  $f_p + f_q = 752.5\text{ MHz}$ .
- Measured according to DIN45004B:  
 $f_p = 851.25\text{ MHz}$ ;  $V_p = V_o = 59\text{ dBmV}$ ;  
 $f_q = 858.25\text{ MHz}$ ;  $V_q = V_o - 6\text{ dB}$ ;  
 $f_r = 860.25\text{ MHz}$ ;  $V_r = V_o - 6\text{ dB}$ ;  
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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List of components (see Fig.2)

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

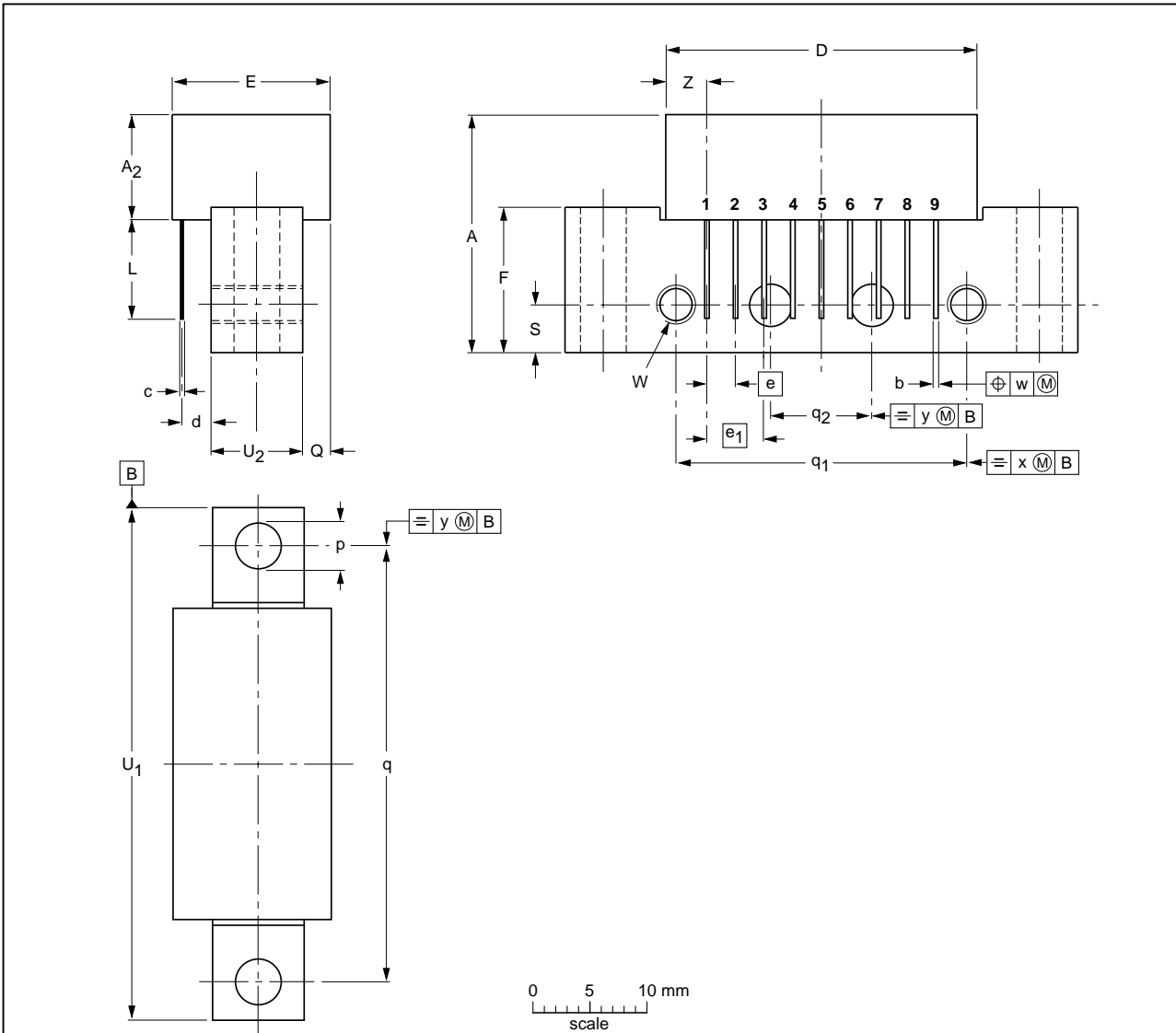
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PACKAGE OUTLINE

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 <sub>2</sub> max.	b	c	D max.	d max.	E max.	e	e <sub>1</sub>	F	L min.	p	Q max.	q	q <sub>1</sub>	q <sub>2</sub>	S	U <sub>1</sub>	U <sub>2</sub>	W	w	x	y	Z max.
mm	20.8	9.5	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 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			
SOT115D						04-02-04 10-06-18

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## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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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## **Contact information**

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