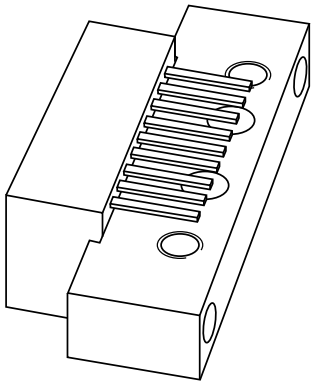
DATA SHEET



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	$+V_B$
9	output; note 1

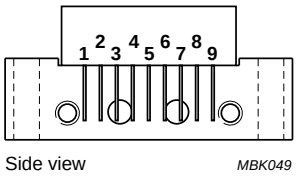


Fig.1 Simplified outline.

Note

1. Pins 1 and 9 carry DC voltages.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	power gain	f = 50 MHz	16.5	17.5	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	–	28	V
V_i	RF input voltage	–	65	dBmV
T_{stg}	storage temperature	−40	+100	°C
T_{mb}	operating mounting base temperature	−20	+100	°C

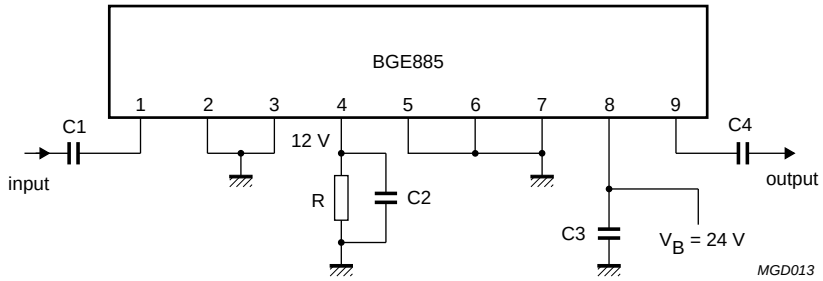
CHARACTERISTICS

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
SL	slope cable equivalent	f = 40 to 860 MHz	0.2	1.2	dB
FL	flatness of frequency response	f = 40 to 860 MHz	–	±0.5	dB
s_{11}	input return losses	f = 40 to 450 MHz	14	–	dB
		f = 450 to 860 MHz	10	–	dB
s_{22}	output return losses	f = 40 to 450 MHz	14	–	dB
		f = 450 to 860 MHz	10	–	dB
d_2	second order distortion	note 1	–	–53	dB
V_o	output voltage	d_{im} = –60 dB; note 2	59	–	dBmV
F	noise figure	f = 350 MHz	–	7.5	dB
		f = 860 MHz	–	8	dB
I_{tot}	total current consumption (DC)	note 3	–	240	mA

Notes

1. f_p = 349.25 MHz; V_p = 59 dBmV;
   f_q = 403.25 MHz; V_q = 59 dBmV;
   measured at $f_p + f_q$ = 752.5 MHz.
2. Measured according to DIN45004B:
   f_p = 851.25 MHz; $V_p = V_o$ = 59 dBmV;
   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.
3. The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.



Pins 1 and 9 carry DC voltages.

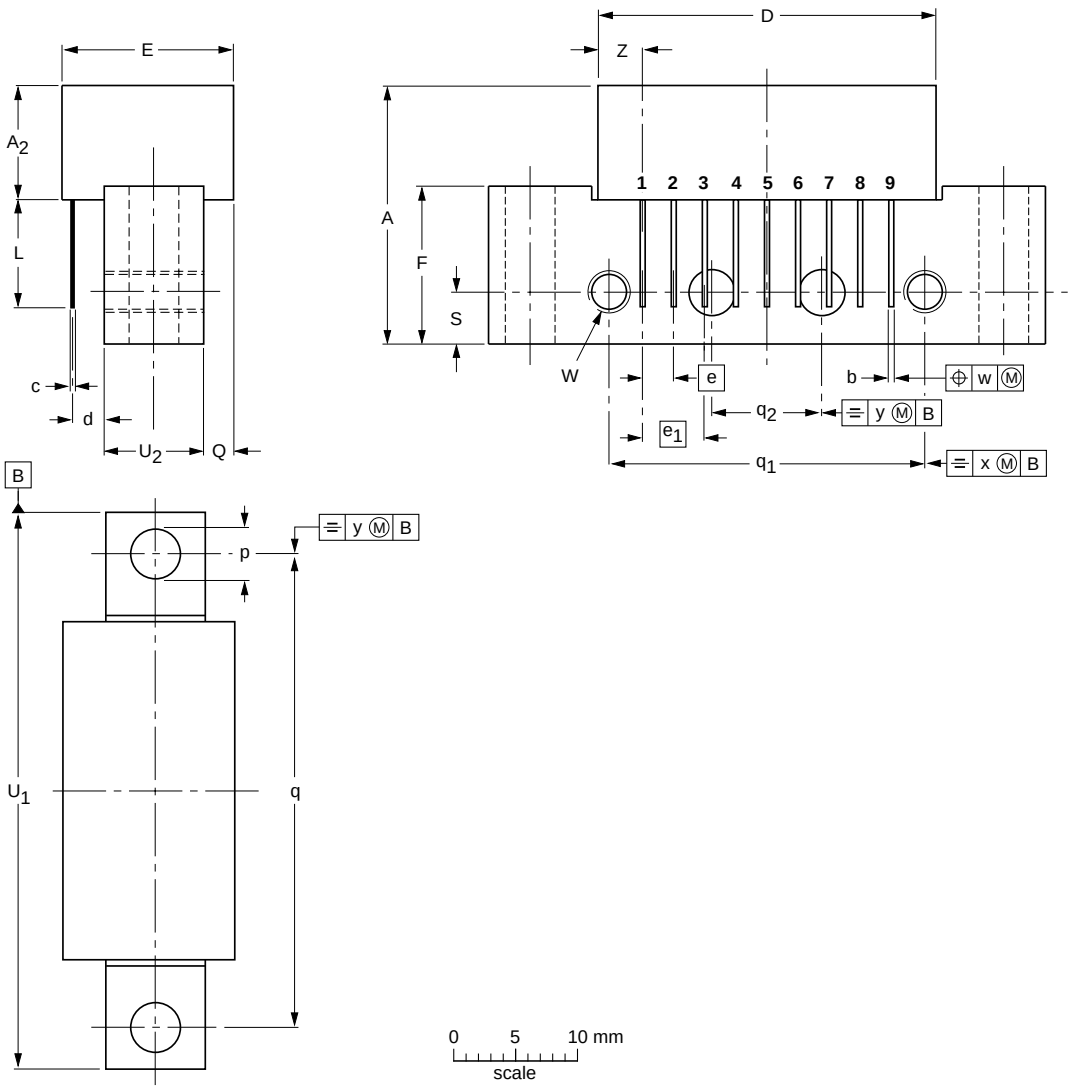
Fig.2 Test circuit.

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

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	U_2	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

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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Contact information

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Printed in The Netherlands R77/04/pp8 Date of release: 2001 Oct 31