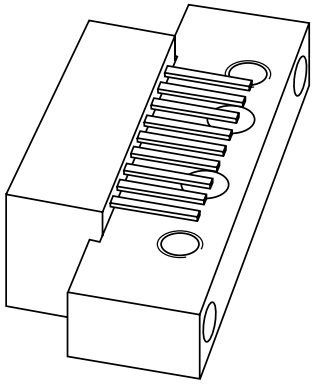
DATA SHEET



BGE885
860 MHz, 17 dB gain push-pull amplifier

Product specification
Supersedes data of 1999 Mar 30

2001 Oct 31

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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

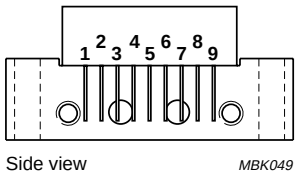


Fig.1 Simplified outline.

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

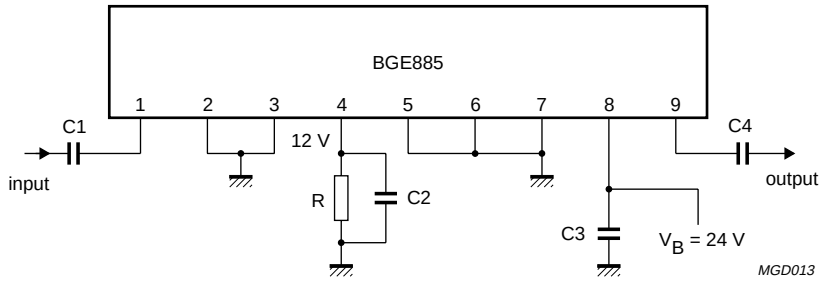
CHARACTERISTICS

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.

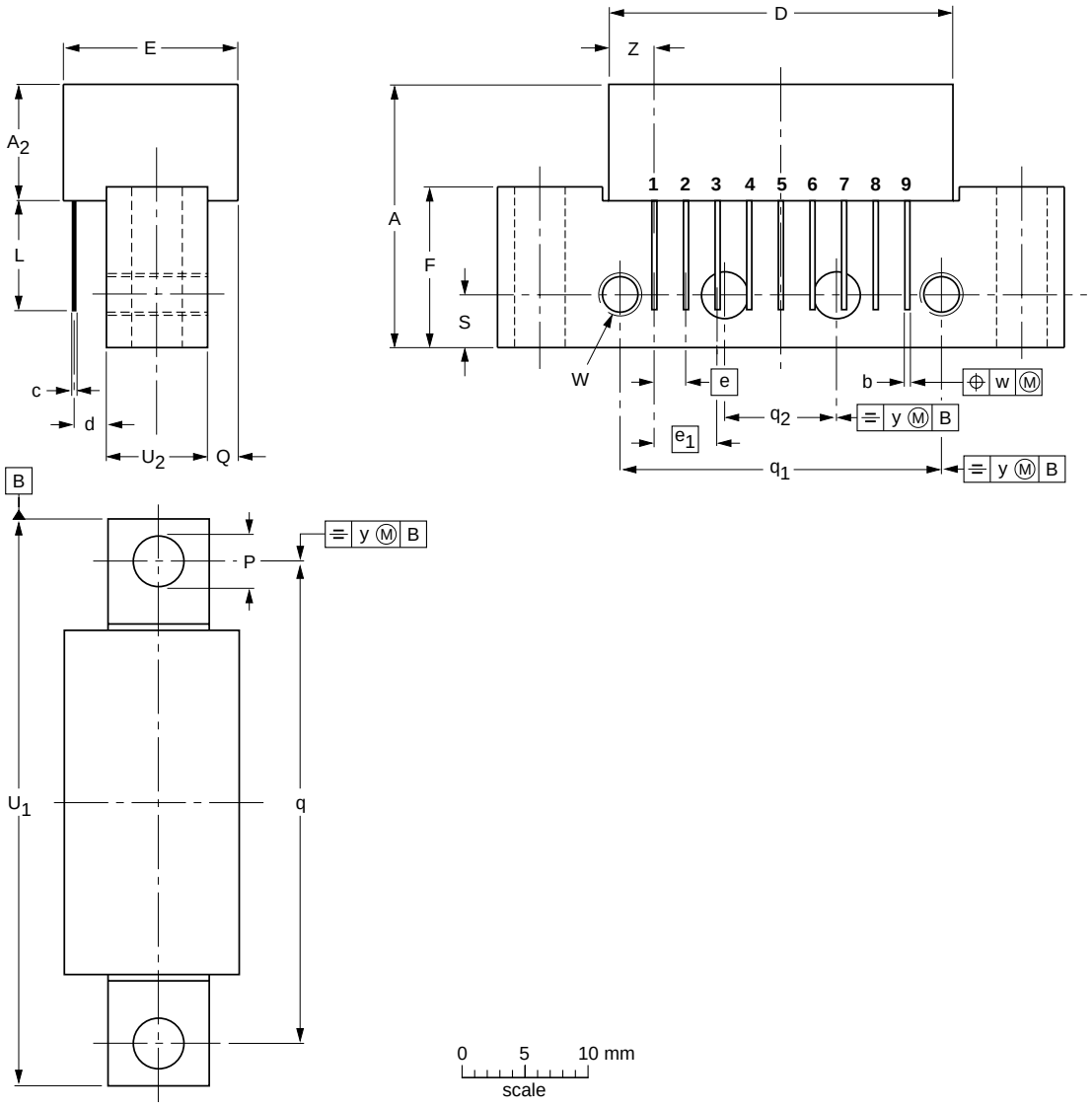
Fig.2 Test circuit.

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 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

DATA SHEET STATUS

DATA SHEET STATUS[1]	PRODUCT STATUS[2]	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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