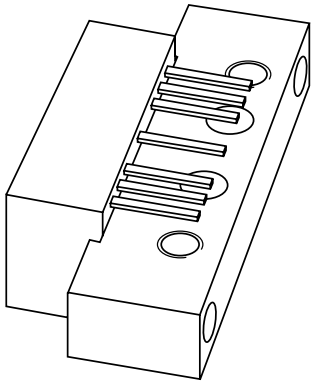
DATA SHEET



BGY588N

550 MHz, 34.5 dB gain push-pull amplifier

Product specification
Supersedes data of 2000 Feb 14

2001 Oct 22

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550 MHz, 34.5 dB gain push-pull amplifier BGY588N

FEATURES

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

APPLICATIONS

CATV systems in the 40 to 550 MHz frequency range and intended for use as a line-extender.

DESCRIPTION

Hybrid amplifier module in a SOT115J package operating with 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

PIN CONFIGURATION

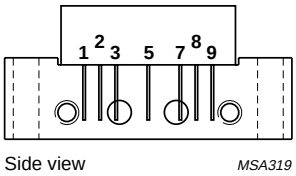


Fig.1 Simplified outline.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G_p	power gain	f = 50 MHz	34	34.5	35	dB
		f = 550 MHz	35	35.5	36	dB
I_{tot}	total current consumption (DC)	V_B = 24 V	310	325	340	mA

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_i	RF input voltage	–	55	dBmV
T_{stg}	storage temperature	–40	+100	°C
T_{mb}	operating mounting base temperature	–20	+100	°C

CHARACTERISTICS

Bandwidth 40 to 550 MHz; V_B = 24 V; T_{case} = 35 °C; $Z_S = Z_L$ = 75 Ω

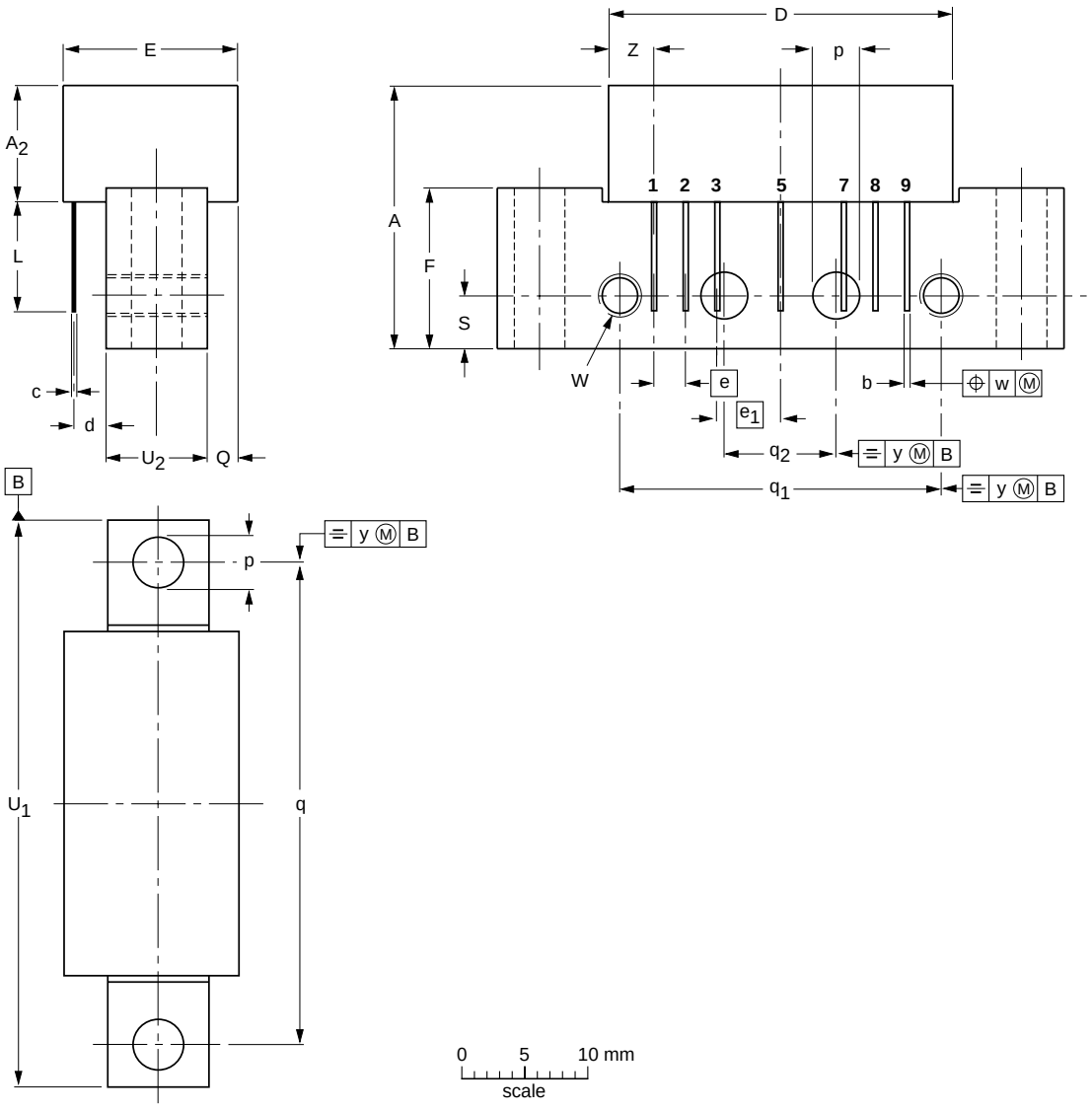
SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G_p	power gain	f = 50 MHz	34	34.5	35	dB
		f = 550 MHz	35	35.5	36	dB
SL	slope cable equivalent	f = 40 to 550 MHz	0.5	1	1.5	dB
FL	flatness of frequency response	f = 40 to 550 MHz	–	–	±0.3	dB
S_{11}	input return losses	f = 40 to 80 MHz	20	–	–	dB
		f = 80 to 160 MHz	19	–	–	dB
		f = 160 to 550 MHz	18	–	–	dB
S_{22}	output return losses	f = 40 to 80 MHz	20	–	–	dB
		f = 80 to 160 MHz	19	–	–	dB
		f = 160 to 550 MHz	18	–	–	dB
CTB	composite triple beat	77 channels flat; V_o = 44 dBmV; measured at 547.25 MHz	–	–	–57	dB
X_{mod}	cross modulation	77 channels flat; V_o = 44 dBmV; measured at 55.25 MHz	–	–	–59	dB
CSO	composite second order distortion	77 channels flat; V_o = 44 dBmV; measured at 548.5 MHz	–	–	–62	dB
d_2	second order distortion	note 1	–	–	–74	dB
V_o	output voltage	d_{im} = –60 dB; note 2	61	–	–	dBmV
F	noise figure	f = 50 MHz	–	–	5	dB
		f = 550 MHz	–	–	6	dB
I_{tot}	total current consumption (DC)	value; V_B = 24 V; note 3	310	325	340	mA

Notes

1. f_p = 55.25 MHz; V_p = 44 dBmV;
   f_q = 493.25 MHz; V_q = 44 dBmV;
   measured at $f_p + f_q$ = 548.5 MHz.
2. Measured according to DIN45004B;
   f_p = 540.25 MHz; $V_p = V_o$;
   f_q = 547.25 MHz; $V_q = V_o$ –6 dB;
   f_r = 549.25 MHz; $V_r = V_o$ –6 dB;
   measured at $f_p + f_q - f_r$ = 538.25 MHz.
3. The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.

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 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			
SOT115J						99-02-06

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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Printed in The Netherlands 613518/04/pp8 Date of release: 2001 Oct 22 Document order number: 9397 750 08804

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