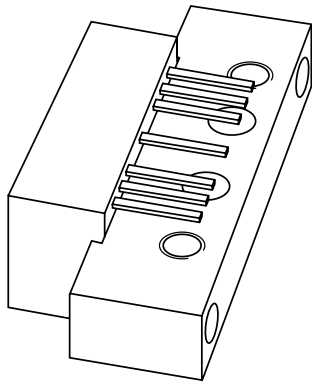


# DATA SHEET



## **BGY588N**

**550 MHz, 34.5 dB gain push-pull  
amplifier**

Product specification  
Supersedes data of 2000 Feb 14

2001 Oct 22

# 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.

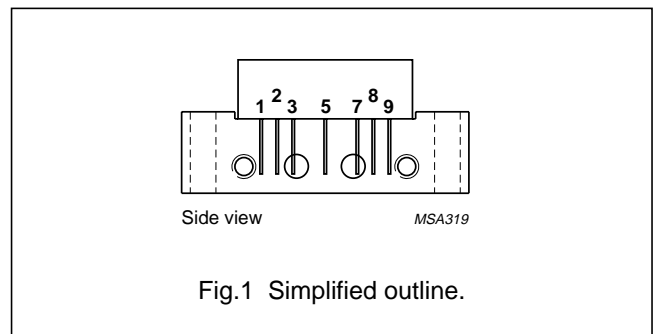
### DESCRIPTION

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 <sub>B</sub>
7	common
8	common
9	output

### PIN CONFIGURATION



### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
G <sub>p</sub>	power gain	f = 50 MHz	34	34.5	35	dB
		f = 550 MHz	35	35.5	36	dB
I <sub>tot</sub>	total current consumption (DC)	V <sub>B</sub> = 24 V	310	325	340	mA

### LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V <sub>i</sub>	RF input voltage	–	55	dBmV
T <sub>stg</sub>	storage temperature	–40	+100	°C
T <sub>mb</sub>	operating mounting base temperature	–20	+100	°C

## 550 MHz, 34.5 dB gain push-pull amplifier

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## CHARACTERISTICS

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

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	–	–	$\pm 0.3$	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

- $f_p = 55.25$  MHz;  $V_p = 44$  dBmV;  
 $f_q = 493.25$  MHz;  $V_q = 44$  dBmV;  
measured at  $f_p + f_q = 548.5$  MHz.
- 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.
- The module normally operates at  $V_B = 24$  V, but is able to withstand supply transients up to 30 V.

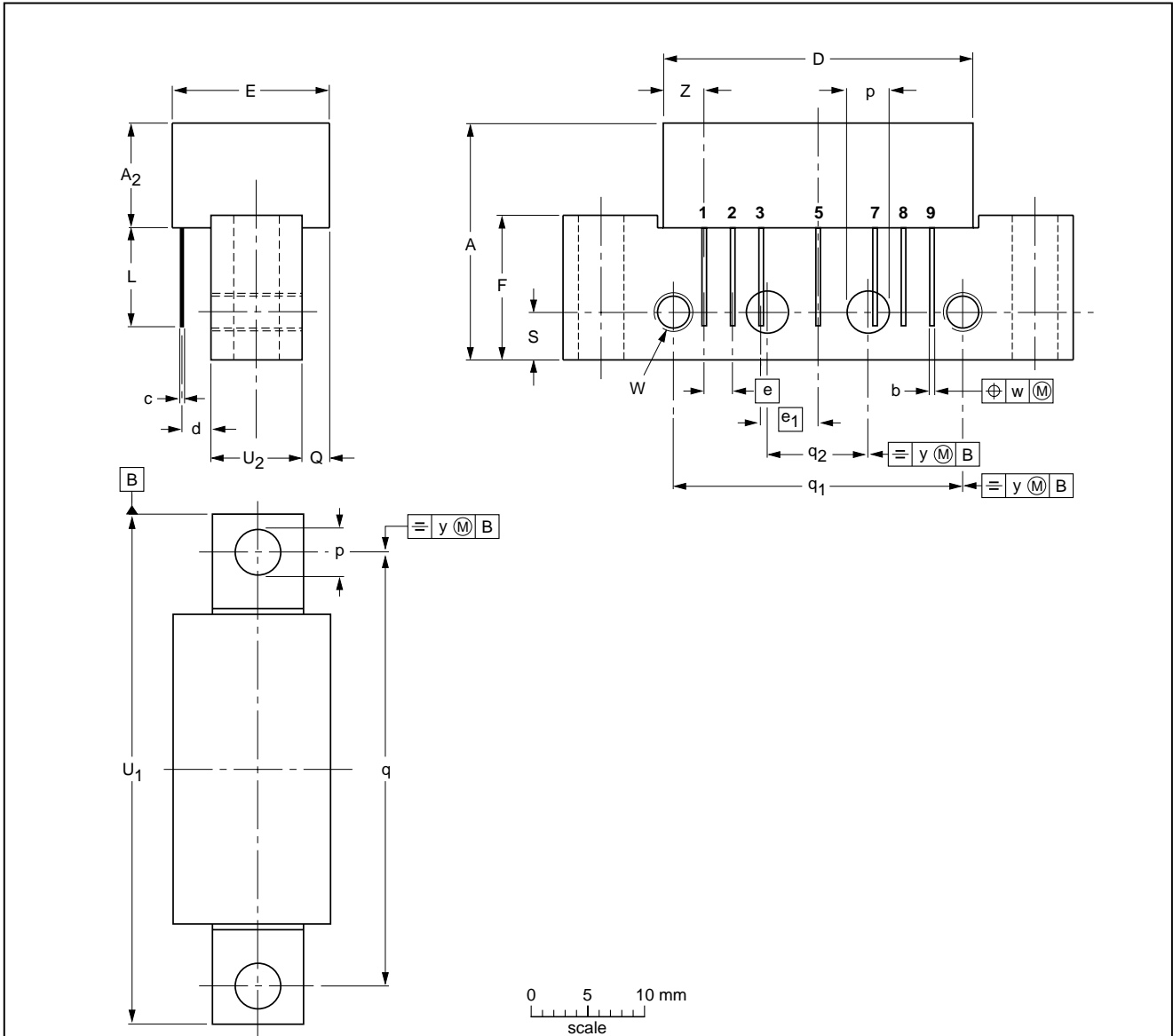
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PACKAGE OUTLINE

Rectangular single-ended package; aluminium flange; 2 vertical mounting holes; 2 x 6-32 UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads

SOT115J



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> max.	U <sub>2</sub>	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

## 550 MHz, 34.5 dB gain push-pull amplifier

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## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
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**NOTES**

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**NOTES**

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