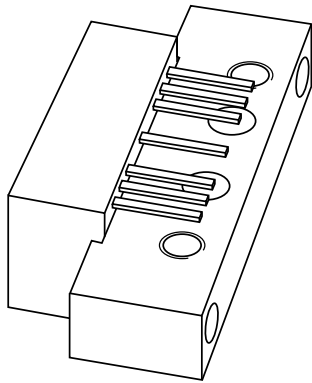


# DATA SHEET



## **BGY587B**

550 MHz, 27 dB gain push-pull  
amplifier

Product specification  
Supersedes data of 1997 Apr 10

2001 Oct 22



# 550 MHz, 27 dB gain push-pull amplifier

# BGY587B

### FEATURES

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

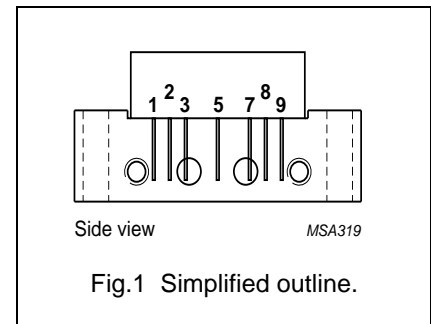
### DESCRIPTION

Hybrid amplifier module for CATV systems operating over a frequency range of 40 to 550 MHz at 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.	MAX.	UNIT
G <sub>p</sub>	power gain	f = 50 MHz	26.2	27.8	dB
		f = 550 MHz	27.5	–	dB
I <sub>tot</sub>	total current consumption (DC)	V <sub>B</sub> = +24 V	–	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
V <sub>B</sub>	DC supply voltage	–	+28	V

## 550 MHz, 27 dB gain push-pull amplifier

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## CHARACTERISTICS

Table 1 Bandwidth 40 to 550 MHz;  $T_{\text{case}} = 30\text{ }^{\circ}\text{C}$ ;  $Z_S = Z_L = 75\ \Omega$ 

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$G_p$	power gain	$f = 50\text{ MHz}$	26.2	27.8	dB
		$f = 550\text{ MHz}$	27.5		dB
SL	slope cable equivalent	$f = 40\text{ to }550\text{ MHz}$	0.5	2.5	dB
FL	flatness of frequency response	$f = 40\text{ to }550\text{ MHz}$	–	$\pm 0.4$	dB
$S_{11}$	input return losses	$f = 40\text{ to }80\text{ MHz}$	20	–	dB
		$f = 80\text{ to }160\text{ MHz}$	19	–	dB
		$f = 160\text{ to }550\text{ MHz}$	18	–	dB
$S_{22}$	output return losses	$f = 40\text{ to }80\text{ MHz}$	20	–	dB
		$f = 80\text{ to }160\text{ MHz}$	19	–	dB
		$f = 160\text{ to }550\text{ MHz}$	18	–	dB
CTB	composite triple beat	77 channels flat; $V_o = 44\text{ dBmV}$ ; measured at 547.25 MHz	–	–57	dB
$X_{\text{mod}}$	cross modulation	77 channels flat; $V_o = 44\text{ dBmV}$ ; measured at 55.25 MHz	–	–60	dB
CSO	composite second order distortion	77 channels flat; $V_o = 44\text{ dBmV}$ ; measured at 548.5 MHz	–	–57	dB
$d_2$	second order distortion	note 1	–	–68	dB
$V_o$	output voltage	$d_{\text{im}} = -60\text{ dB}$ ; note 2	61	–	dBmV
F	noise figure	$f = 550\text{ MHz}$	–	6.5	dB
$I_{\text{tot}}$	total current consumption	DC value; $V_B = +24\text{ V}$ ; note 3	–	340	mA

## Notes

- $f_p = 55.25\text{ MHz}$ ;  $V_p = 44\text{ dBmV}$ ;  
 $f_q = 493.25\text{ MHz}$ ;  $V_q = 44\text{ dBmV}$ ;  
measured at  $f_p + f_q = 548.5\text{ MHz}$ .
- Measured according to DIN45004B;  
 $f_p = 540.25\text{ MHz}$ ;  $V_p = V_o = 66.5\text{ dBmV}$ ;  
 $f_q = 547.25\text{ MHz}$ ;  $V_q = V_o - 6\text{ dB}$ ;  
 $f_r = 549.25\text{ MHz}$ ;  $V_r = V_o - 6\text{ dB}$ ;  
measured at  $f_p + f_q - f_r = 538.25\text{ MHz}$ .
- The module normally operates at  $V_B = +24\text{ V}$ , but is able to withstand supply transients up to  $+30\text{ V}$ .

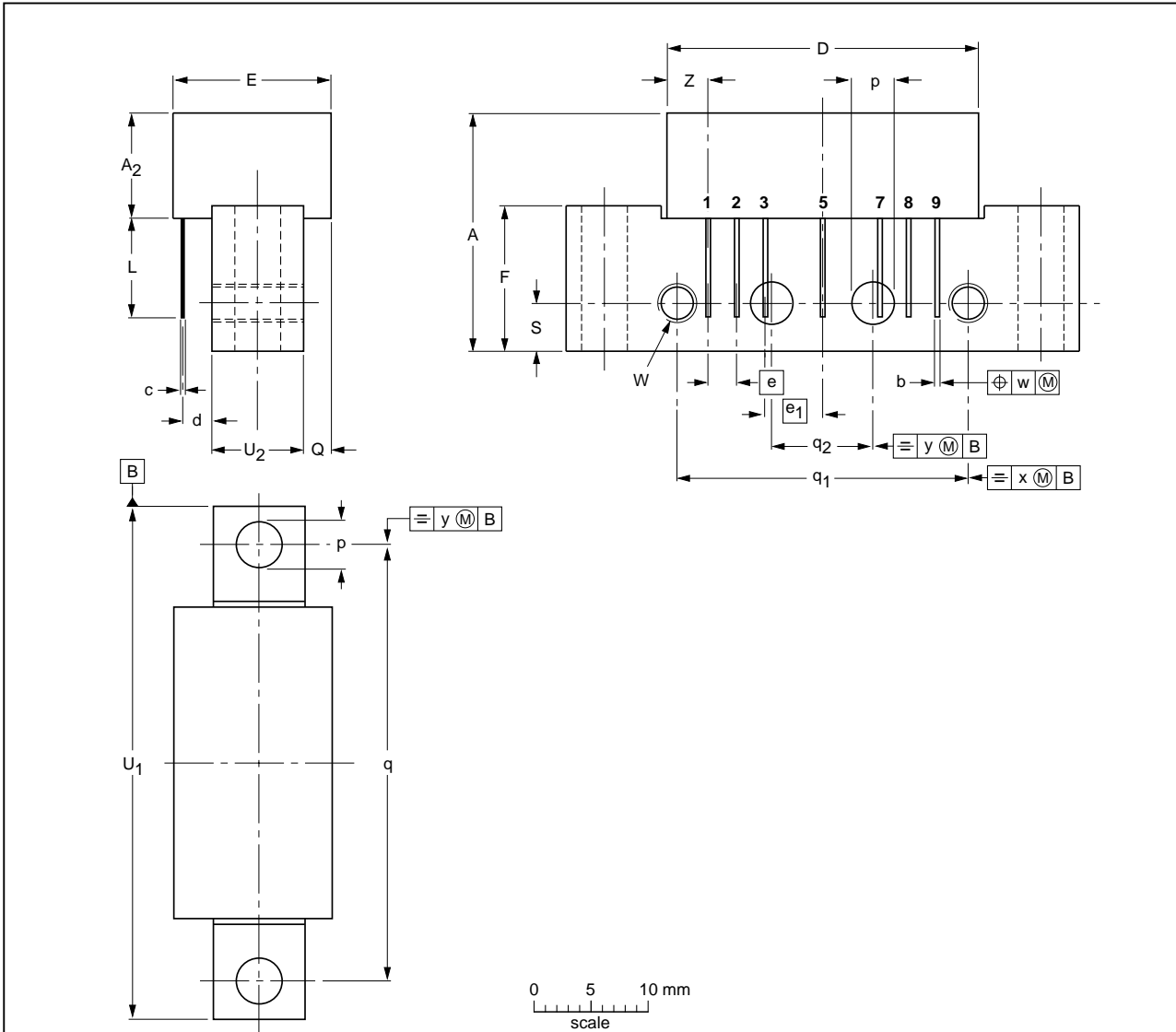
550 MHz, 27 dB gain push-pull amplifier

BGY587B

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	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	2.04 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			
SOT115J						04-02-04 10-06-18

550 MHz, 27 dB gain push-pull amplifier

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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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## 550 MHz, 27 dB gain push-pull amplifier

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