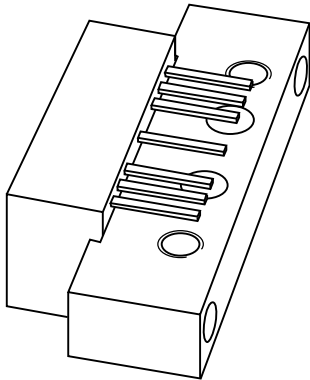


# DATA SHEET



## **BGY66B**

120 MHz, 25 dB gain reverse  
amplifier

Product specification  
Supersedes data of 1997 Apr 14

2001 Oct 18

# 120 MHz, 25 dB gain reverse amplifier

# BGY66B

### FEATURES

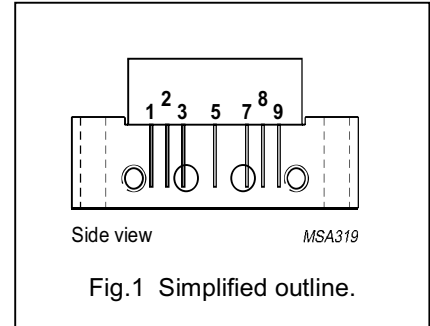
- Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- Gold metallization ensures excellent reliability.

### APPLICATIONS

- Intended as a reverse amplifier for use in two-way systems.

### PINNING - SOT115J

PIN	DESCRIPTION
1	input
2	common
3	common
5	+V <sub>B</sub>
7	common
8	common
9	output



### DESCRIPTION

Hybrid high dynamic range amplifier module designed for applications in CATV systems with a bandwidth of 5 to 120 MHz operating with a voltage supply of 24 V (DC).

### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G <sub>p</sub>	power gain	f = 10 MHz	24.5	25.5	dB
I <sub>tot</sub>	total current consumption (DC)	V <sub>B</sub> = 24 V	115	135	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	–	65	dBmV
T <sub>stg</sub>	storage temperature	–40	+100	°C
T <sub>mb</sub>	operating mounting base temperature	–20	+100	°C

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## CHARACTERISTICS

**Table 1** Bandwidth 5 to 120 MHz;  $V_B = 24$  V;  $T_{mb} = 30$  °C;  $Z_S = Z_L = 75$   $\Omega$ 

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$G_p$	power gain	$f = 10$ MHz	24.5	25.5	dB
SL	slope cable equivalent		-0.2	+0.5	dB
FL	flatness of frequency response		-	$\pm 0.2$	dB
$S_{11}$	input return losses		20	-	dB
$S_{22}$	output return losses		20	-	dB
CTB	composite triple beat	14 channels flat; $V_o = 48$ dBmV; measured at 67.25 MHz	-	-66	dB
$X_{mod}$	cross modulation	14 channels flat; $V_o = 48$ dBmV; measured at 67.25 MHz	-	-54	dB
$d_2$	second order distortion	note 1	-	-70	dB
$V_o$	output voltage	$d_{im} = -60$ dB; note 2	60	-	dBmV
F	noise figure	$f = 120$ MHz	-	5	dB
$I_{tot}$	total current consumption (DC)	note 3	115	135	mA

## Notes

- $f_p = 55.25$  MHz;  $V_p = 48$  dBmV;  
 $f_q = 61.25$  MHz;  $V_q = 48$  dBmV;  
measured at  $f_p + f_q = 116.5$  MHz.
- Measured according to DIN45004B:  
 $f_p = 111.25$  MHz;  $V_p = V_o$ ;  
 $f_q = 118.25$  MHz;  $V_q = V_o - 6$  dB;  
 $f_r = 120.25$  MHz;  $V_r = V_o - 6$  dB;  
measured at  $f_p + f_q - f_r = 109.25$  MHz.
- The module normally operates at  $V_B = 24$  V, but is able to withstand supply transients up to 30 V.

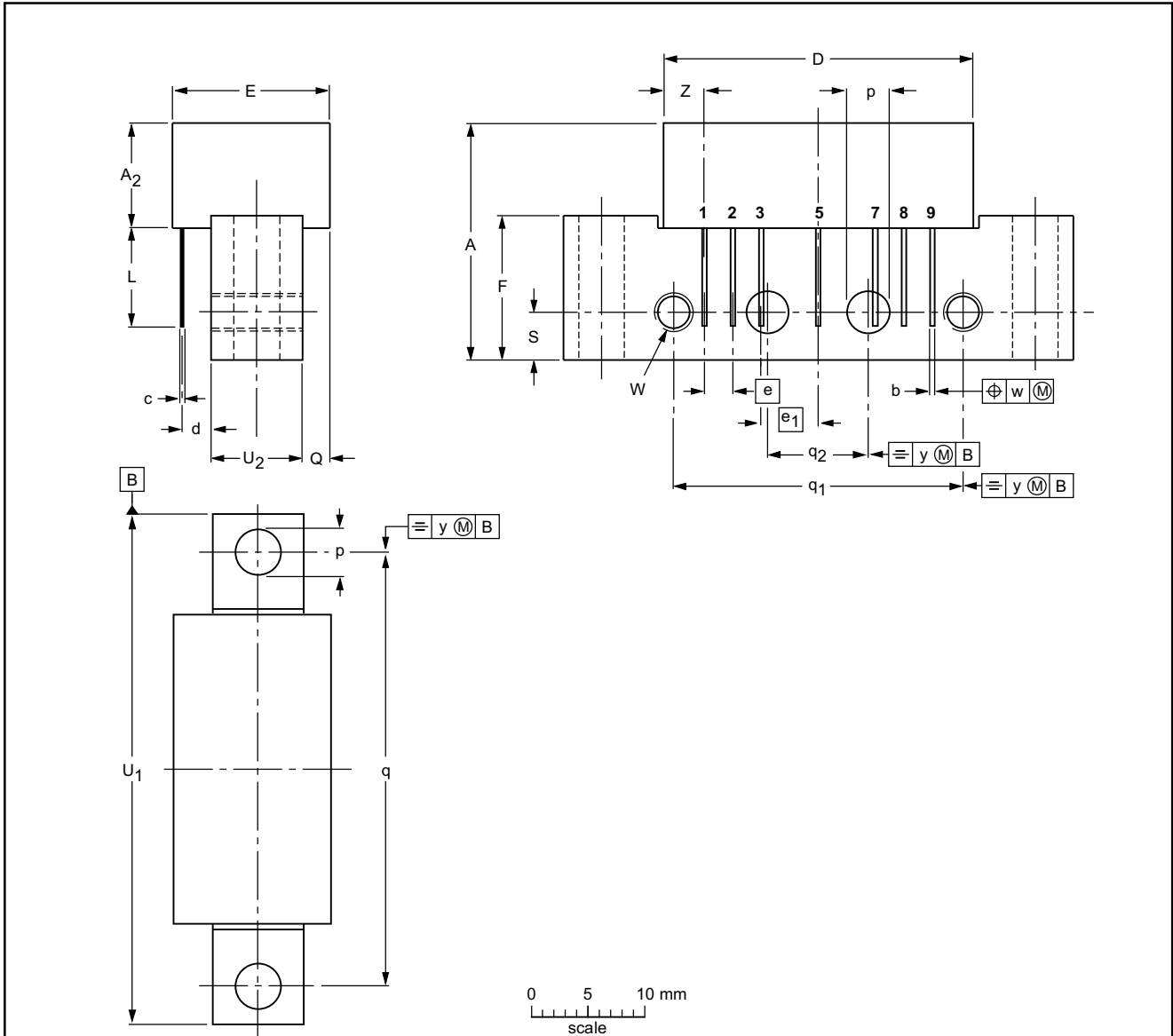
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PACKAGE OUTLINE

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

## 120 MHz, 25 dB gain reverse amplifier

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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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