

# DATA SHEET

## **BGY68** CATV amplifier module

Product specification  
Supersedes data of September 1995  
File under Discrete Semiconductors, SC16

1997 Apr 14

# CATV amplifier module

# BGY68

### FEATURES

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

### APPLICATIONS

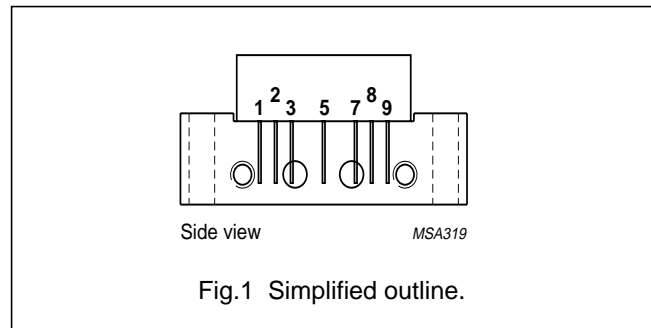
Reverse amplifier in two-way CATV systems in the 5 to 75 MHz frequency range.

### DESCRIPTION

Hybrid high dynamic range amplifier module in a SOT115J package operating 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



### QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G <sub>p</sub>	power gain	f = 10 MHz	29.2	30.8	dB
I <sub>tot</sub>	total current consumption (DC)	V <sub>B</sub> = 24 V	–	135	mA

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

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

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## CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$G_p$	power gain	$f = 10\text{ MHz}$	29.2	30.8	dB
SL	slope cable equivalent	$f = 5\text{ to }75\text{ MHz}$	-0.2	+0.5	dB
FL	flatness of frequency response	$f = 5\text{ to }75\text{ MHz}$	-	$\pm 0.2$	dB
$S_{11}$	input return losses	$f = 5\text{ to }75\text{ MHz}$	20	-	dB
$S_{22}$	output return losses	$f = 5\text{ to }50\text{ MHz}$	20	-	dB
		$f = 50\text{ to }75\text{ MHz}$	18	-	dB
CTB	composite triple beat	4 channels flat; $V_o = 50\text{ dBmV}$ ; measured at 25 MHz	-	-68	dB
$X_{mod}$	cross modulation	4 channels flat; $V_o = 50\text{ dBmV}$ ; measured at 25 MHz	-	-60	dB
$d_2$	second order distortion	note 1	-	-70	dB
F	noise figure	$f = 75\text{ MHz}$	-	3.5	dB
$I_{tot}$	total current consumption (DC)	note 2	-	135	mA

## Notes

- $f_p = 19\text{ MHz}$ ;  $V_p = 50\text{ dBmV}$ ;  
 $f_q = 31\text{ MHz}$ ;  $V_q = 50\text{ dBmV}$ ;  
measured at  $f_p + f_q = 50\text{ MHz}$ .
- The module normally operates at  $V_B = 24\text{ V}$ , but is able to withstand supply transients up to 30 V.



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**DEFINITIONS**

<b>Data Sheet Status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
<b>Limiting values</b>	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
<b>Application information</b>	
Where application information is given, it is advisory and does not form part of the specification.	

**LIFE SUPPORT APPLICATIONS**

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**NOTES**

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**NOTES**

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Printed in The Netherlands

127167/00/02/pp8

Date of release: 1997 Apr 14

Document order number: 9397 750 02146

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