

DATA SHEET

BGY66B

CATV amplifier module

Product specification
Supersedes data of 1995 Sep 11
File under Discrete Semiconductors, SC16

1997 Apr 14

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FEATURES

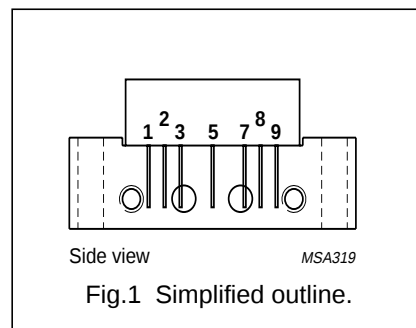
- Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- Gold metallization ensures excellent reliability.

APPLICATIONS

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

PINNING - SOT115J

PIN	DESCRIPTION
1	input
2	common
3	common
5	+V _B
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 _p	power gain	f = 10 MHz	24.5	25.5	dB
I _{tot}	total current consumption (DC)	V _B = 24 V	115	135	mA

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V _i	RF input voltage	–	65	dBmV
T _{stg}	storage temperature	–40	+100	°C
T _{mb}	operating mounting base temperature	–20	+100	°C

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CHARACTERISTICS

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

Notes

1. $f_p = 55.25\text{ MHz}$; $V_p = 48\text{ dBmV}$;
 $f_q = 61.25\text{ MHz}$; $V_q = 48\text{ dBmV}$;
measured at $f_p + f_q = 116.5\text{ MHz}$.
2. Measured according to DIN45004B:
 $f_p = 111.25\text{ MHz}$; $V_p = V_o$;
 $f_q = 118.25\text{ MHz}$; $V_q = V_o - 6\text{ dB}$;
 $f_r = 120.25\text{ MHz}$; $V_r = V_o - 6\text{ dB}$;
measured at $f_p + f_q - f_r = 109.25\text{ MHz}$.
3. 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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PACKAGE OUTLINE

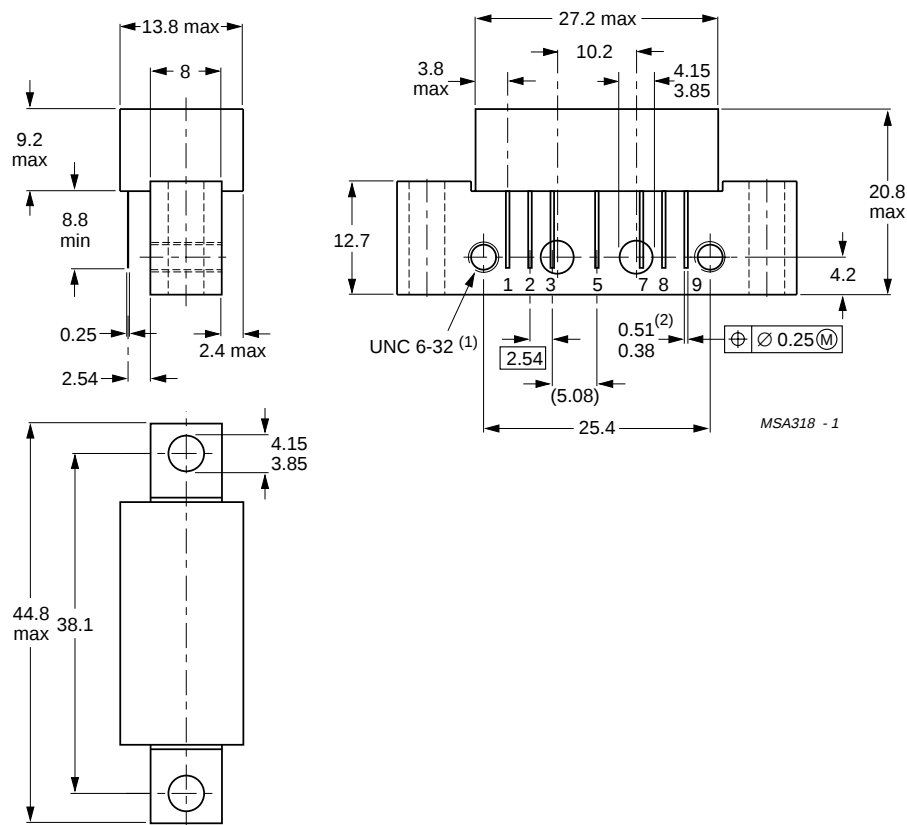


Fig.2 SOT115J.

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DEFINITIONS

Data Sheet Status	
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.
Limiting values	
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.	
Application information	
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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