DATA SHEET

BGY68
CATV amplifier module

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

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Philips
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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	$+V_B$
7	common
8	common
9	output

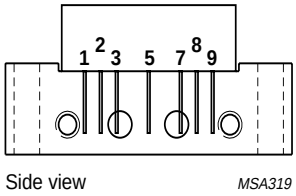


Fig.1 Simplified outline.

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G_p	power gain	f = 10 MHz	29.2	30.8	dB
I_{tot}	total current consumption (DC)	V_B = 24 V	–	135	mA

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_i	RF input voltage	–	55	dBmV
T_{stg}	storage temperature	–40	+100	°C
T_{mb}	operating mounting base temperature	–20	+100	°C

CHARACTERISTICS

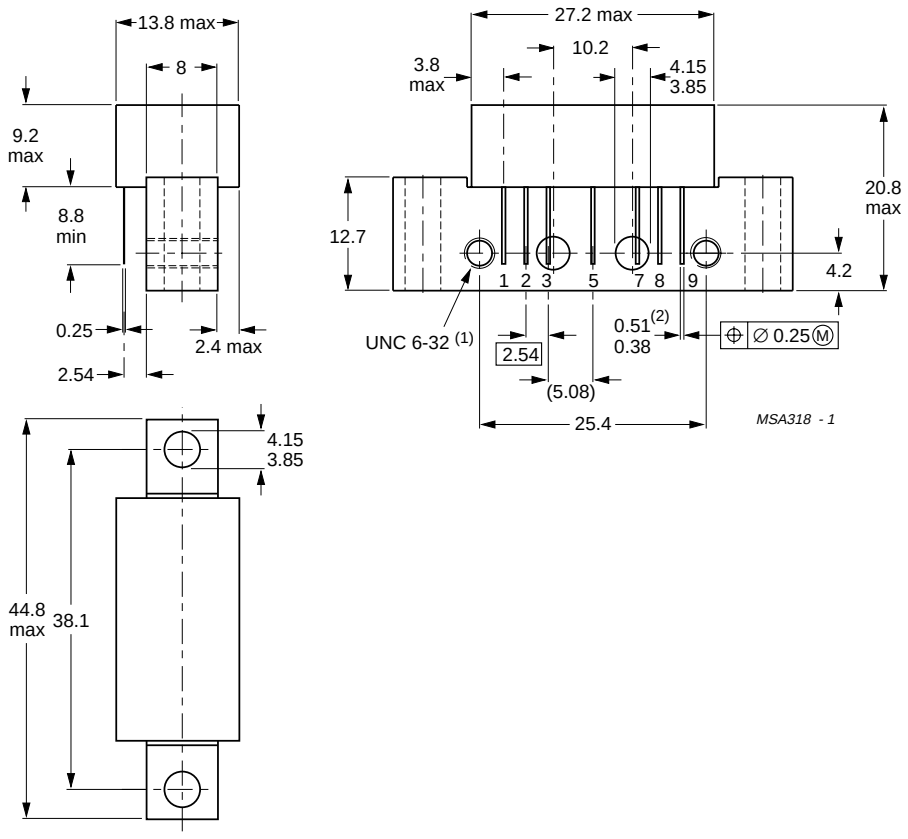
Table 1 Bandwidth 5 to 75 MHz; V_B = +24 V; T_{mb} = 30 °C; $Z_S = Z_L$ = 75 Ω

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

Notes

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

PACKAGE OUTLINE



Dimensions in mm.

(1) Screw 6-32 UNC-2A available on request.

(2) Leads gold plated.

Fig.2 SOT115J.

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

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

NOTES

NOTES

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