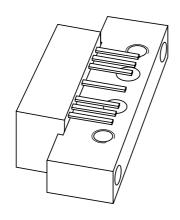
DISCRETE SEMICONDUCTORS

DATA SHEET



BGY687 600 MHz, 21.5 dB gain push-pull amplifier

Product specification Supersedes data of 1995 Sep 11 2001 Nov 08





600 MHz, 21.5 dB gain push-pull amplifier

BGY687

FEATURES

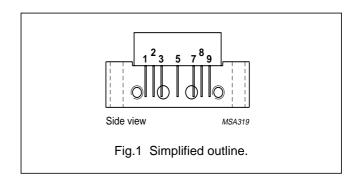
- · Excellent linearity
- · Extremely low noise
- Silicon nitride passivation
- Rugged construction
- Gold metallization ensures excellent reliability.

DESCRIPTION

Hybrid high dynamic range amplifier module designed for CATV systems operating over a frequency range of 40 to 600 MHz 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	



QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
G _p	power gain	f = 50 MHz	21	22	dB
		f = 600 MHz	22	_	dB
I _{tot}	total current consumption (DC)	V _B = 24 V	_	240	mA

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

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

Bandwidth 40 to 600 MHz; T_{case} = 30 °C; Z_{S} = Z_{L} = 75 $\Omega.$

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
Gp	power gain	f =50 MHz	21	22	dB
		f = 600 MHz	22	_	dB
SL	slope cable equivalent	f = 40 to 600 MHz	0.8	2.2	dB
FL	flatness of frequency response	f = 40 to 600 MHz	_	±0.2	dB
S ₁₁	input return losses	f = 40 to 80 MHz	20	-	dB
		f = 80 to 160 MHz	19	_	dB
		f = 160 to 600 MHz	18	_	dB
S ₂₂	output return losses	f = 40 to 80 MHz	20	_	dB
		f = 80 to 160 MHz	19	Ī-	dB
		f = 160 to 550 MHz	18	_	dB
		f = 550 to 600 MHz	16	-	dB
S ₂₁	phase response	f = 50 MHz	-45	+45	deg
СТВ	composite triple beat	85 channels flat; V _o = 44 dBmV; measured at 595.25 MHz	_	-54	dB
X _{mod}	cross modulation	85 channels flat; V _o = 44 dBmV; measured at 55.25 MHz	_	-54	dB
CSO	composite second order distortion	85 channels flat; V _o = 44 dBmV; measured at 596.5 MHz	_	-52	dB
d ₂	second order distortion	note 1	_	-66	dB
Vo	output voltage	$d_{im} = -60 \text{ dB}$; note 2	58	-	dBmV
NF	noise figure	f = 600 MHz	_	6.5	dB
I _{tot}	total current consumption (DC)	note 3	_	240	mA

Notes

- 1. f_p = 55.25 MHz; V_p = 44 dBmV; f_q = 541.25 MHz; V_q = 44 dBmV; measured at f_p + f_q = 596.5 MHz.
- 2. $f_p = 590.25$ MHz; $V_p = V_o$; $f_q = 597.25$ MHz; $V_q = V_o$ –6 dB; $f_r = 599.25$ MHz; $V_r = V_o$ –6 dB; measured at $f_p + f_q f_r = 588.25$ MHz.
- 3. The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.

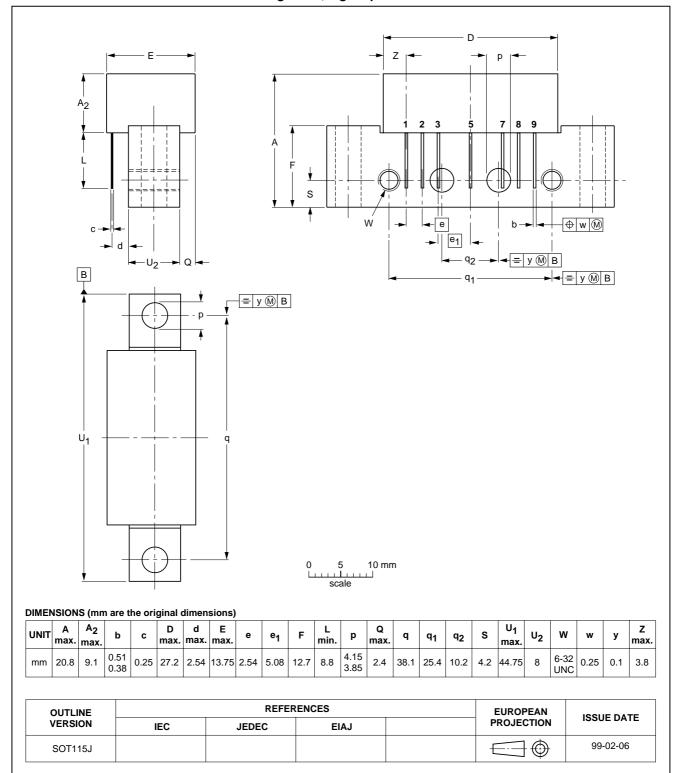
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PACKAGE OUTLINE

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



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DATA SHEET STATUS

DATA SHEET STATUS(1)	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Changes will be communicated according to the Customer Product/Process Change Notification (CPCN) procedure SNW-SQ-650A.

Notes

- 1. Please consult the most recently issued data sheet before initiating or completing a design.
- 2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL http://www.semiconductors.philips.com.

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Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). 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.

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CAUTION

This product is supplied in anti-static packing to prevent damage caused by electrostatic discharge during transport and handling. For further information, refer to Philips specs.: SNW-EQ-608, SNW-FQ-302A and SNW-FQ-302B.

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NOTES

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NOTES

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Contact information

For additional information please visit http://www.semiconductors.philips.com. Fax: +31 40 27 24825 For sales offices addresses send e-mail to: sales.addresses@www.semiconductors.philips.com.

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