

BGS67A

65 MHz, 25.5 dB gain reverse amplifier Rev. 05 — 11 March 2005

Product data sheet



1.1 General description

Hybrid high dynamic range amplifier module in a leadless SOT567A package, operating at a supply voltage of 12 V.

CAUTION



This device is sensitive to ElectroStatic Discharge (ESD). Therefore care should be taken during transport and handling.

1.2 Features

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

1.3 Applications

■ Reverse amplifier in two-way CATV systems in the 5 MHz to 65 MHz frequency range

1.4 Quick reference data

Table 1: Quick reference data

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
Gp	power gain	f = 10 MHz	25	-	26	dB
I _{tot}	total current consumption (DC)	$V_B = 12 \ V$	<u>[1]</u> 75	-	95	mA

^[1] The module normally operates at V_B = 12 V, but is able to withstand supply transients of up to 30 V.





Table 2: Pinning

Pin	Description	Simplified outline	Symbol		
1	input		1		
2	common	8 7 6 5	1 4 8 3 5		
3	provision				
4	+V _B	0	2 7 6 sym099		
5	output	1 2 3 4			
6	provision		symoss		
7	common				
8	+V _B				

3. Ordering information

Table 3: Ordering information

Type number	Package			
	Name	Description	Version	
BGS67A	-	leadless surface mounted package; plastic cap; 8 terminations	SOT567A	

4. Limiting values

Table 4: Limiting values

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

Symbol	Parameter	Conditions	Min	Max	Unit
V_i	RF input voltage		-	55	dBmV
T _{stg}	storage temperature		-40	+100	°C
T _{mb}	mounting base temperature		-20	+100	°C

5. Characteristics

Table 5: Characteristics

Bandwidth 5 MHz to 65 MHz; $V_B = 12$ V; $T_{mb} = 30$ °C; $Z_S = Z_L = 75$ Ω ; unless otherwise specified.

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
Gp	power gain	f = 10 MHz	25	-	26	dB
SL	slope cable equivalent	f = 5 MHz to 65 MHz	-0.1	-	+0.6	dB
FL	flatness of frequency response	f = 5 MHz to 65 MHz	-	-	±0.2	dB
S ₁₁	input return losses	f = 5 MHz to 65 MHz	20	-	-	dB
s ₂₂	output return losses	f = 5 MHz to 65 MHz	20	-	-	dB
СТВ	composite triple beat	4 channels flat; $V_0 = 50$ dBmV; measured at 25 MHz	-	-	-64	dB
X_{mod}	cross modulation	4 channels flat; $V_0 = 50$ dBmV; measured at 25 MHz	-	-	-54	dB
d_2	second order distortion		[1] _	-	-70	dB
NF	noise figure	f = 65 MHz	-	-	3.5	dB
I _{tot}	total current consumption		^[2] 75	-	95	mA

^[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 $V_B = 12 \text{ V}$, but is able to withstand supply transients up to 30 V.

6. Package outline

Leadless surface mounted package; plastic cap; 8 terminations

SOT567A

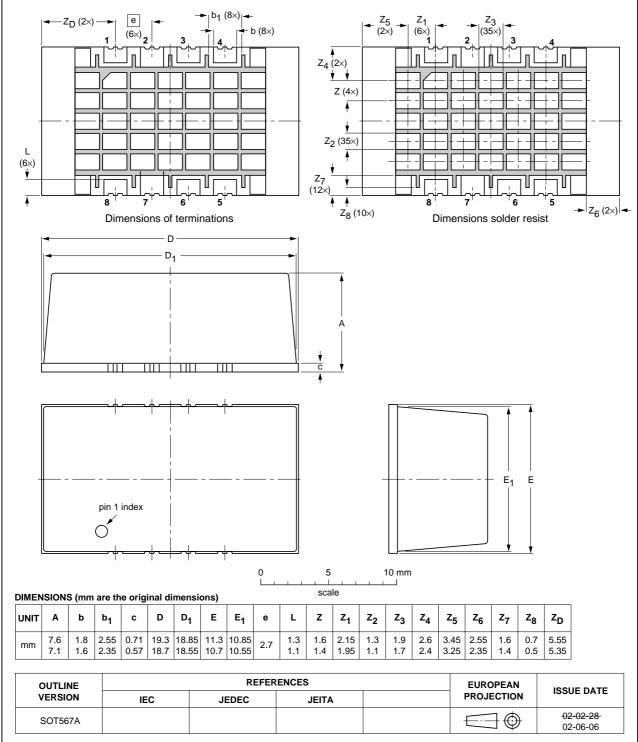


Fig 1. Package outline SOT567A

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7. Revision history

Table 6: Revision history

Document ID	Release date	Data sheet status	Change notice	Doc. number	Supersedes
BGS67A_5	20050311	Product data sheet	-	9397 750 14736	BGS67A_4
Modifications:		of this data sheet has been ro standard of Philips Semicond		with the new presenta	ation and
BGS67A_4	20020906	Product specification	-	9397 750 10107	BGS67A_N_3
BGS67A_N_3	20020606	Preliminary specification	-	9397 750 10083	BGS67A_N_2
BGS67A_N_2	20011016	Preliminary specification	-	9397 750 08961	BGS67A_N_1
BGS67A_N_1	20010417	Preliminary specification	-	9397 750 08265	-



8. Data sheet status

Level	Data sheet status [1]	Product status [2] [3]	Definition
I	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.
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- [3] For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

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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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For sales office addresses, send an email to: sales.addresses@www.semiconductors.philips.com



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