

BGY588C 550 MHz, 34.5 dB gain push-pull amplifier Rev. 2 — 19 September 2011

Product data sheet

1. Product profile

1.1 General description

Hybrid amplifier module operating at a supply voltage of 24 V (DC) in a SOT115J package.

CAUTION



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

1.2 Features and benefits

- Excellent linearity
- Extremely low noise
- Silicon nitride passivation
- Rugged construction
- TiPtAu metallized crystals ensure optimal reliability

1.3 Applications

 CATV systems in the 40 MHz to 550 MHz frequency range and intended for use as a line extender.

1.4 Quick reference data

Table 1.Quick reference data

Bandwidth 40 MHz to 550 MHz; $V_B = 24$ V; $T_{mb} = 35$ °C; $Z_S = Z_L = 75 \Omega$; unless otherwise specified.

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
Gp	power gain	f = 50 MHz	33.5	-	35.5	dB
		f = 550 MHz	33.7	-	-	dB
I _{tot}	total current consumption	V _B = 24 V	<mark>[1]</mark> 305	-	345	mA

[1] The module normally operates at $V_B = 24$ V, but is able to withstand supply transients up to 30 V.



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2. Pinning information

Pinning	
Description	Simplified outline Symbol
input	
common	
common	
+V _B	
common	
common	sym095
output	
	Description input common common +V _B common common

3. Ordering information

Table 3. Ordering information					
Type number	Package				
	Name	Description	Version		
BGY588C	-	rectangular single-ended package; aluminium flange; 2 vertical mounting holes; $2 \times 6-32$ UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads	SOT115J		

4. Limiting values

Table 4. Limiting values

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

Symbol	Parameter	Conditions	Min	Max	Unit
Vi	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 40 MHz to 550 MHz; $V_B = 24$ V; $T_{mb} = 35$ °C; $Z_S = Z_L = 75 \Omega$; unless otherwise specified.

Symbol	Parameter	Conditions	Min	Тур	Max	Unit
G _p	power gain	f = 50 MHz	33.5	-	35.5	dB
		f = 550 MHz	33.7	-	-	dB
SL	slope cable equivalent	f = 40 MHz to 550 MHz	0.2	-	1.7	dB
FL	flatness of frequency response	f = 40 MHz to 550 MHz	-	-	±0.5	dB
S ₁₁ ²	input return losses	f = 40 MHz to 550 MHz	16	-	-	dB
$ S_{22} ^2$	output return losses	f = 40 MHz to 160 MHz	16	-	-	dB
		f = 160 MHz to 550 MHz	15	-	-	dB
СТВ	composite triple beat	77 channels flat; V _o = 44 dBmV; measured at 547.25 MHz	-	-	-57	dB
CSO	composite second order distortion	77 channels flat; V _o = 44 dBmV; measured at 548.5 MHz	-	-	-62	dB
NF	noise figure	f = 50 MHz	-	-	8	dB
I _{tot}	total current consumption	V _B = 24 V	<mark>[1]</mark> 305	-	345	mA

[1] The module normally operates at V_B = 24 V, but is able to withstand supply transients up to 30 V.

6. Package outline

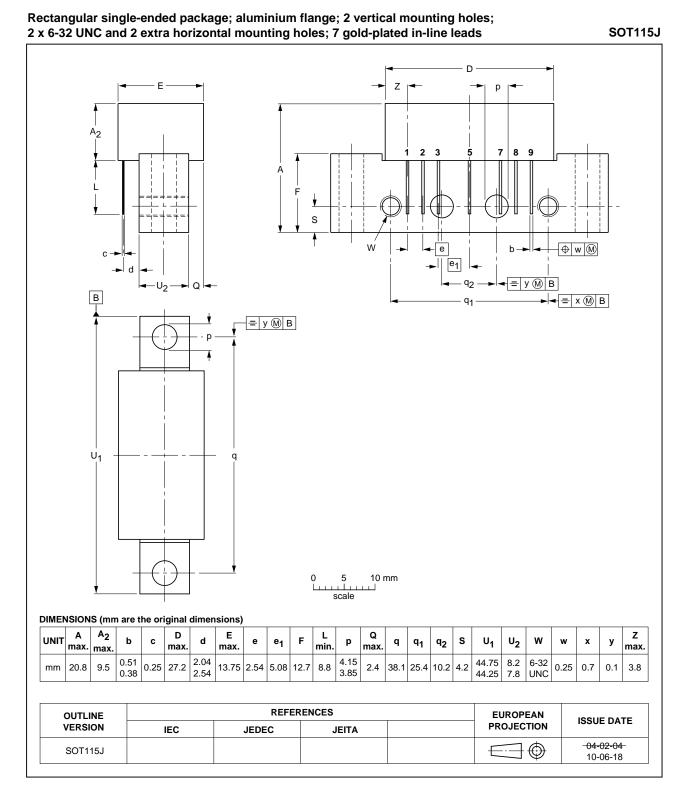


Fig 1. Package outline SOT115J

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7. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
BGY588C v.2	20110919	Product data sheet		BGY588C v.1
Modifications:		at of this data sheet has beer of NXP Semiconductors.	n redesigned to comply v	with the new identity
	 Legal text 	s have been adapted to the	new company name whe	ere appropriate.
	 Package 	outline drawings have been u	updated to the latest ver	sion.
BGY588C v.1 (9397 750 14608)	20050411	Product data sheet	-	-

8. Legal information

8.1 Data sheet status

Document status[1][2]	Product status ^[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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Date of release: 19 September 2011 Document identifier: BGY588C