

BGE788C 750 MHz, 34 dB gain push-pull amplifier Rev. 2 — 16 September 2011

Product data sheet

1. Product profile

1.1 General description

Hybrid high dynamic range amplifier module operating at a supply voltage of 24 V (DC) in a SOT115J package. The module consists of two cascaded stages both in cascode configuration.

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
- High gain
- Excellent return loss properties

1.3 Applications

 Single module line extender in CATV systems operating in the 40 MHz to 750 MHz frequency range.

1.4 Quick reference data

Table 1.	Quick reference data						
Symbol	Parameter	Conditions	М	in	Тур	Мах	Unit
Gp	power gain	f = 50 MHz	33	3.2	-	35.2	dB
		f = 750 MHz	33	3.5	-	-	dB
I _{tot}	total current consumption	$V_B = 24 V$	[1] 28	35	-	325	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

Table 2.	Pinning	
Pin	Description	Simplified outline Symbol
1	input	
2	common	
3	common	
5	+V _B	
7	common	
8	common	sym095
9	output	

3. Ordering information

Table 3. Ordering information					
Type number	Package	Package			
	Name	Description	Version		
BGE788C	-	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).

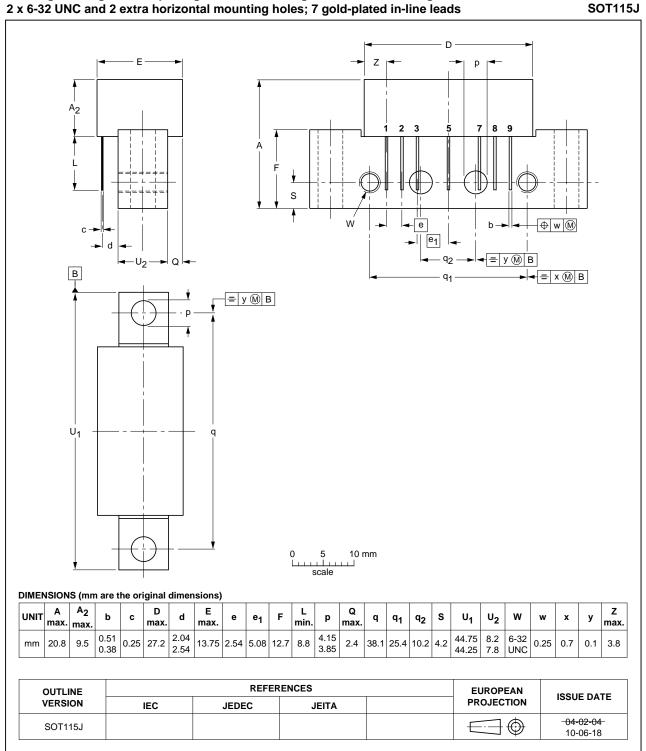
Symbol	Parameter	Conditions	Min	Max	Unit
VB	supply voltage		-	25	V
Vi	RF input voltage		-	55	dBmV
T _{stg}	storage temperature		-40	+100	°C
T _{mb}	mounting base temperature		-20	+100	°C

5. Characteristics

Symbol	Parameter	Conditions	Min	Тур	Мах	Unit
G _p	power gain	f = 50 MHz	33.2	-	35.2	dB
		f = 750 MHz	33.5	-	-	dB
SL	slope cable equivalent	f = 40 MHz to 750 MHz	0.3	-	2.3	dB
FL	flatness of frequency response	f = 40 MHz to 750 MHz	-	-	±0.6	dB
s ₁₁ ²	input return losses	f = 40 MHz to 320 MHz	16	-	-	dB
		f = 320 MHz to 640 MHz	15	-	-	dB
		f = 640 MHz to 750 MHz	14	-	-	dB
S ₂₂ ²	output return losses	f = 40 MHz to 320 MHz	16	-	-	dB
		f = 320 MHz to 640 MHz	15	-	-	dB
		f = 640 MHz to 750 MHz	14	-	-	dB
Φs21	phase response	f = 50 MHz	135	-	225	deg
СТВ	composite triple beat	110 channels flat; V _o = 44 dBmV; measured at 745.25 MHz	-	-	-49	dB
CSO	composite second order distortion	110 channels flat; V _o = 44 dBmV; measured at 746.5 MHz	-	-	-52	dB
NF	noise figure	f = 50 MHz	-	-	8	dB
I _{tot}	total current consumption		[1] 285	-	325	mA

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

Package outline 6.



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

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Product data sheet

Fig 1. BGE788C

Package outline SOT115J

7. Revision history

story			
Release date	Data sheet status	Change notice	Supersedes
20110916	Product data sheet	-	BGE788C v.1
		n redesigned to comply v	vith the new identity
 Legal texts 	have been adapted to the	new company name whe	ere appropriate.
 Package o 	utline drawings have been	updated to the latest ver	sion.
20050401	Product data sheet	-	-
	Release date 20110916 • The format guidelines • Legal texts • Package o	Release date Data sheet status 20110916 Product data sheet • The format of this data sheet has been guidelines of NXP Semiconductors. • Legal texts have been adapted to the • Package outline drawings have been	Release date Data sheet status Change notice 20110916 Product data sheet - • The format of this data sheet has been redesigned to comply we guidelines of NXP Semiconductors. - • Legal texts have been adapted to the new company name whete • Package outline drawings have been updated to the latest version

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".

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