

- Port impedance: input/output: 50 Ω
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable
- This is a Pb–Free Device

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Symbol

NSVG3109SG6

Symbol	Parameter			Ratings		
		Conditions	Min	Тур	Max	Unit
I _{CC}	Circuit Current		11.5	16.0	20.5	mA
Gp	Power Gain	f = 1 GHz	21.0	23.0	26.0	dB
		f = 2.2 GHz	22.0	24.0	27.0	
ISL	Isolation	f = 1 GHz	27.0	31.5	-	dB
		f = 2.2 GHz	27.0	31.5	-	
RLin	Input Return Loss	f = 1 GHz	16.0	20.5	-	dB
		f = 2.2 GHz	10.0	15.0	-	
RLout	Output Return Loss	f = 1 GHz	15.0	20.0	-	dB
		f = 2.2 GHz	10.0	14.0	-	
NF	Noise Figure	f = 1 GHz	-	4.3	5.0	dB
		f = 2.2 GHz	-	4.3	5.0	
Po (1dB)	Gain 1dB Compression Output Power	f = 1 GHz	4.0	6.4	-	dBm
		f = 2.2 GHz	2.0	4.2	-	
fu	Upper Limit Operating Frequency	3 dB down below flat gain at f = 1GHz	-	3.6	-	GHz

ELECTRICAL CHARACTERISTICS (Ta = 25°C, V_{CC} = 3 V, Zs = Z_L = 50 Ω)

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions. 1. Pay attention to handling since it is liable to be affected by static electricity due to the high frequency process adopted.

Test Circuit

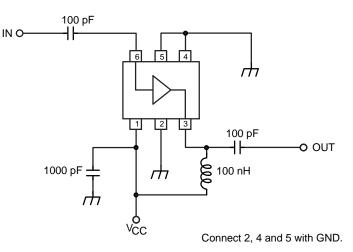
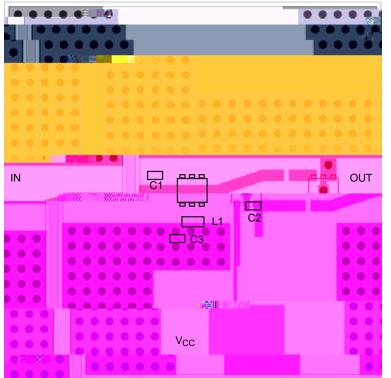


Figure 1. Test Circuit

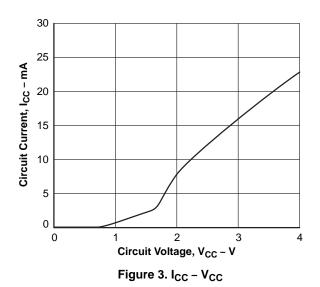
Evaluation Board



Symbol	Value	
C1, C2	100 pF	
C3	1000 pF	
L1	100 nH	

Figure 2. Evaluation Board

Characteristics

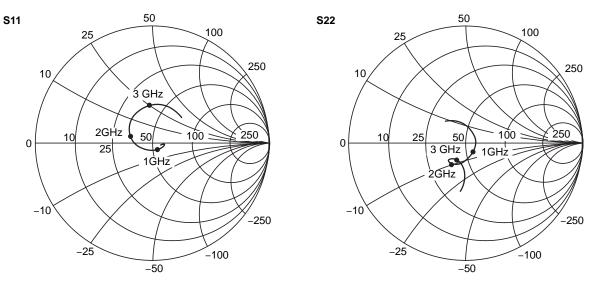


Output Level, Pout – dBm

NSVG3109SG6

NSVG3109SG6

S Parameter





ORDERING INFORMATION

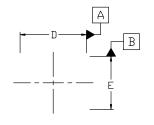
Device Order Number	Specific Device Marking	Package Type (JEITA, JEDEC)	Package Type	Shipping [†]
NSVG3109SG6T1G	HLF	SC82, SC82A, SC88 (Pb-Free)	MCPH6 (Pb-Free)	3000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.



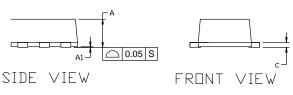
SC-88FL / MCPH6 CASE 419AS **ISSUE A**

DATE 28 SEP 2022



⊕ 0.1∭ A





L1

BOTTOM VIEW

NDTES:

- NO INDUSTRY STANDARD APPLIES TO 1. THIS PACKAGE.
- 2. ALL DIMENSIONS ARE IN MILLIMETERS.
- 3. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND THE BAR PROTRUSIONS.

DIM	MILLIMETERS				
DIM	MIN.	NDM.	MAX.		
А	0.80	0.85	0.90		
A1	0.00		0.02		
b	0,25	0.30	0.40		
C	0.12	0.15	0.25		
D	1.94	2.00	2.06		
E	1.54	1.60	1.66		
He	2.05	2.10	2.15		
L	0.19	0.25	0.31		
$\bot 1$	0.00	0.07	0.12		

GENERIC **MARKING DIAGRAM***



= Pb-Free Package

Μ

•

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "•", may or may not be present. Some products may not follow the Generic Marking.

onsemi, , and other names, marks, and brands are registered and/or common law trademarks of Semiconductor Components Industries, LLC dba "onsemi" or its affiliates and/or subsidiaries in the United States and/or other countries. onsemi owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of onsemi's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. Onsemi reserves the right to make changes at any time to any products or information herein, without notice. The information herein is provided "as-is" and onsemi makes no warranty, representation or guarantee regarding the accuracy of the information, product features, availability, functionality, or suitability of its products for any particular purpose, nor does onsemi assume any liability arising out of the application or use of any product or incruit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using onsemi