N-Channel JFET, -15 V, 10 to 32 mA, 35 ms, Dual

Automotive JFET designed for compact and efficient designs and including high gain performance. AEC-Q101 qualified JFET and PPAP capable suitable for automotive applications.

Features

- Large | yfs |
- Small Ciss
- This Small Package Enables Sets to be Smaller and Thinner
- Ultralow Noise Figure
- MCPH5 Package is Pin-compatible with SC-88AFL
- Composite Type with 2 JFET Contained in a MCPH5 Package Currently in Use, Improving the Mounting Efficiency Greatly
- The NSVJ5908DSG5 is Formed with Two Chips, Being Equivalent to the NSVJ3557SA3, Placed in One Package
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

Typical Applications

- AM Tuner RF Amplification
- Low Noise Amplifier

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS $(T_A = 25^{\circ}C)$

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSX}	15	V
Gate-to-Drain Voltage	V _{GDS}	-15	V
Gate Current	I _G	10	mA
Drain Current	I _D	50	mA
Allowable Power Dissipation – 1 unit	P_{D}	200	mW
Total Power Dissipation	P _T	300	mW
Operating Junction and Storage Temperature	$T_{J_{I}}T_{Stg}$	-55 to +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

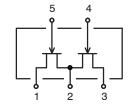


ON Semiconductor®

www.onsemi.com

ELECTRICAL CONNECTION

N-Channel

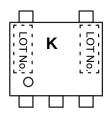


- 2: Source1/Source2
- 3: Drain 2
- 4: Gate2
- 5: Gate1



SC-88AFL/MCPH5 CASE 419AP

MARKING DIAGRAM



= Specific Device Code

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

Table 1. ELECTRICAL CHARACTERISTICS $(T_A = 25^{\circ}C)$

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Gate-to-Drain Breakdown Voltage	V _{(BR)GDS}	$I_G = -10 \mu A, V_{DS} = 0 V$	-15	-	-	V
Gate-to-Source Leakage Current	I _{GSS}	$V_{GS} = -10 \text{ V}, V_{DS} = 0 \text{ V}$	-	-	-1.0	nA
Cutoff Voltage	V _{GS(off)}	V _{DS} = 5 V, I _D = 100 μA	-0.3	-0.7	-1.5	V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} = 5 V, V _{GS} = 0 V	10	-	32	mA
Forward Transfer Admittance	yfs	V _{DS} = 5 V, V _{GS} = 0 V, f = 1 kHz	24	35	-	mS
Input Capacitance	Ciss	V _{DS} = 5 V, V _{GS} = 0 V, f = 1 MHz	-	10.5	-	pF
Reverse Transfer Capacitance	Crss		-	3.5	-	pF
Noise Figure	NF	$V_{DS} = 5 \text{ V}, \text{ Rg} = 1 \text{ k}\Omega, \text{ I}_D = 1 \text{ mA}, \text{ f} = 1 \text{ kHz}$	-	1.0	-	dB

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.

NOTE: The specifications shown above are for each individual JFET.

ORDERING INFORMATION

Device	Marking	Package Type	Shipping [†]
NSVJ5908DSG5T1G	К	SC-88AFL / MCPH5 (Pb-Free / Halogen Free)	3,000 / 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.

TYPICAL CHARACTERISTICS

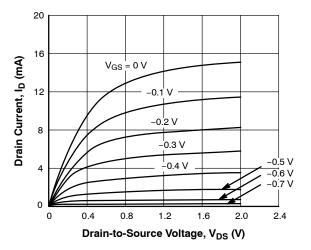


Figure 1. I_D vs. V_{DS}

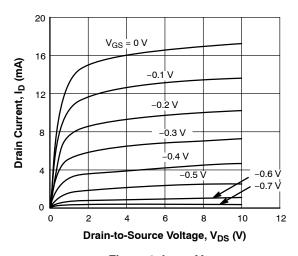


Figure 2. I_D vs. V_{DS}

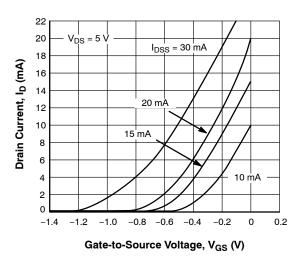


Figure 3. I_D vs. V_{GS}

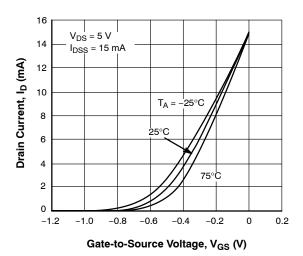


Figure 4. ID vs. VGS

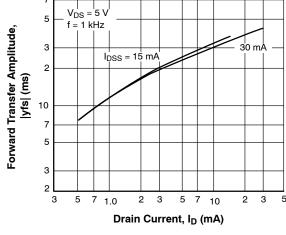


Figure 5. |yfs| vs. I_D

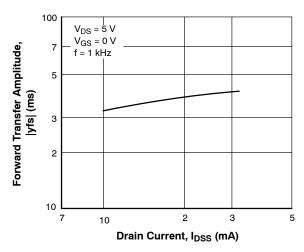


Figure 6. |yfs| vs. I_{DSS}

TYPICAL CHARACTERISTICS

3

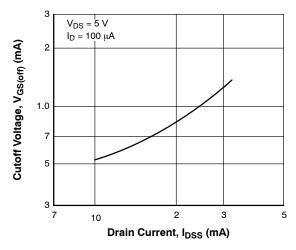


Figure 7. V_{GS(Off)} vs. I_{DSS}

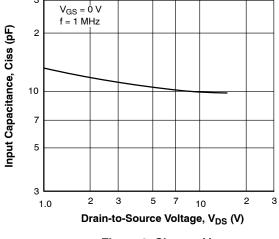


Figure 8. Ciss vs. V_{DS}

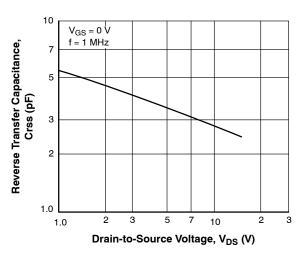


Figure 9. Crss vs. V_{DS}

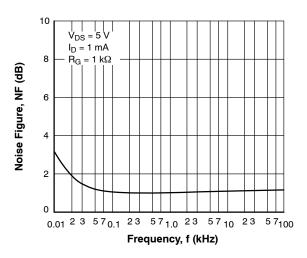


Figure 10. NF vs. f

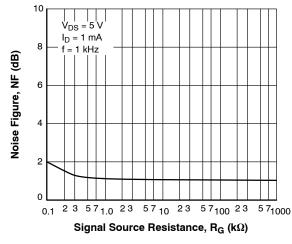


Figure 11. NF vs. R_G

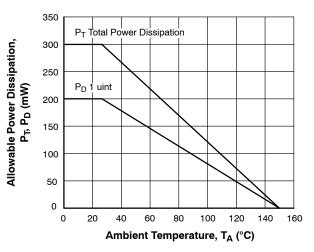
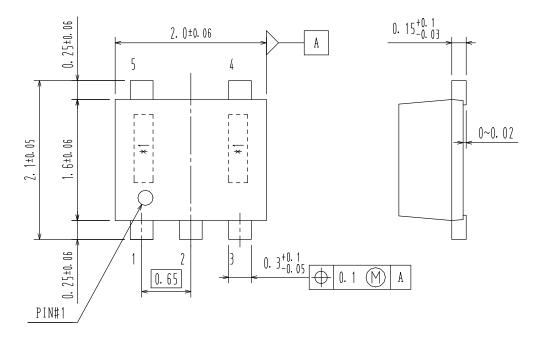


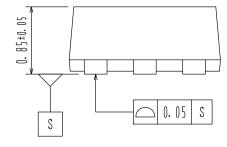
Figure 12. P_T, P_D vs. T_A

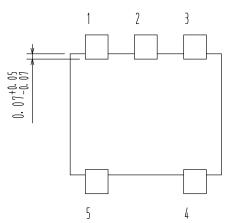


SC-88AFL/ MCPH5 CASE 419AP ISSUE O

DATE 30 NOV 2011







DOCUMENT NUMBER:	98AON65479E	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.		
DESCRIPTION:	SC-88AFL / MCPH5		PAGE 1 OF 1	

ON Semiconductor and are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. ON Semiconductor does not convey any license under its patent rights nor the rights of others.

ON Semiconductor and the are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. ON Semiconductor reserves the right to make changes without further notice to any products herein. ON Semiconductor and see no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does ON Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. Buyer is responsible for its products and applications using ON Semiconductor products, including compliance with all laws, regulations and safety requirements or standards, regardless of any support or applications information provided by ON Semiconductor. "Typical" parameters which may be provided in ON Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. ON Semiconductor does not convey any license under its patent rights nor the rights of others. ON Semiconductor products are not designed, intended, or authorized for use as a critical component in life support systems or any FDA Class 3 medical devices or medical devices with a same or similar classification in a foreign jurisdiction or any devices intended for implantation in the human body. Should Buyer purchase or use ON Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Email Requests to: orderlit@onsemi.com

ON Semiconductor Website: www.onsemi.com

TECHNICAL SUPPORT North American Technical Support: Voice Mail: 1 800-282-9855 Toll Free USA/Canada Phone: 011 421 33 790 2910

Europe, Middle East and Africa Technical Support:

Phone: 00421 33 790 2910

For additional information, please contact your local Sales Representative