

NSVJ5908DSG5

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 $|y_{fs}|$
- 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 ($T_A = 25^\circ\text{C}$)

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, T_{Stg}	-55 to +150	$^\circ\text{C}$

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.

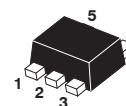
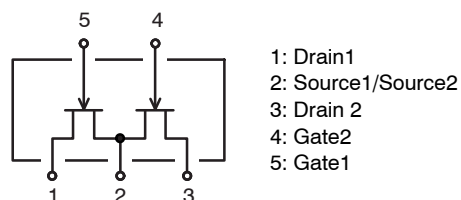


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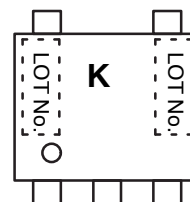
ELECTRICAL CONNECTION

N-Channel



SC-88AFL/MCPH5
CASE 419AP

MARKING DIAGRAM



K = Specific Device Code

ORDERING INFORMATION

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

NSVJ5908DSG5

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10 \mu\text{A}$, $V_{DS} = 0 \text{ V}$	-15	-	-	V
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS} = -10 \text{ V}$, $V_{DS} = 0 \text{ V}$	-	-	-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5 \text{ V}$, $I_D = 100 \mu\text{A}$	-0.3	-0.7	-1.5	V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 5 \text{ V}$, $V_{GS} = 0 \text{ V}$	10	-	32	mA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 5 \text{ V}$, $V_{GS} = 0 \text{ V}$, $f = 1 \text{ kHz}$	24	35	-	mS
Input Capacitance	C_{iss}	$V_{DS} = 5 \text{ V}$, $V_{GS} = 0 \text{ V}$, $f = 1 \text{ MHz}$	-	10.5	-	pF
Reverse Transfer Capacitance	C_{rss}		-	3.5	-	pF
Noise Figure	NF	$V_{DS} = 5 \text{ V}$, $R_g = 1 \text{ k}\Omega$, $I_D = 1 \text{ mA}$, $f = 1 \text{ kHz}$	-	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	K	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

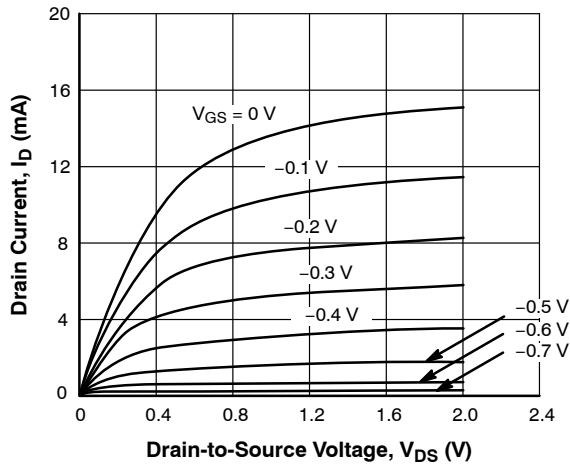


Figure 1. I_D vs. V_{DS}

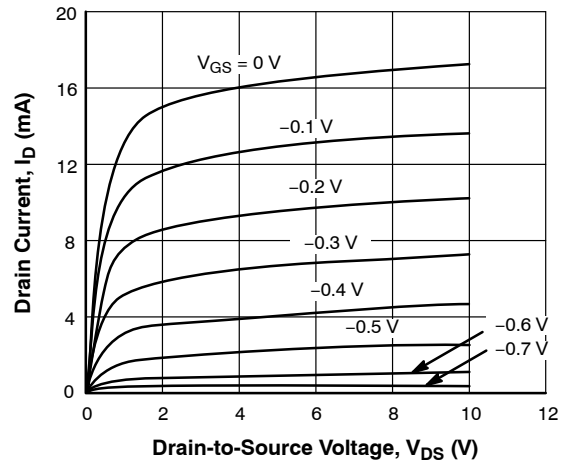


Figure 2. I_D vs. V_{DS}

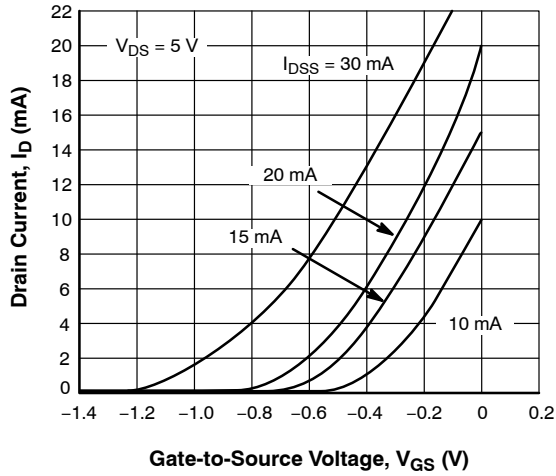


Figure 3. I_D vs. V_{GS}

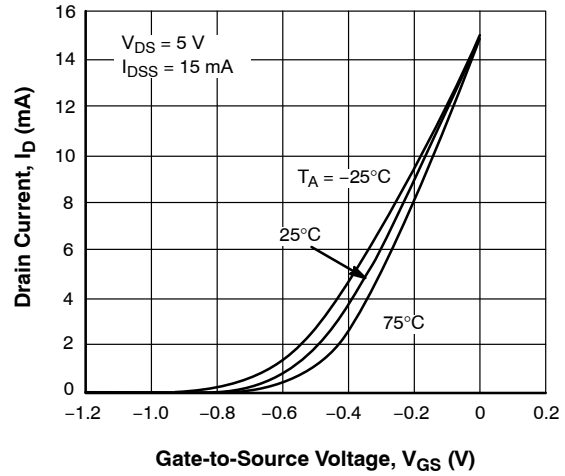


Figure 4. I_D vs. V_{GS}

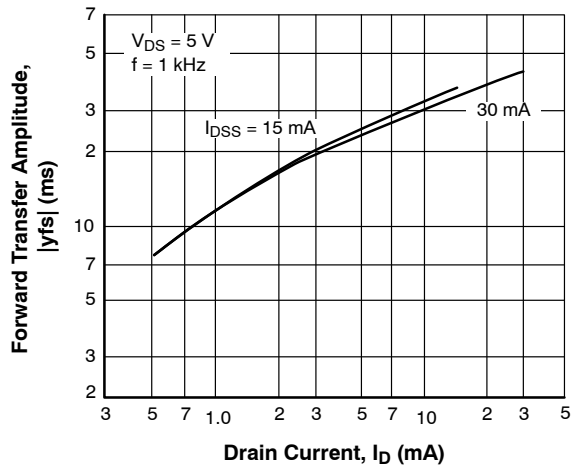


Figure 5. $|y_{fs}|$ vs. I_D

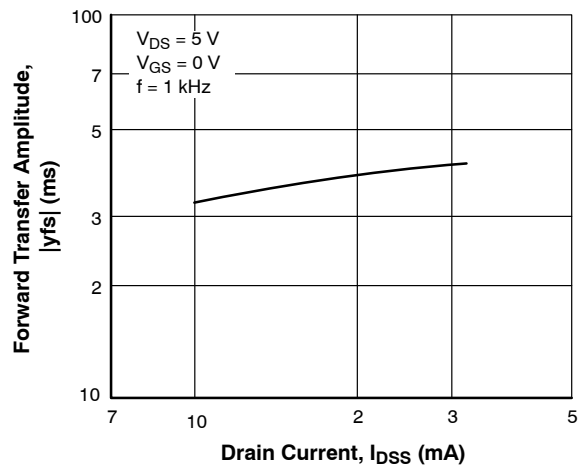


Figure 6. $|y_{fs}|$ vs. I_{DSS}

TYPICAL CHARACTERISTICS

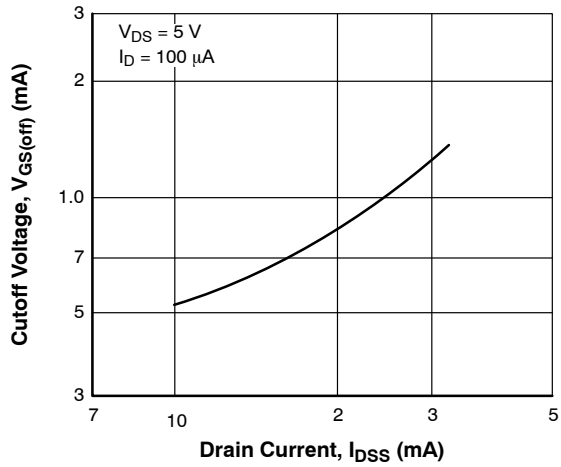


Figure 7. $V_{GS(off)}$ vs. I_{DSS}

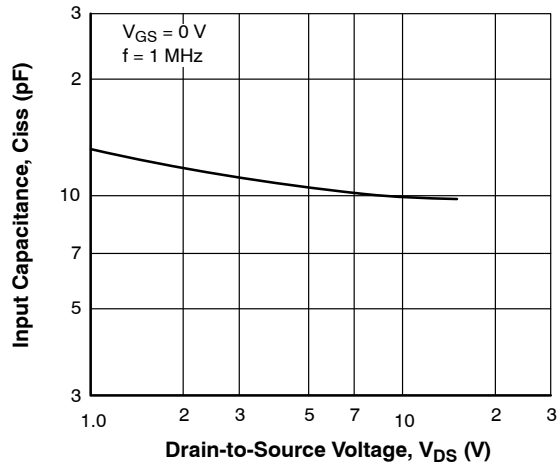


Figure 8. C_{iss} vs. V_{DS}

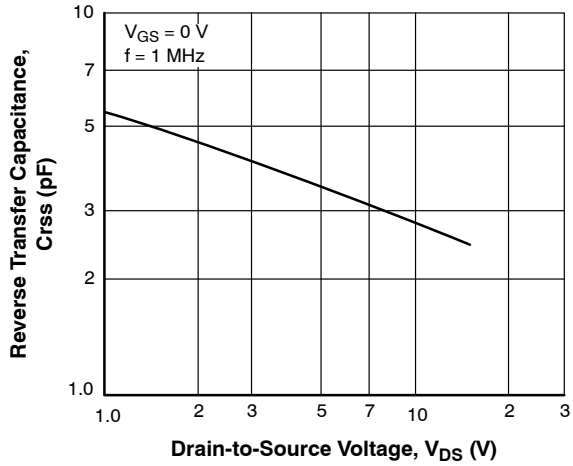


Figure 9. C_{rss} vs. V_{DS}

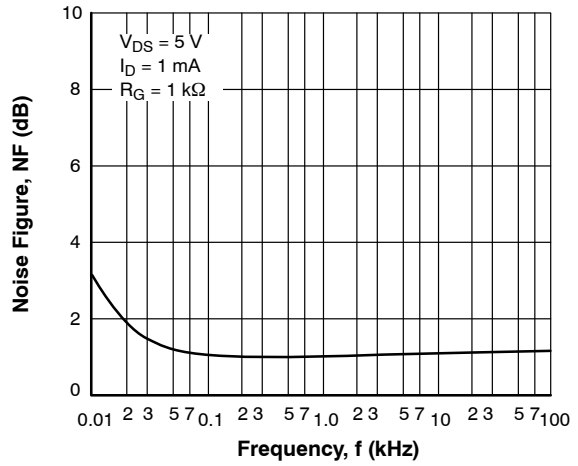


Figure 10. NF vs. f

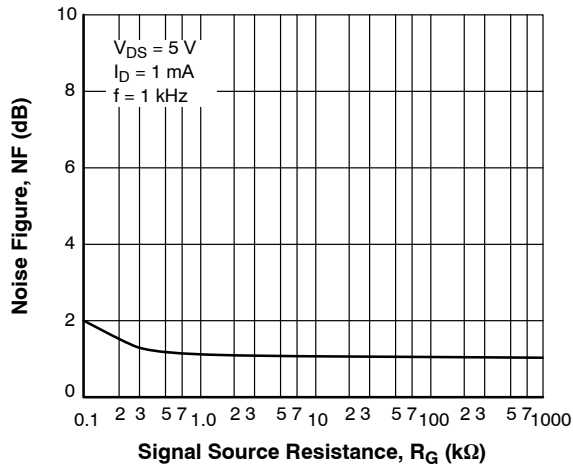


Figure 11. NF vs. R_G

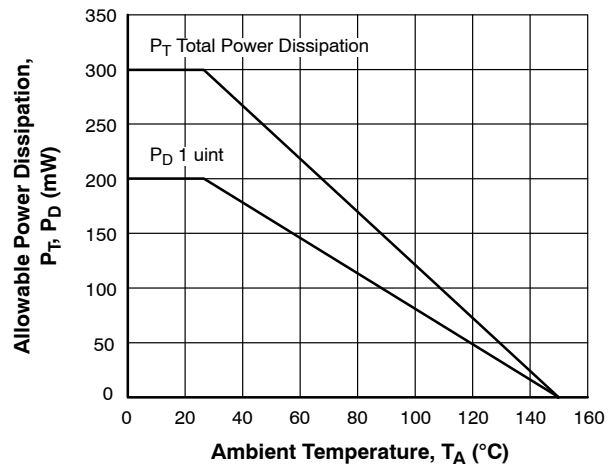
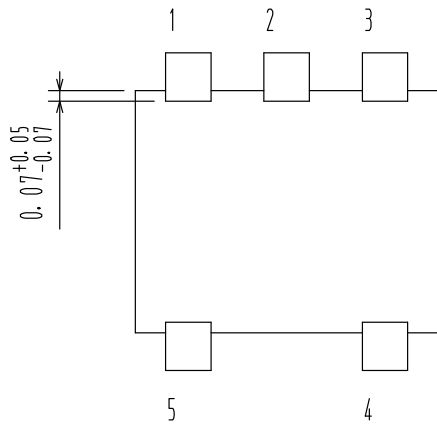
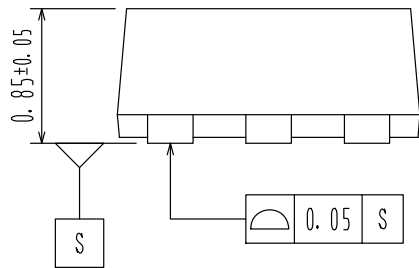
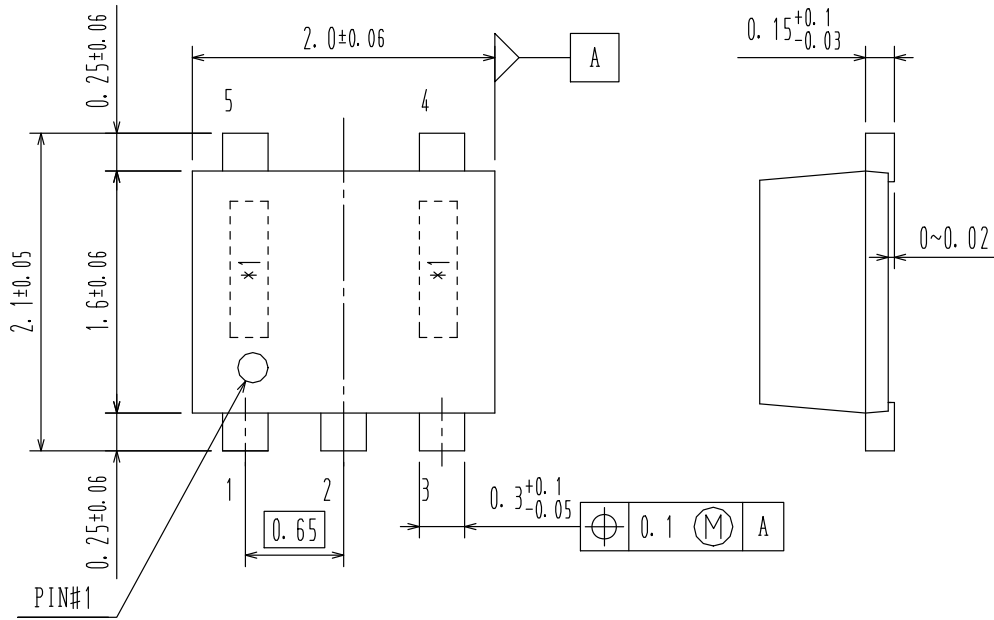


Figure 12. P_T , P_D vs. T_A

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

SC-88AFL/ MCPH5
CASE 419AP
ISSUE O

DATE 30 NOV 2011



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