N-Channel JFET, Dual

-15 V, 10 to 32 mA, 35 ms

NSVJ5908DSG5

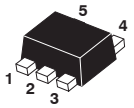
Automotive JFET designed for compact and efficient designs and including high gain performance. AEC−Q101 qualified JFET and PPAP capable suitable for automotive applications.

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

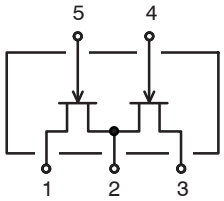
- AM Tuner RF Amplification
- Low Noise Amplifier



SC−88AFL/MCPH5
CASE 419AP

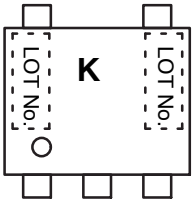
ELECTRICAL CONNECTION

N−Channel



1: Drain1
2: Source1/Source2
3: Drain 2
4: Gate2
5: Gate1

MARKING DIAGRAM



K = Specific Device Code

SPECIFICATIONS ABSOLUTE MAXIMUM RATINGS T_A = 25°C

Symbol	Parameter	Value	Unit
V_{DSX}	Drain-to-Source Voltage	15	V
V_{GDS}	Gate-to-Drain Voltage	−15	V
I_G	Gate Current	10	mA
I_D	Drain Current	50	mA
P_D	Allowable Power Dissipation − 1 unit	200	mW
P_T	Total Power Dissipation	300	mW
T_J, T_{Stg}	Operating Junction and Storage Temperature	−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.

ORDERING INFORMATION

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

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Table 1. ELECTRICAL CHARACTERISTICS T_A = 25°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G = −10 μA, V_{DS} = 0 V	−15	–	–	V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS} = −10 V, V_{DS} = 0 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 V, Rg = 1 kΩ, I_D = 1 mA, f = 1 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

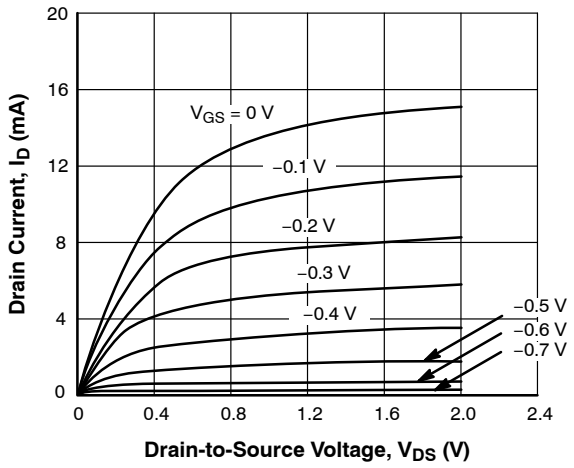

Figure 1. I_D vs. V_{DS}

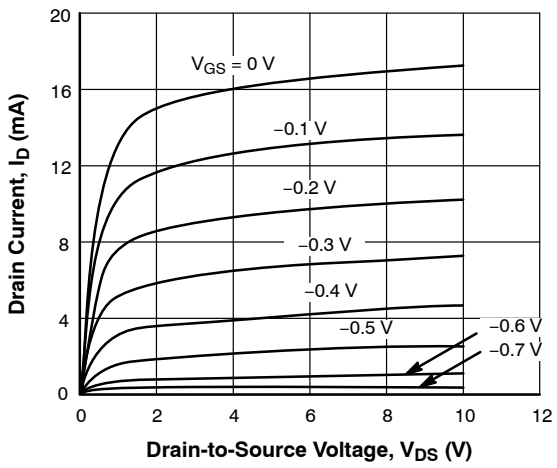

Figure 2. I_D vs. V_{DS}

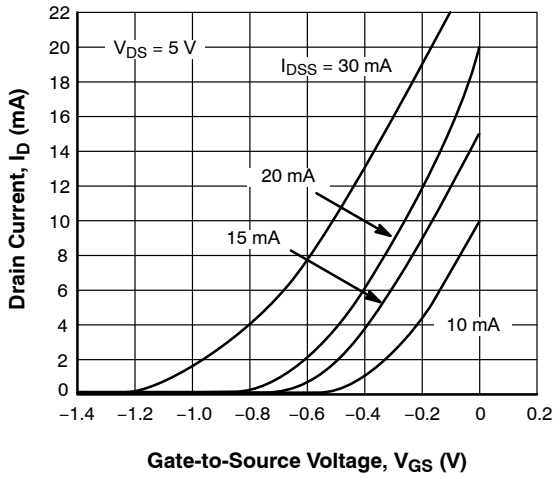

Figure 3. I_D vs. V_{GS}

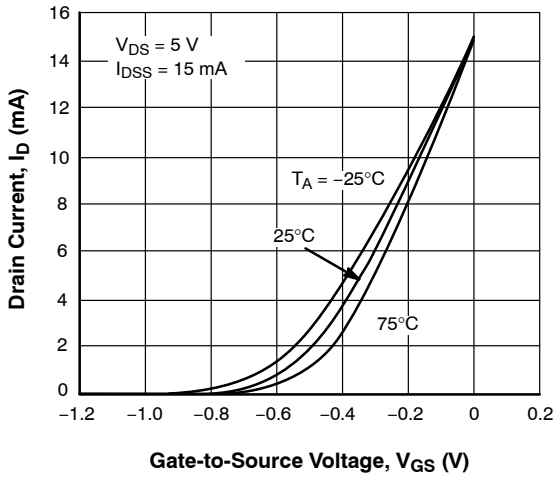

Figure 4. I_D vs. V_{GS}

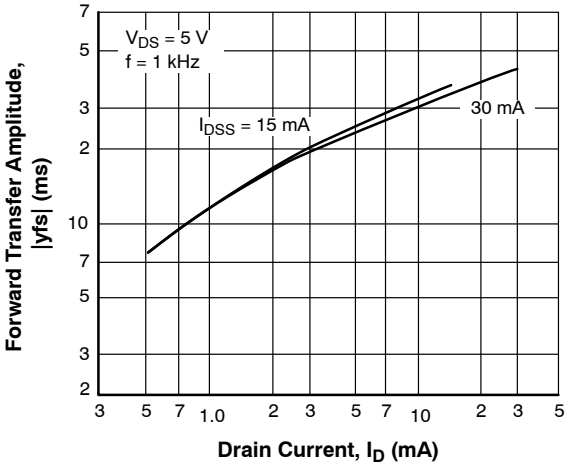

Figure 5. |yfs| vs. I_D

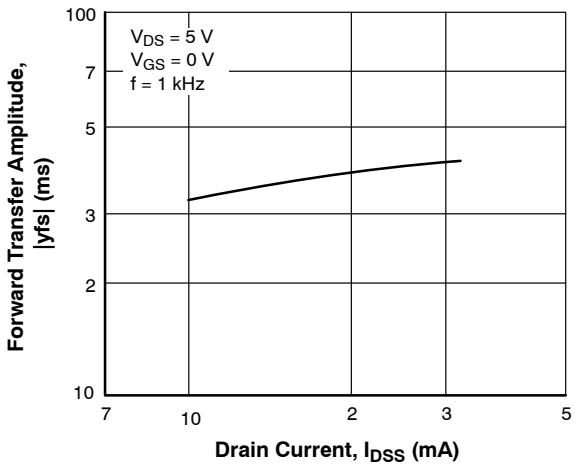

Figure 6. |yfs| vs. I_{DSS}

TYPICAL CHARACTERISTICS (continued)

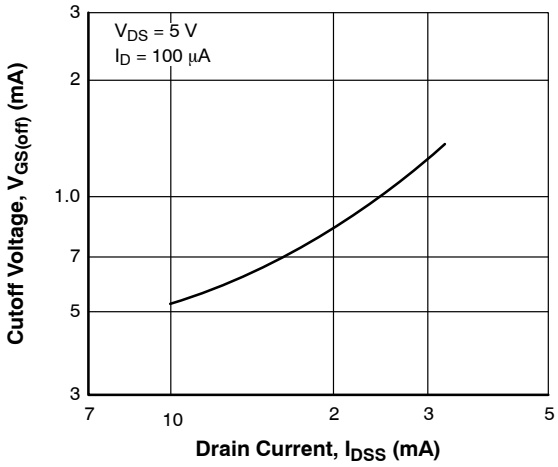

Figure 7. $V_{GS(Off)}$ vs. I_{DSS}

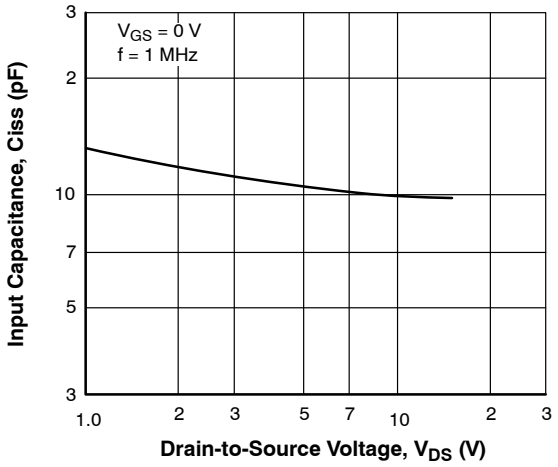

Figure 8. Ciss vs. V_{DS}

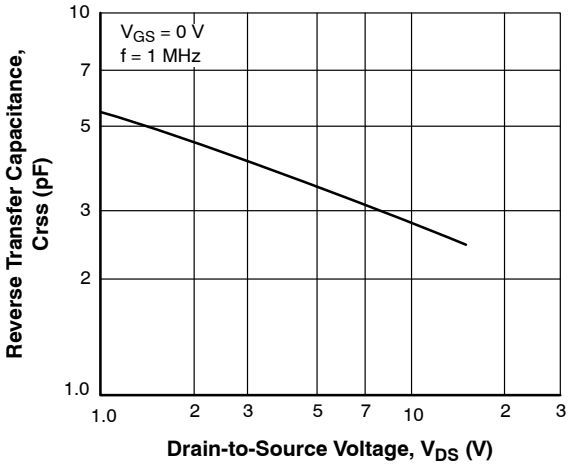

Figure 9. Crss vs. V_{DS}

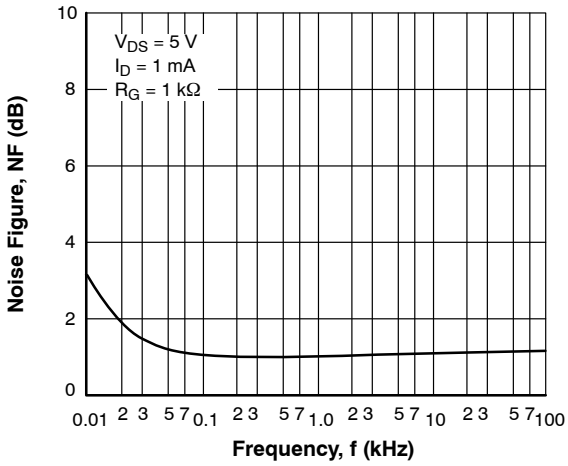

Figure 10. NF vs. f

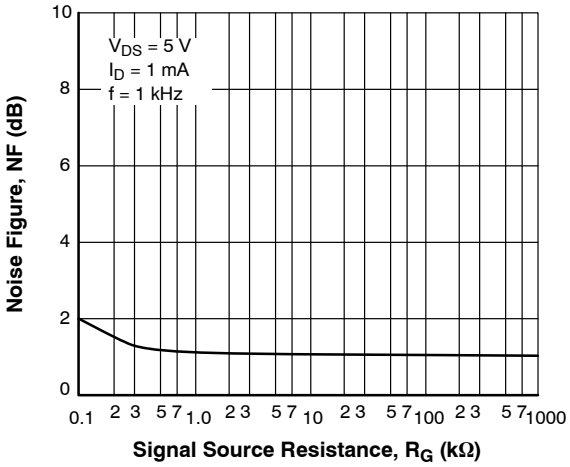

Figure 11. NF vs. R_G

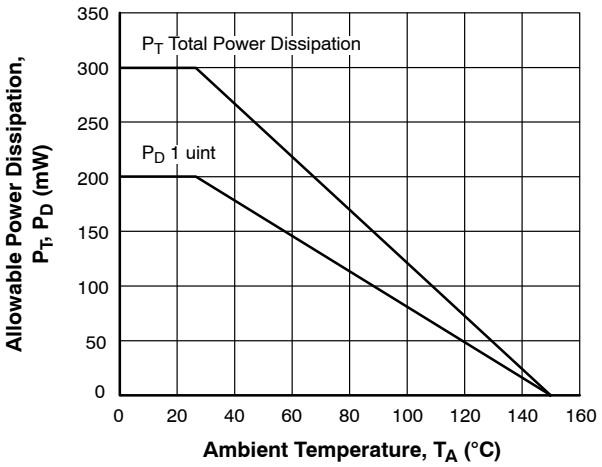

Figure 12. P_T, P_D vs. T_A

SC−88AFL/ MCPH5
CASE 419AP
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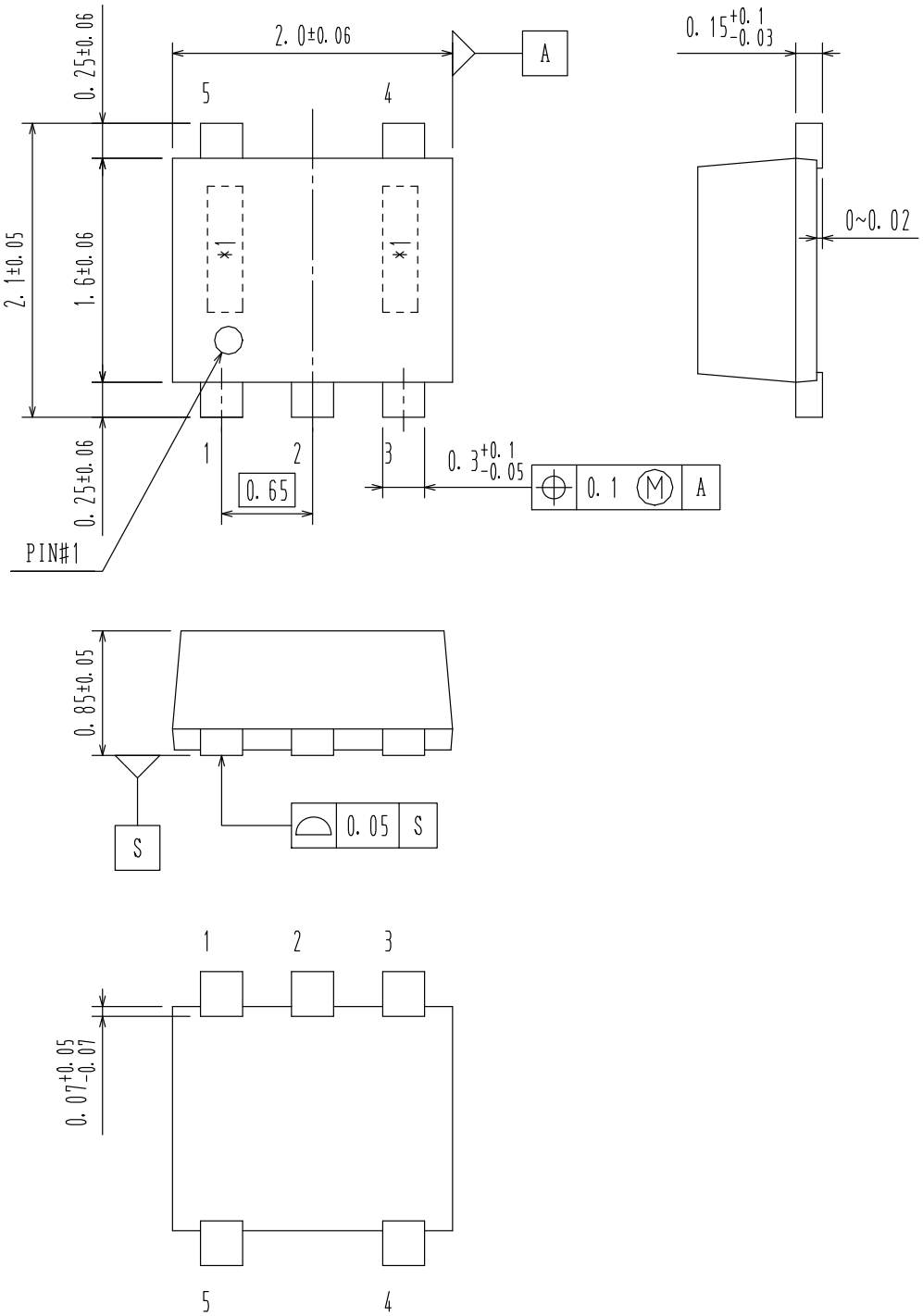

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