NSVJ5908DSG5

Advance Information
N-Channel JFET
–15 V, 10 to 32 mA, 35 mS, Dual

ON Semiconductor®

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

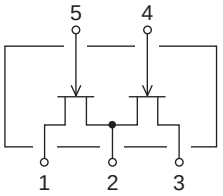
Features

- Large | yfs |
- Small Ciss
- This small package enables sets to be smaller and thinner
- Ultralow noise figure
- Pb-Free, Halogen Free and RoHS compliance
- MCPH5 package is pin-compatible with SC-88AFL
- AEC-Q101 qualified and PPAP capable
- 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

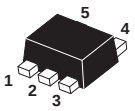
Typical Applications

- AM Tuner RF Amplification
- Low Noise Amplifier

ELECTRICAL CONNECTION
N-Channel

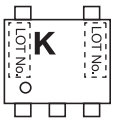


1 : Drain1
2 : Source1/Source2
3 : Drain2
4 : Gate2
5 : Gate1



MCPH5

MARKING



ORDERING INFORMATION
See detailed ordering and shipping information on page 5 of this data sheet

SPECIFICATIONS
ABSOLUTE MAXIMUM RATINGS at Ta = 25°C (Note 1)

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	°C

Note 1 : 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.

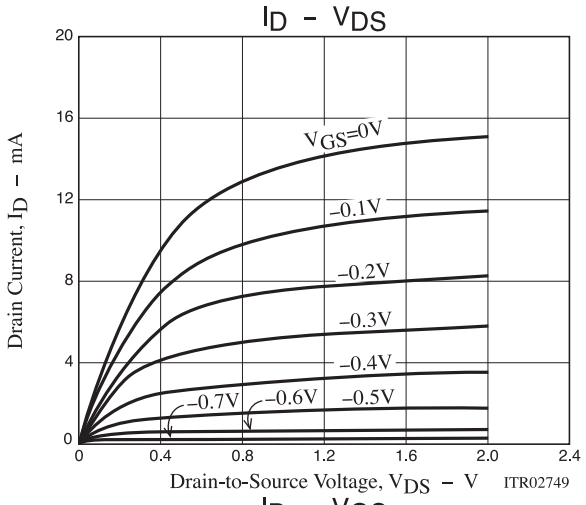
This document contains information on a new product. Specifications and information herein are subject to change without notice.

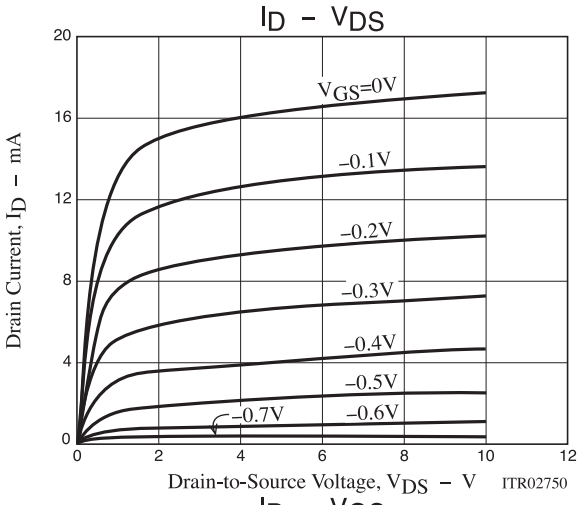
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Notes 2,3)

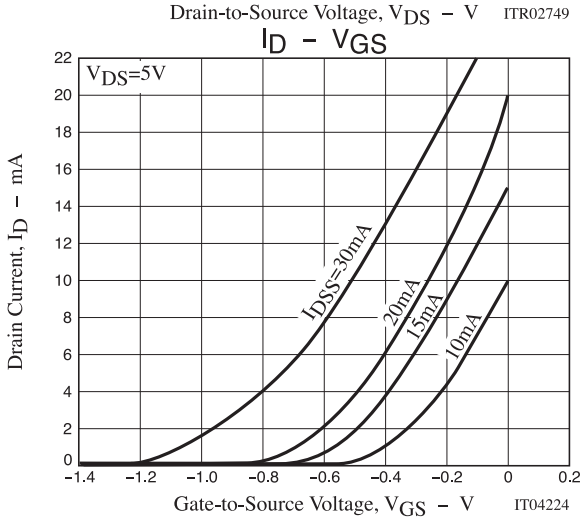
Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	I_G = −10 μA, V_{DS} = 0 V	−15			V
Gate-to-Source Leakage Current	I_{GSS}	V_{GS} = −10 V, V_{DS} = 0 V			−1.0	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS} = 5 V, I_D = 100 μA	−0.3	−0.7	−1.5	V
Zero-Gate Voltage 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

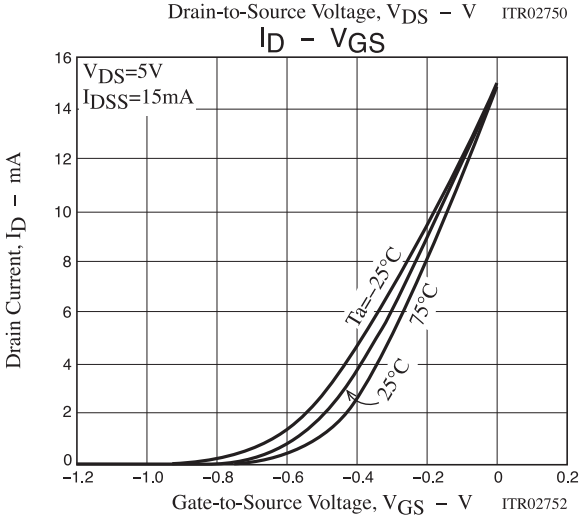
Note 2 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

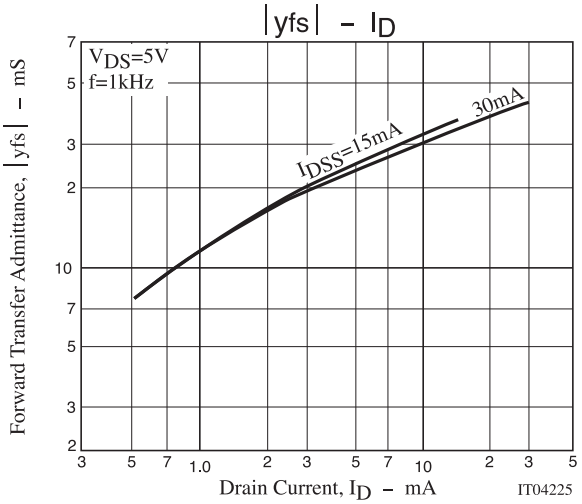
Note 3 : The specifications shown above are for each individual JFET.

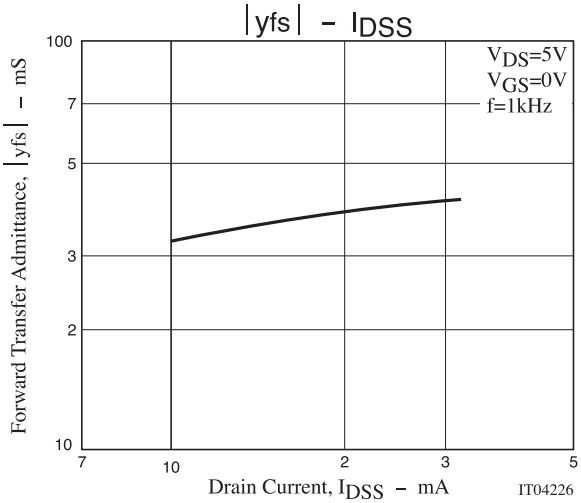


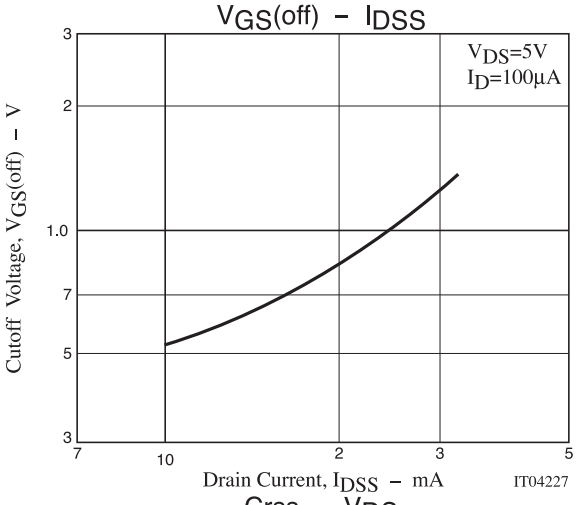


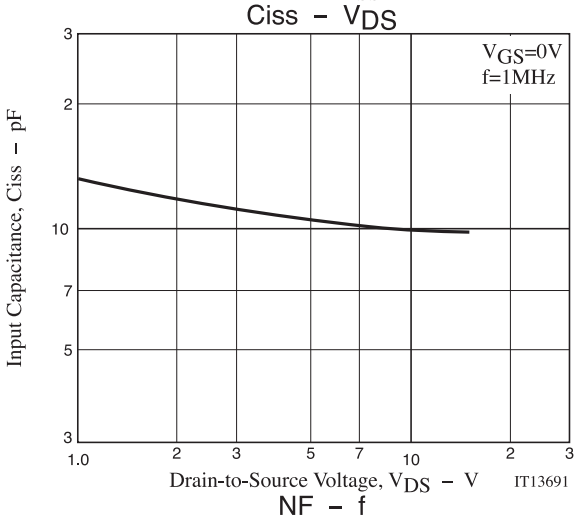


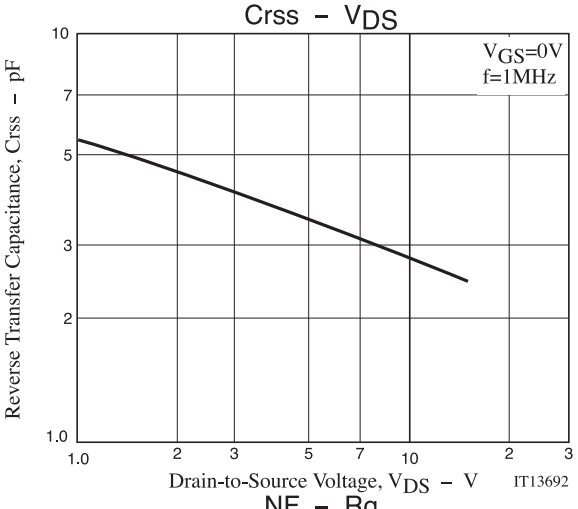


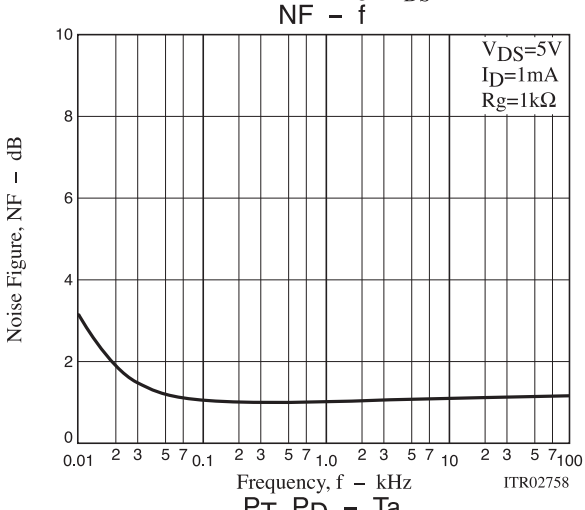

|yfs| – ID
VDS=5V
f=1kHz
IDSS=15mA
30mA
Forward Transfer Admittance, |yfs| – mS
Drain Current, ID – mA
IT04225

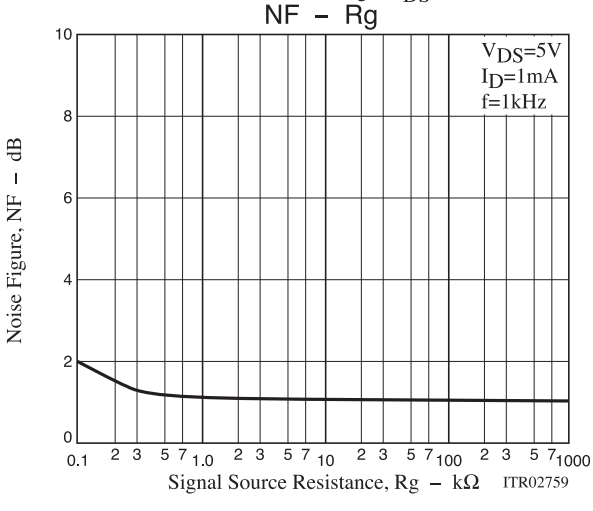

|yfs| – IDSS
VDS=5V
VGS=0V
f=1kHz
Forward Transfer Admittance, |yfs| – mS
Drain Current, IDSS – mA
IT04226

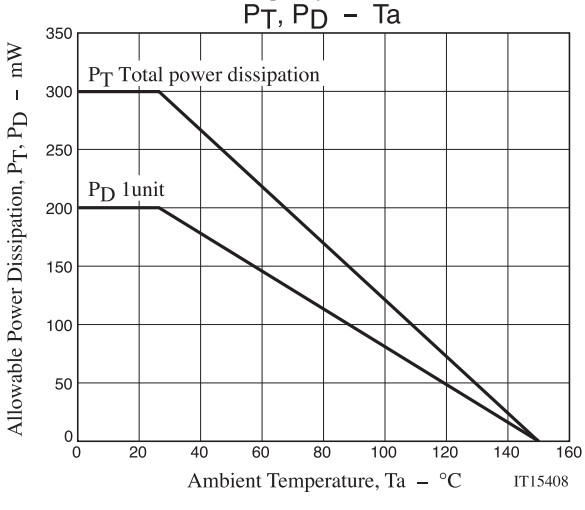

VGS(off) – IDSS
VDS=5V
ID=100µA
Cutoff Voltage, VGS(off) – V
Drain Current, IDSS – mA
IT04227


Ciss – VDS
VGS=0V
f=1MHz
Input Capacitance, Ciss – pF
Drain-to-Source Voltage, VDS – V
IT13691


Crss – VDS
VGS=0V
f=1MHz
Reverse Transfer Capacitance, Crss – pF
Drain-to-Source Voltage, VDS – V
IT13692

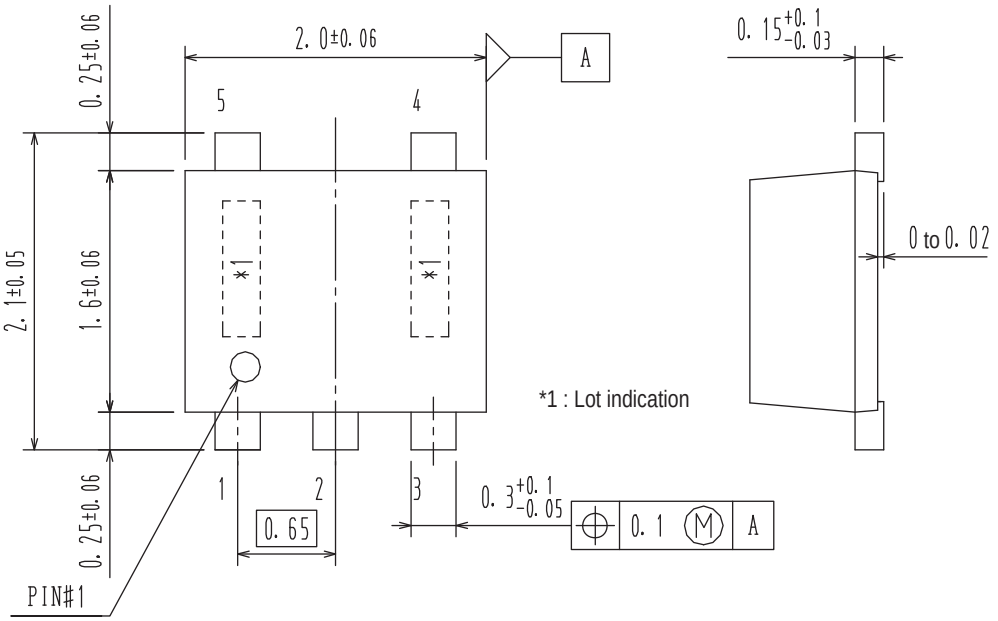

NF – f
VDS=5V
ID=1mA
Rg=1kΩ
Noise Figure, NF – dB
Frequency, f – kHz
ITR02758

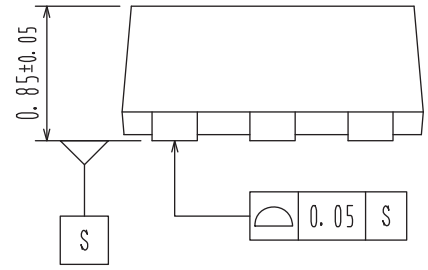

NF – Rg
VDS=5V
ID=1mA
f=1kHz
Noise Figure, NF – dB
Signal Source Resistance, Rg – kΩ
ITR02759

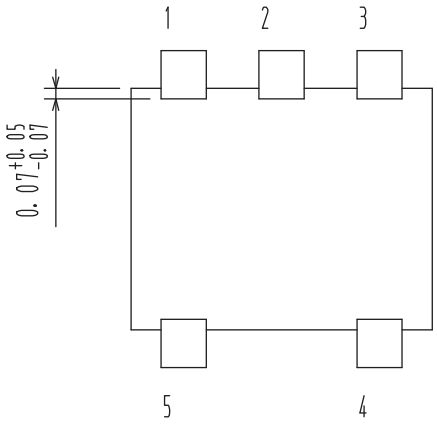

PT, PD – Ta
PT Total power dissipation
PD 1unit
Allowable Power Dissipation, PT, PD – mW
Ambient Temperature, Ta – °C
IT15408

PACKAGE DIMENSIONS
unit : mm

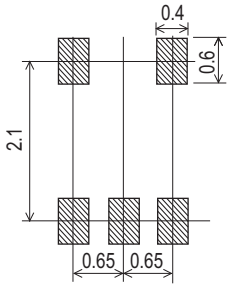
SC-88AFL / MCPH5
CASE 419AP
ISSUE O







RECOMMENDED SOLDERING FOOTPRINT



1 : Drain1
2 : Source1/Source2
3 : Drain2
4 : Gate2
5 : Gate1

ORDERING INFORMATION

Device	Marking	Package	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. http://www.onsemi.com/pub_link/Collateral/BRD8011-D.PDF