

NSVJ3910SB3

Advance Information

N-Channel JFET

–25V, 20 to 40mA, 40mS

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

- High Forward Transfer Admittance
- High Breakdown Voltage
- Low Input Capacitance
- Low Noise Figure
- Pb-Free and RoHS compliance
- AEC-Q101 qualified and PPAP capable

Typical Applications

- Low Noise Amplifier for Automotive AM Radio

SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS at $T_a = 25^\circ\text{C}$ (Note 1)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSX}	25	V
Gate-to-Drain Voltage	V_{GDS}	–25	V
Gate Current	I_G	10	mA
Drain Current	I_D	50	mA
Allowable Power Dissipation	P_D	400	mW
Operating Junction and Storage Temperature	T_J, T_{stg}	–55 to +150	$^\circ\text{C}$

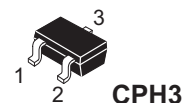
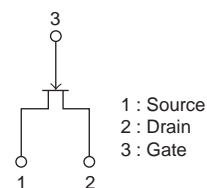
Note 1 : Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



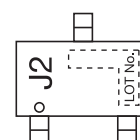
ON Semiconductor®

www.onsemi.com

ELECTRICAL CONNECTION N-Channel



MARKING



ORDERING INFORMATION

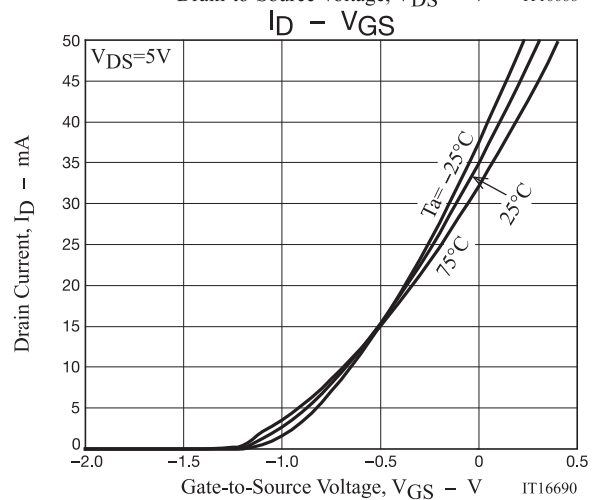
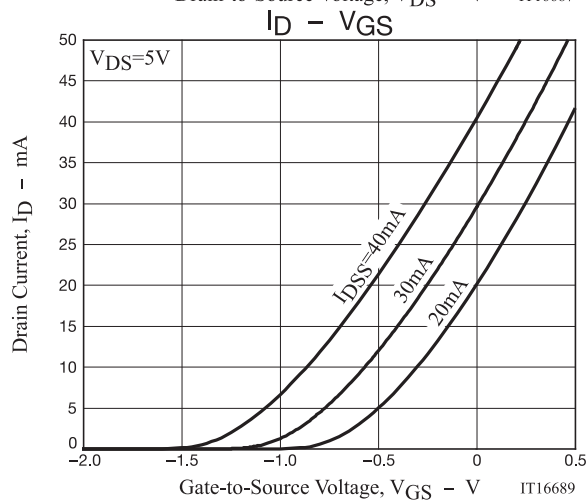
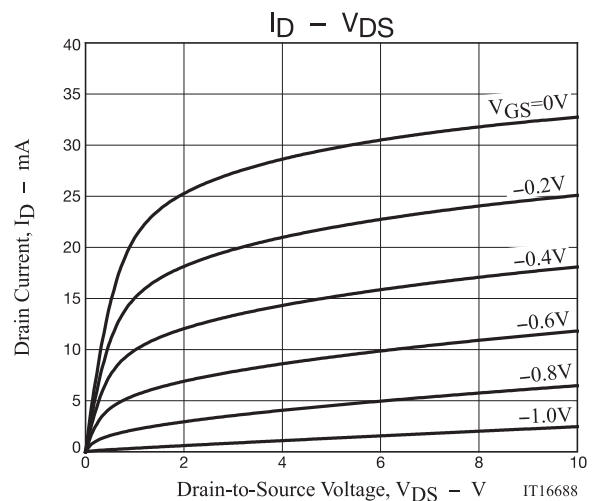
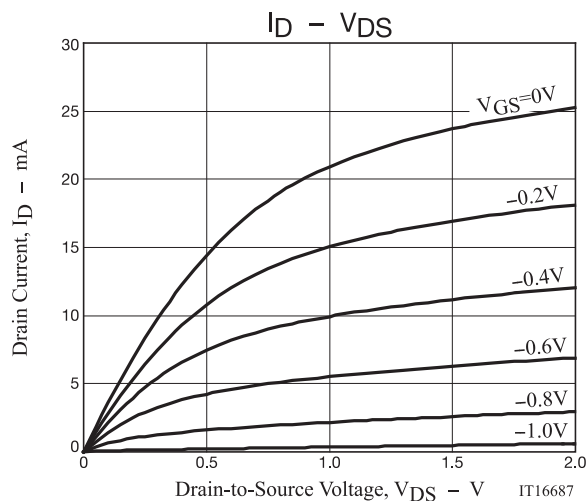
See detailed ordering and shipping information on page 5 of this data sheet

NSVJ3910SB3

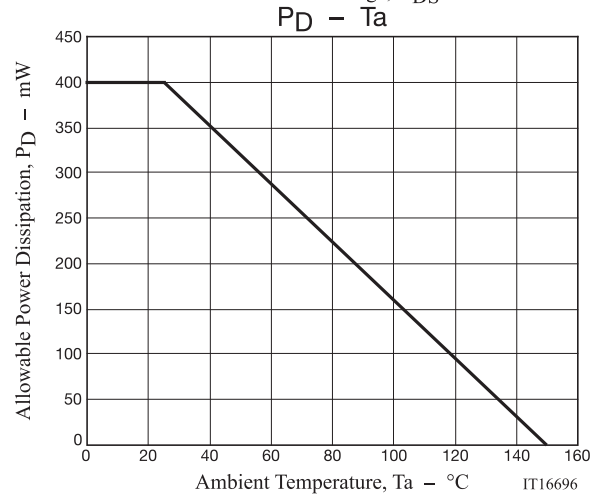
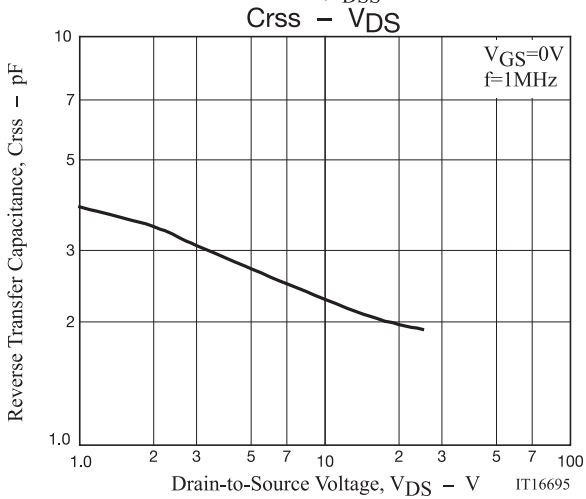
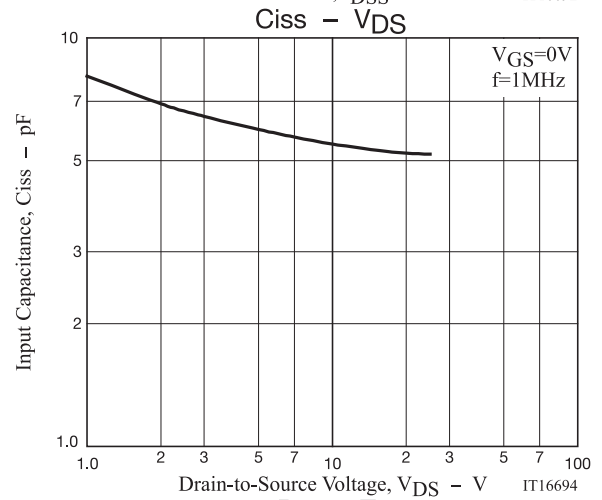
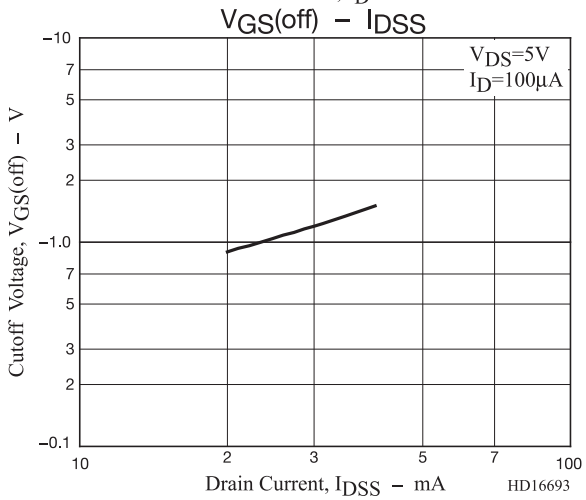
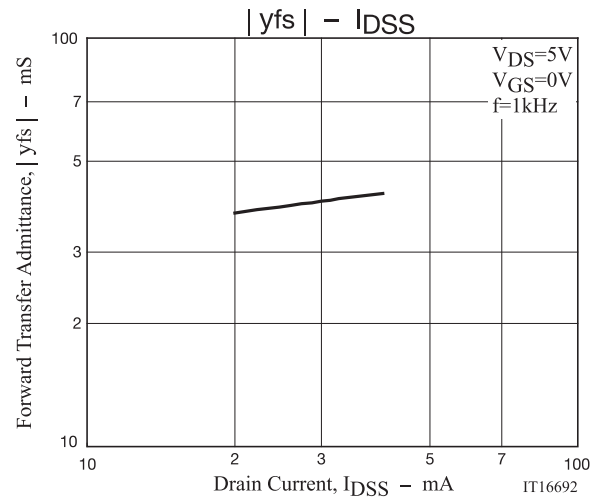
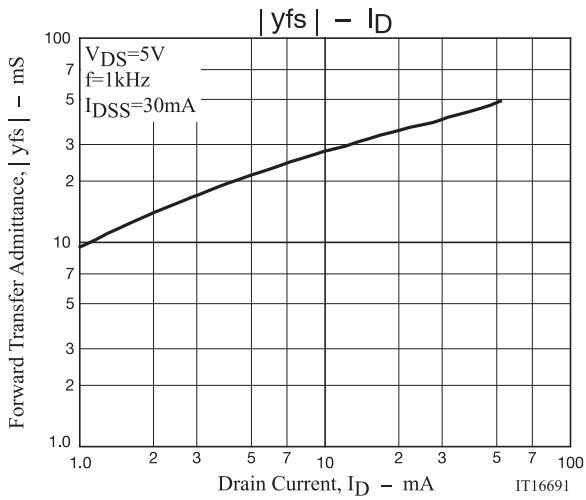
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 2)

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu A$, $V_{DS} = 0V$	-25			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -10V$, $V_{DS} = 0V$			-1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5V$, $I_D = 100\mu A$	-0.6	-1.2	-1.8	V
Drain Current	I_{DSS}	$V_{DS} = 5V$, $V_{GS} = 0V$	20		40	mA
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 5V$, $V_{GS} = 0V$, $f = 1kHz$	30	40		mS
Input Capacitance	C_{iss}	$V_{DS} = 5V$, $V_{GS} = 0V$, $f = 1MHz$		6.0		pF
Reverse Transfer Capacitance	C_{rss}			2.3		pF
Noise Figure	NF	$V_{DS} = 5V$, $V_{GS} = 0V$, $f = 100MHz$		2.1	2.8	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.



NSVJ3910SB3



NSVJ3910SB3

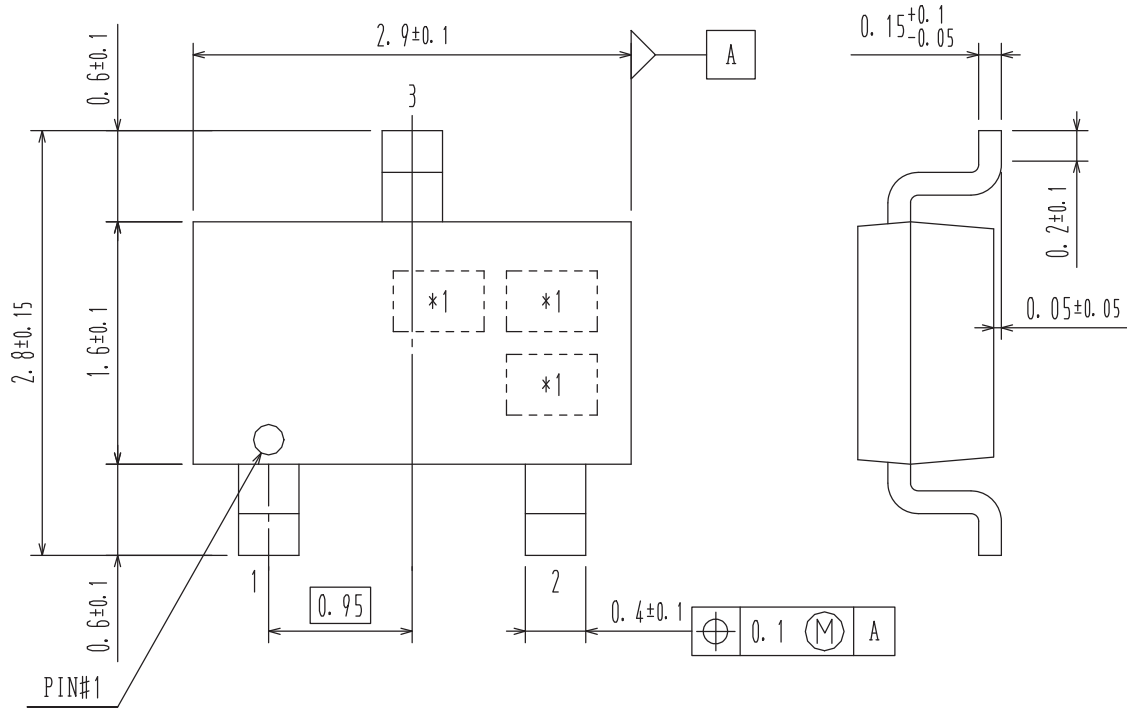
PACKAGE DIMENSIONS

unit : mm

CPH3

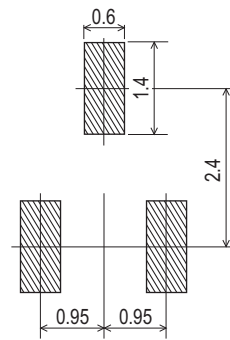
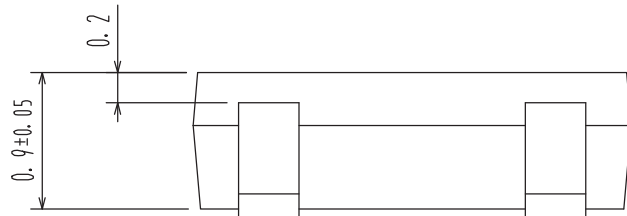
CASE 318BA

ISSUE O



*1 : Lot Indication

RECOMMENDED SOLDERING FOOTPRINT



- 1 : Source
- 2 : Drain
- 3 : Gate

NSVJ3910SB3

ORDERING INFORMATION

Device	Marking	Package	Shipping
NSVJ3910SB3T1G	J2	CPH3 (Pb-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

ON Semiconductor and the ON logo are registered trademarks of Semiconductor Components Industries, LLC (SCILLC) or its subsidiaries in the United States and/or other countries. SCILLC owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of SCILLC's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. SCILLC reserves the right to make changes without further notice to any products herein. SCILLC makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does SCILLC 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. "Typical" parameters which may be provided in SCILLC 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. SCILLC does not convey any license under its patent rights nor the rights of others. SCILLC products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the SCILLC product could create a situation where personal injury or death may occur. Should Buyer purchase or use SCILLC products for any such unintended or unauthorized application, Buyer shall indemnify and hold SCILLC and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that SCILLC was negligent regarding the design or manufacture of the part. SCILLC is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.