

NSVJ3910SB3

N-Channel JFET –25V, 20 to 40mA, 40mS



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

- 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

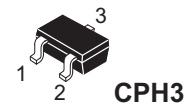
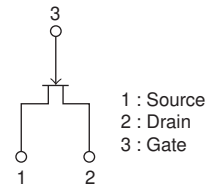
SPECIFICATIONS

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

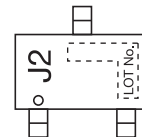
| Parameter | Symbol | Value | Unit |
|--|----------------|-------------|------------------|
| Drain-to-Source Voltage | V_{DSX} | 25 | V |
| Gate-to-Drain Voltage | V_{GDS} | –25 | V |
| Gate Current | I_G | 10 | mA |
| Drain Current | I_D | 50 | mA |
| Allowable Power Dissipation | P_D | 400 | mW |
| 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.

ELECTRICAL CONNECTION N-Channel



MARKING



ORDERING INFORMATION

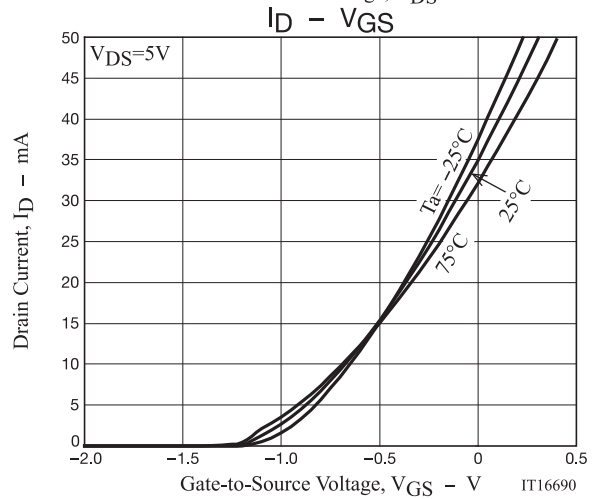
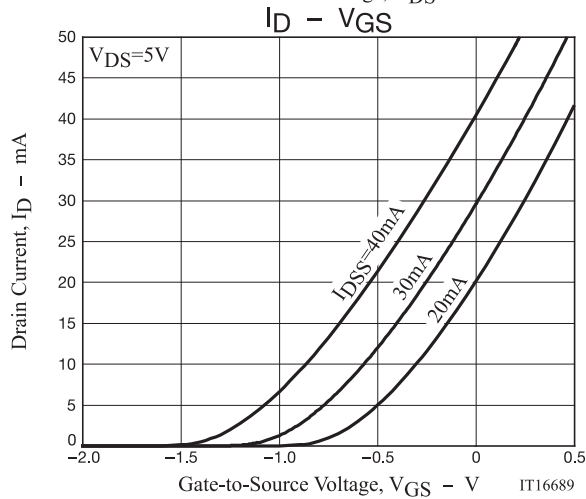
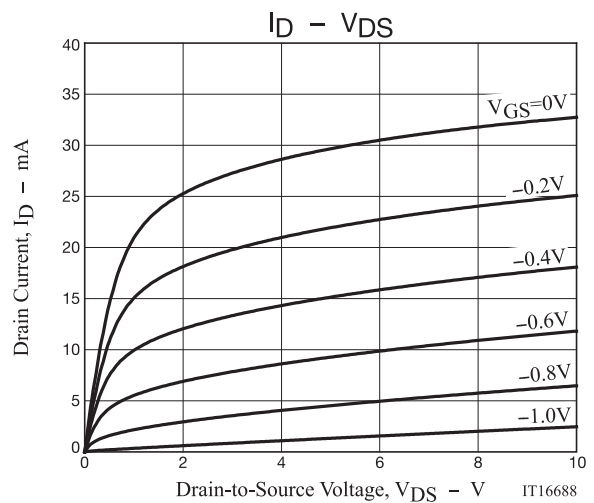
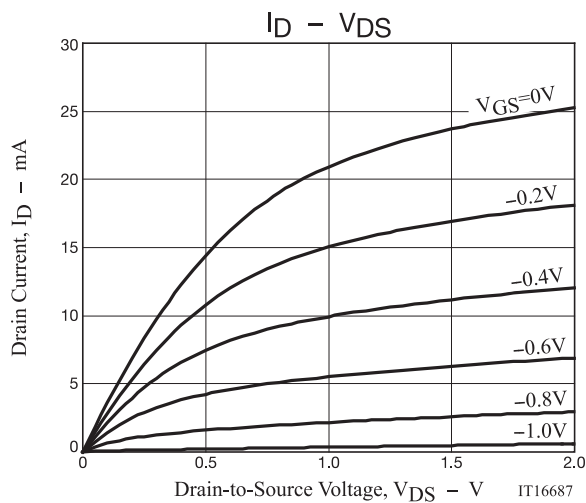
See detailed ordering and shipping information on page 5 of this data sheet

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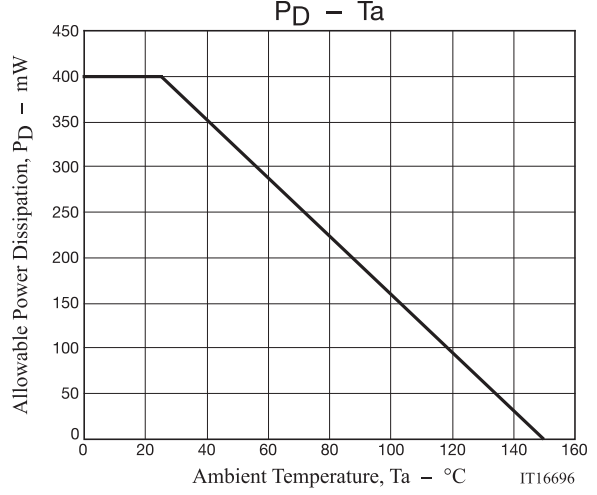
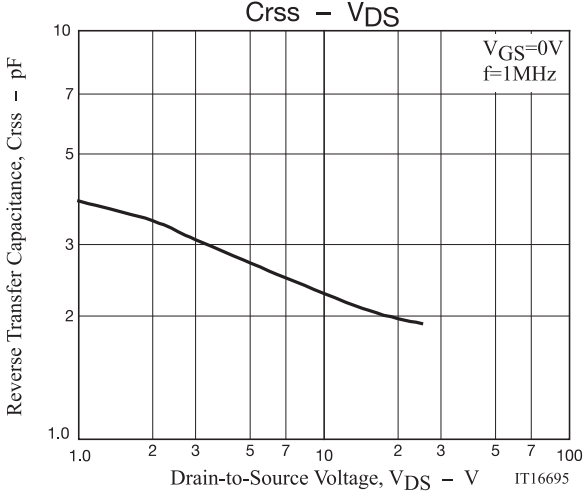
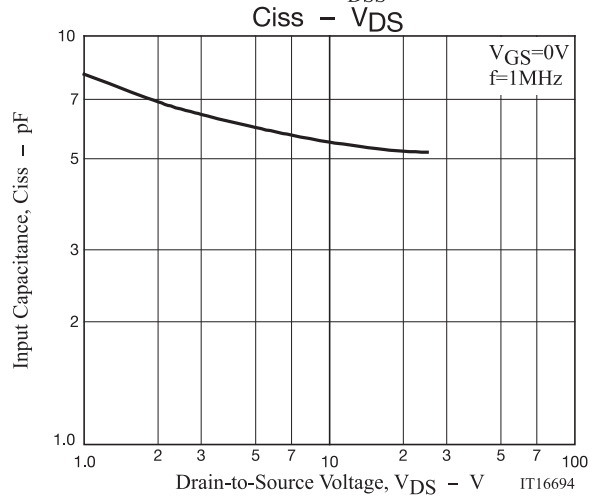
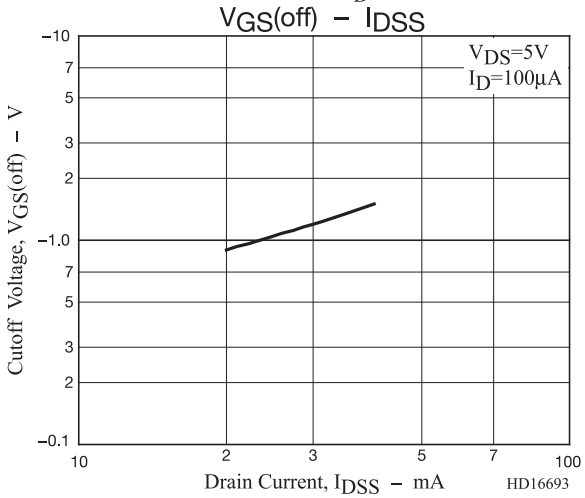
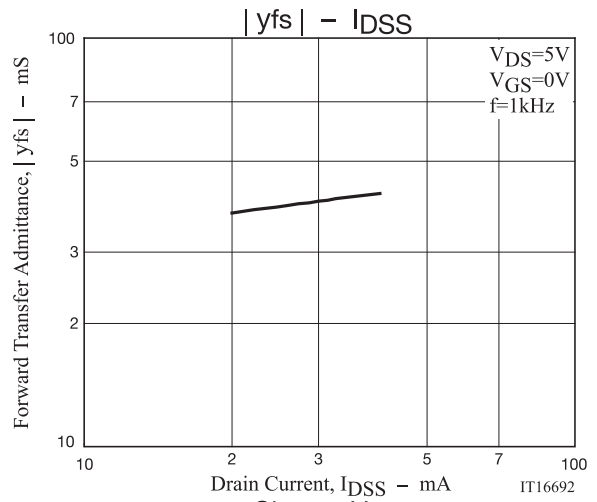
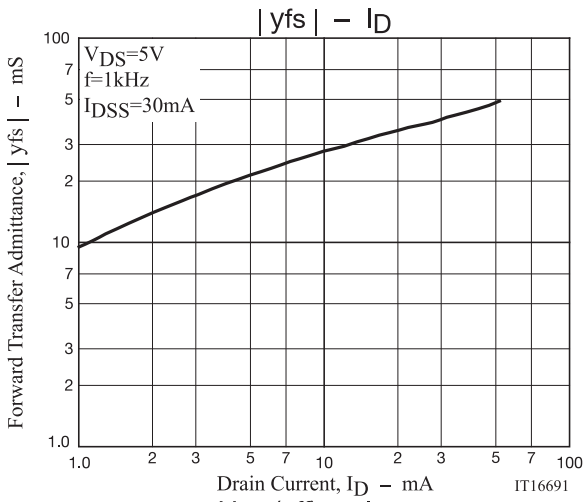
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 2)

| 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.



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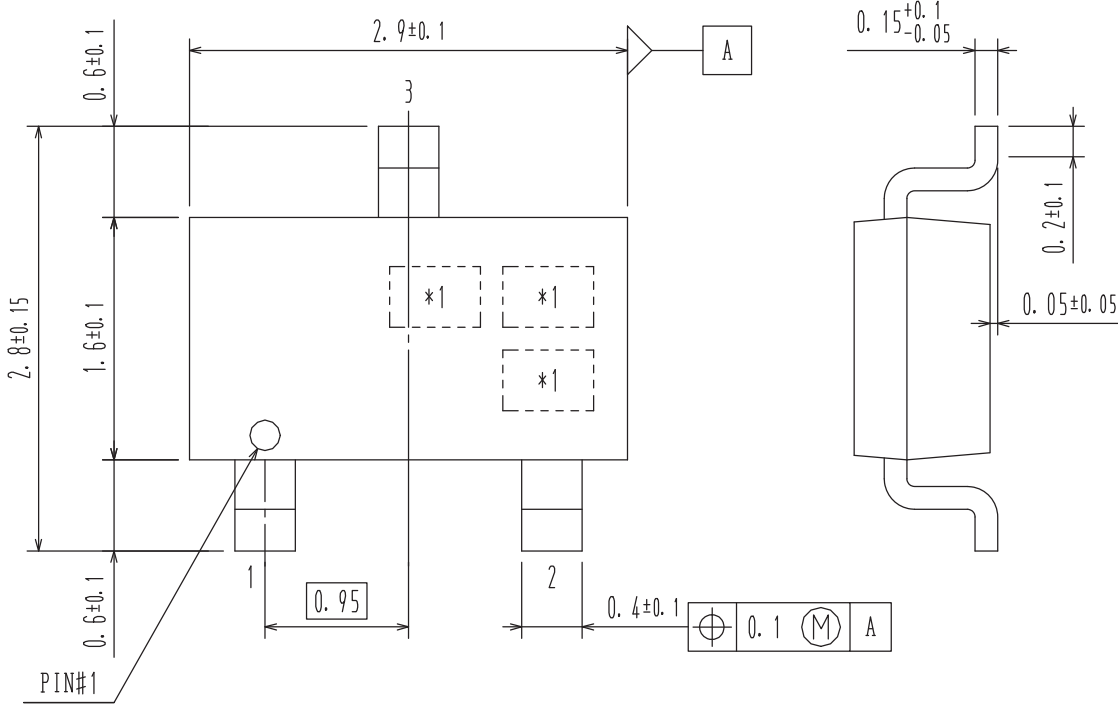
NSVJ3910SB3

PACKAGE DIMENSIONS

unit : mm

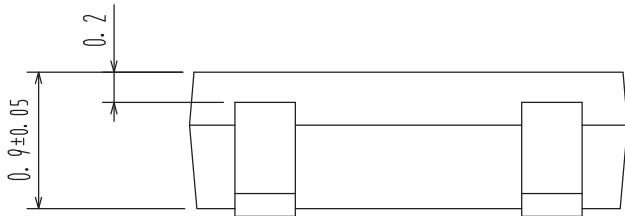
CPH3

CASE 318BA
ISSUE O

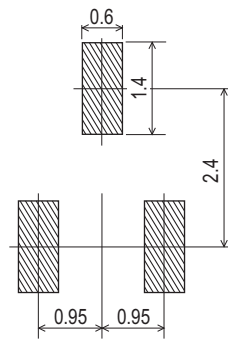


*1 : Lot Indication

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

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