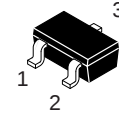


# N-Channel JFET

15 V, 10 to 24 mA, 50 mS, CP

## 2SK932



1: Source  
2: Drain  
3: Gate

SC-59 / CP3  
CASE 318BJ

### Applications

- AM Tuner RF Amplification, Low Noise Amplifier

### Features

- Adoption of FBET Process
- Large  $|y_{fs}|$
- Small Ciss
- Ultralow Noise Figure
- Ultrasmall-sized Package Permitting 2SK932-applied Sets to be Made Smaller and Slimmer
- These are Pb-Free Devices

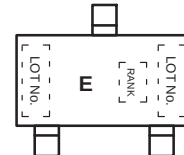
### Specifications

#### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

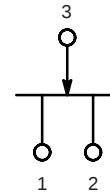
| Parameter                   | Symbol    | Conditions | Ratings     | Unit             |
|-----------------------------|-----------|------------|-------------|------------------|
| Drain-to-Source Voltage     | $V_{DSX}$ |            | 15          | V                |
| Gate-to-Drain Voltage       | $V_{GDS}$ |            | -15         | V                |
| Gate Current                | $I_G$     |            | 10          | mA               |
| Drain Current               | $I_D$     |            | 50          | mA               |
| Allowable Power Dissipation | $P_D$     |            | 200         | mW               |
| Junction Temperature        | $T_j$     |            | 150         | $^\circ\text{C}$ |
| Storage Temperature         | $T_{stg}$ |            | -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.

### MARKING DIAGRAM



### ELECTRICAL CONNECTION



### ORDERING INFORMATION

| Device         | Package         | Shipping <sup>†</sup> |
|----------------|-----------------|-----------------------|
| 2SK932-23-TB-E | CP<br>(Pb-Free) | 3,000 / Tape & Reel   |
| 2SK932-24-TB-E | CP<br>(Pb-Free) | 3,000 / Tape & Reel   |

<sup>†</sup>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.

## 2SK932

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ )

| Parameter                       | Symbol        | Conditions                                                                                      | Ratings |      |       | Unit |
|---------------------------------|---------------|-------------------------------------------------------------------------------------------------|---------|------|-------|------|
|                                 |               |                                                                                                 | Min     | Typ  | Max   |      |
| 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   |
| Zero-Gate Voltage Drain Current | $I_{DSS}$     | $V_{DS} = -5\ \text{V}$ , $V_{GS} = 0\ \text{V}$                                                | 10.0*   | -    | 24.0* | mA   |
| Cutoff Voltage                  | $V_{GS(off)}$ | $V_{DS} = 5\ \text{V}$ , $I_D = 100\ \mu\text{A}$                                               | -0.2    | -0.6 | -1.4  | V    |
| Forward Transfer Admittance     | $ y_{fs} $    | $V_{DS} = 5\ \text{V}$ , $V_{GS} = 0\ \text{V}$ , $f = 1\ \text{kHz}$                           | 25      | 50   | -     | mS   |
| Input Capacitance               | $C_{iss}$     | $V_{DS} = 5\ \text{V}$ , $V_{GS} = 0\ \text{V}$ , $f = 1\ \text{MHz}$                           | -       | 10   | -     | pF   |
| Reverse Transfer Capacitance    | $C_{rss}$     |                                                                                                 | -       | 3.0  | -     | pF   |
| Noise Figure                    | NF            | $V_{DS} = 5\ \text{V}$ , $R_g = 1\ \text{k}\Omega$ , $I_D = 1\ \text{mA}$ , $f = 1\ \text{kHz}$ | -       | 1.5  | -     | 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.

\*The 2SK932 is classified by  $I_{DSS}$  as follows: (unit: mA)

| Rank      | 23           | 24           |
|-----------|--------------|--------------|
| $I_{DSS}$ | 10.0 to 17.0 | 14.5 to 24.0 |

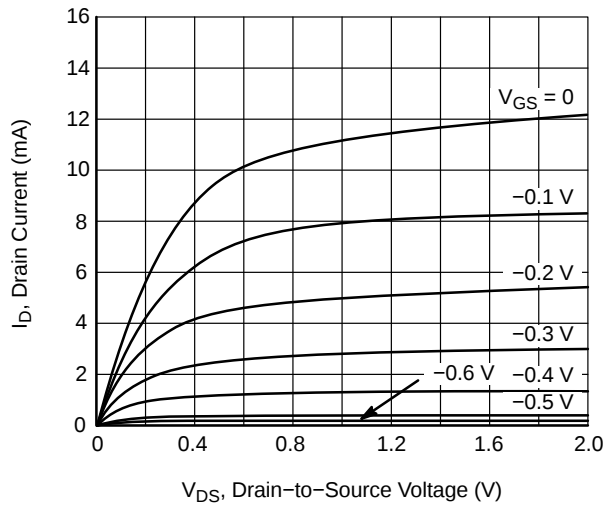


Figure 1.  $I_D - V_{DS}$

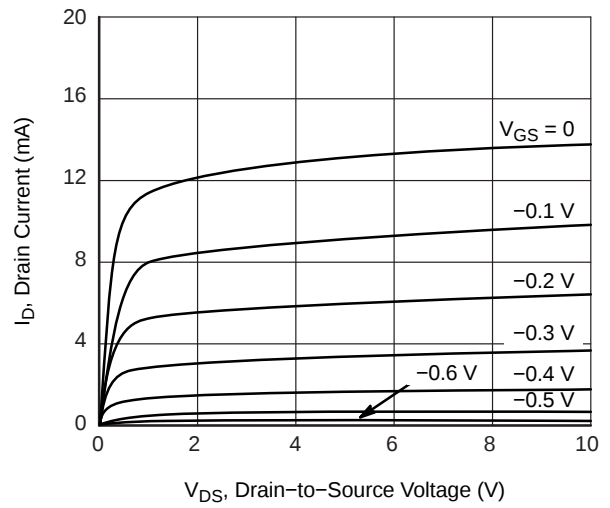


Figure 2.  $I_D - V_{DS}$

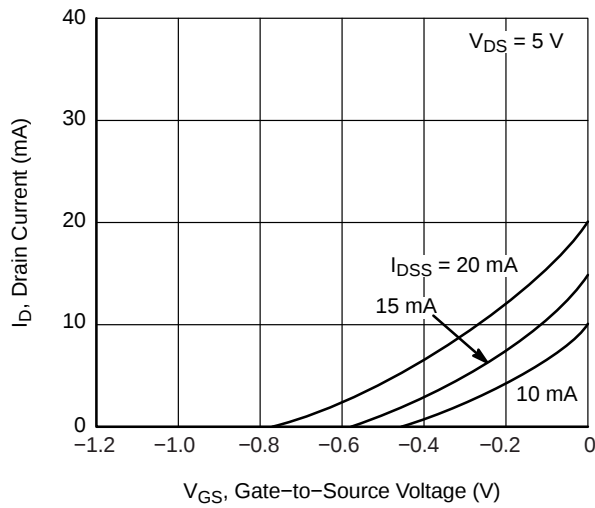


Figure 3.  $I_D - V_{GS}$

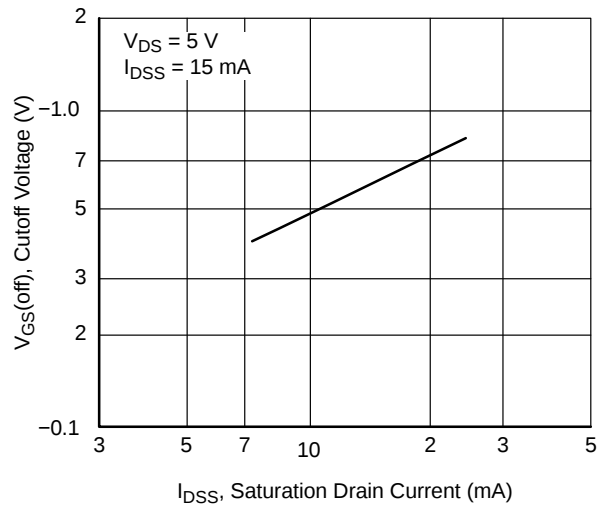


Figure 4.  $V_{GS(off)} - I_{DSS}$

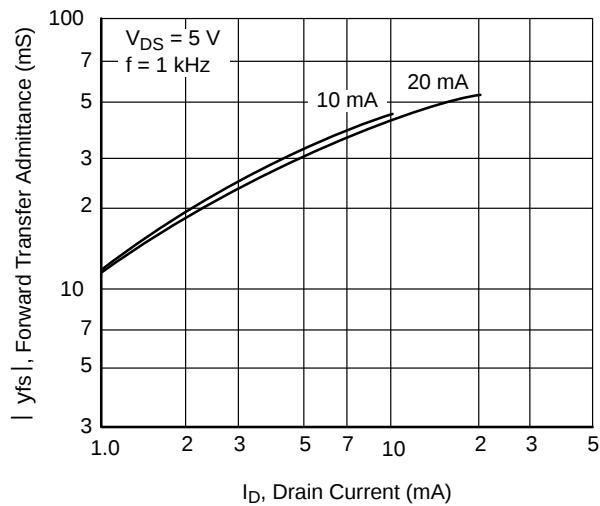


Figure 5.  $|y_{fs}| - I_D$

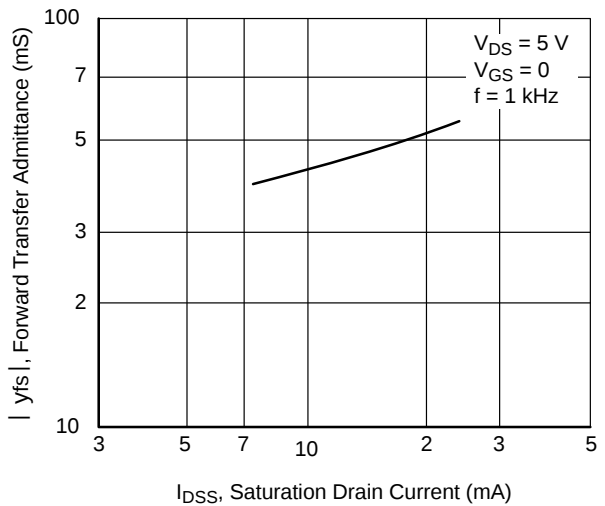


Figure 6.  $|y_{fs}| - I_{DSS}$

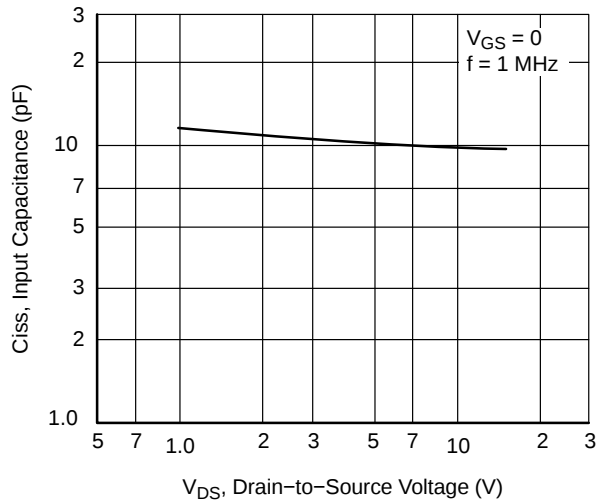


Figure 7.  $C_{iss} - V_{DS}$

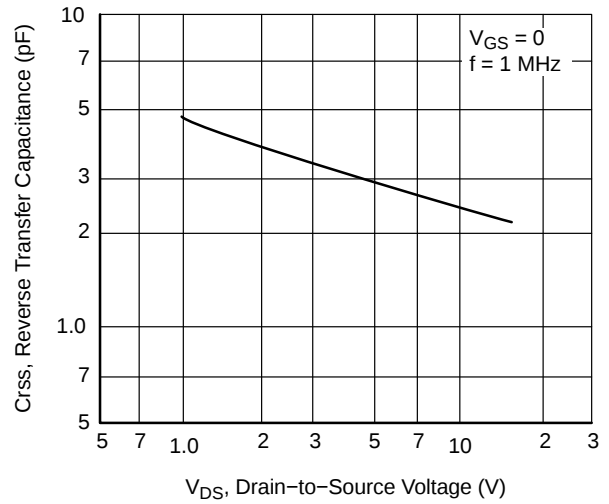


Figure 8.  $C_{rss} - V_{DS}$

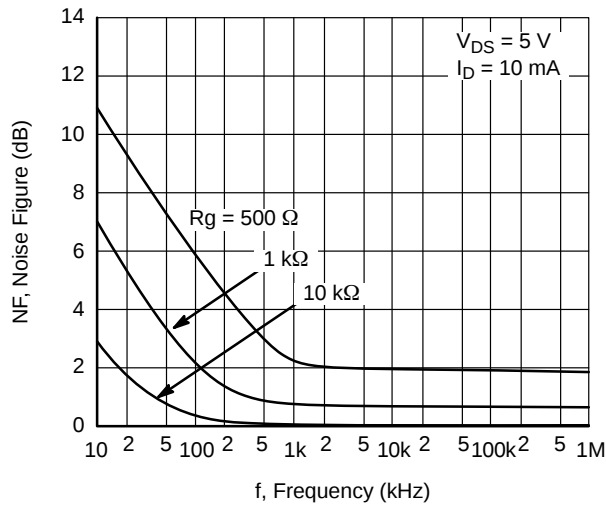


Figure 9. NF -  $f$

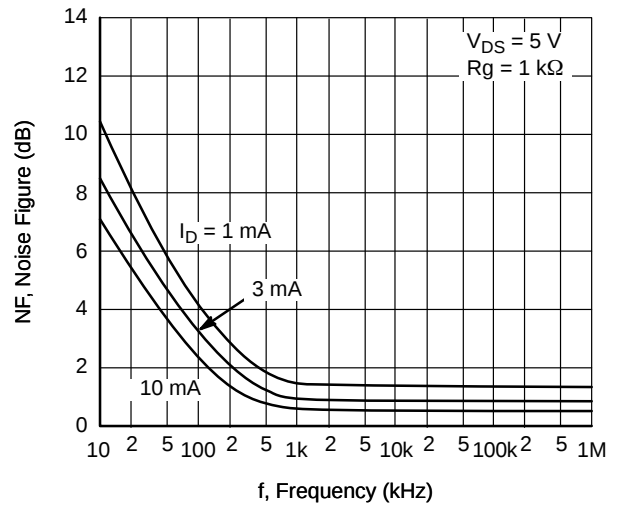


Figure 10. NF -  $f$

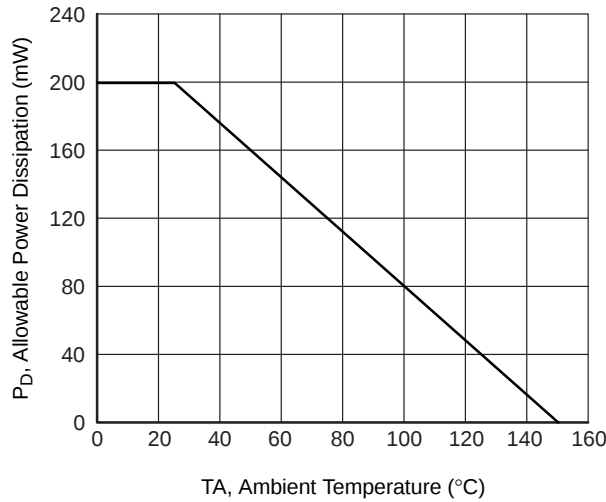


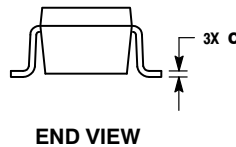
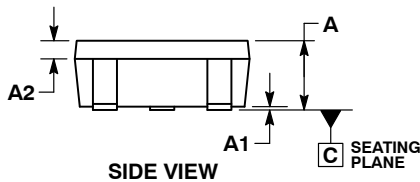
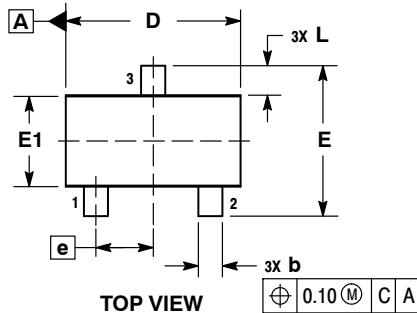
Figure 11.  $P_D - T_A$



SCALE 2:1

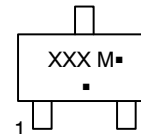
**SC-59 / CP3**  
**CASE 318BJ**  
**ISSUE O**

DATE 09 JAN 2015


**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. DIMENSIONS D AND E1 DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS. MOLD FLASH, PROTRUSIONS, OR GATE BURRS SHALL NOT EXCEED 0.20 PER SIDE.
4. DIMENSIONS D AND E1 ARE MEASURED AT THE OUTERMOST EXTREME OF THE PLASTIC BODY.
5. DIMENSIONS b AND c APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN 0.10 AND 0.20 FROM THE TIP.

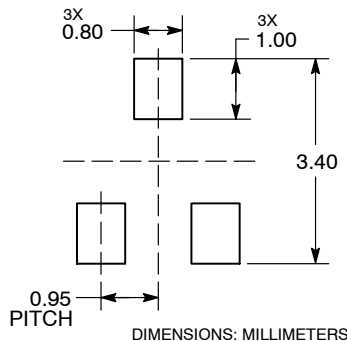
| DIM | MILLIMETERS |      |
|-----|-------------|------|
|     | MIN         | MAX  |
| A   | 0.95        | 1.35 |
| A1  | 0.00        | 0.10 |
| A2  | 0.20        | 0.40 |
| b   | 0.35        | 0.50 |
| c   | 0.10        | 0.20 |
| D   | 2.75        | 3.05 |
| E   | 2.30        | 2.70 |
| E1  | 1.35        | 1.65 |
| e   | 0.95 BSC    |      |
| L   | 0.35        | 0.75 |

**GENERIC MARKING DIAGRAM**


XXX = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

\*This information is generic. Please refer to device data sheet for actual part marking.  
Pb-Free indicator, "G" or microdot "▪", may or may not be present.

**RECOMMENDED SOLDERING FOOTPRINT\***


\*For additional information on our Pb-Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, [SOLDERRM/D](#).

|                         |                    |                                                                                                                                                                                     |
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