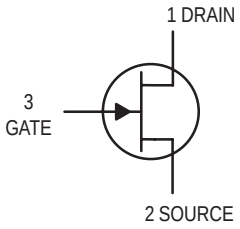
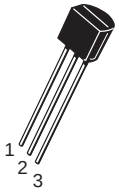
# JFETs Low Frequency/ Low Noise

## N–Channel — Depletion

**J202**




**CASE 29–04, STYLE 5**
**TO–92 (TO–226AA)**

**MAXIMUM RATINGS**

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Drain–Source Voltage | $V_{DS}$ | 40 | Vdc |
| Drain–Gate Voltage | $V_{DG}$ | 40 | Vdc |
| Gate–Source Voltage | $V_{GS}$ | 40 | Vdc |
| Gate Current | $I_G$ | 50 | mAdc |
| Total Device Dissipation @ $T_A$ = 25°C<br>Derate above 25°C | $P_D$ | 310<br>2.82 | mW<br>mW/°C |
| Storage Temperature Range | $T_{stg}$ | –65 to +150 | °C |

**ELECTRICAL CHARACTERISTICS** ($T_A$ = 25°C unless otherwise noted)

| Characteristic | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | |
| Gate–Source Breakdown Voltage ($I_G$ = –1.0 μAdc) | $V_{(BR)GSS}$ | –40 | — | Vdc |
| Gate Reverse Current ($V_{GS}$ = –20 Vdc) | $I_{GSS}$ | — | –100 | pA |
| Gate Source Cutoff Voltage ($V_{DS}$ = 20 Vdc, $I_D$ = 10 nAdc) | $V_{GS(off)}$ | –0.8 | –4.0 | Vdc |
| **ON CHARACTERISTICS** | | | | |
| Zero–Gate–Voltage Drain Current(1) ($V_{DS}$ = 20 Vdc) | $I_{DSS}$ | 0.9 | 4.5 | mAdc |
| **SMALL–SIGNAL CHARACTERISTICS** | | | | |
| Forward Transfer Admittance(1) ($V_{DS}$ = 20 Vdc, f = 1.0 kHz) | $\lvert y_{fs} \rvert$ | 1000 | — | μmhos |

1. Pulse Width ≤ 2.0 ms.

REV 1

## TYPICAL CHARACTERISTICS

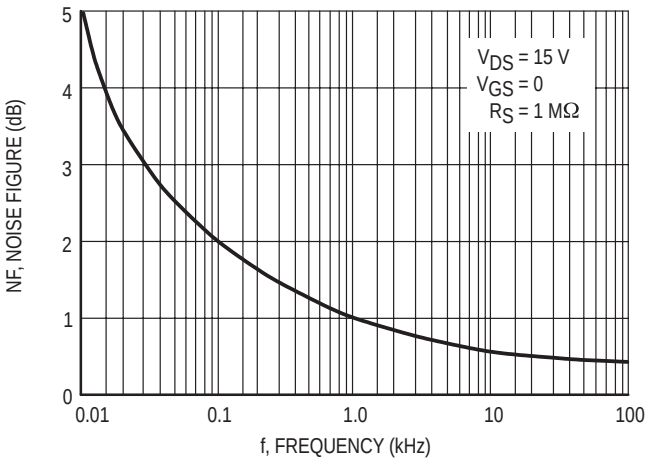



**Figure 1. Noise Figure versus Frequency**

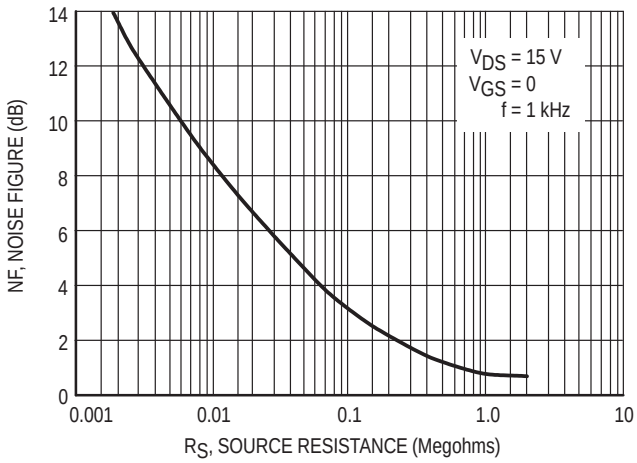



**Figure 2. Noise Figure versus Source Resistance**

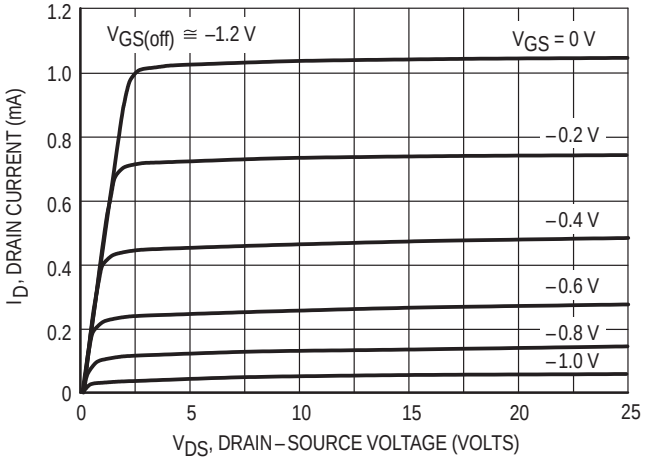



**Figure 3. Typical Drain Characteristics**

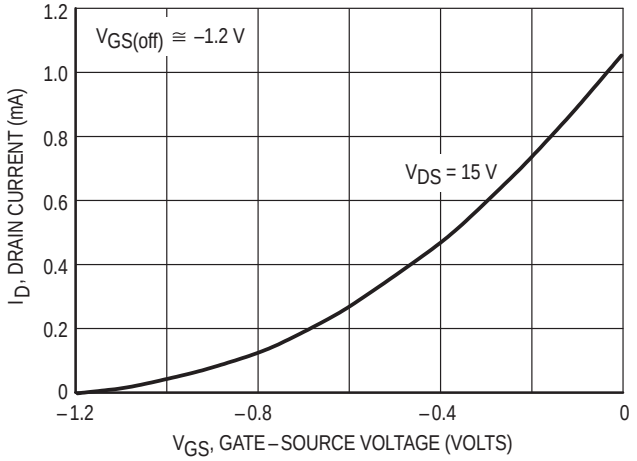



**Figure 4. Common Source Transfer Characteristics**

## TYPICAL CHARACTERISTICS

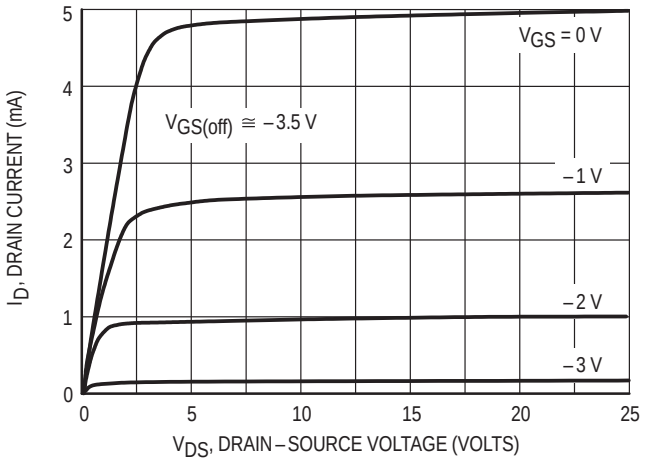



**Figure 5. Typical Drain Characteristics**

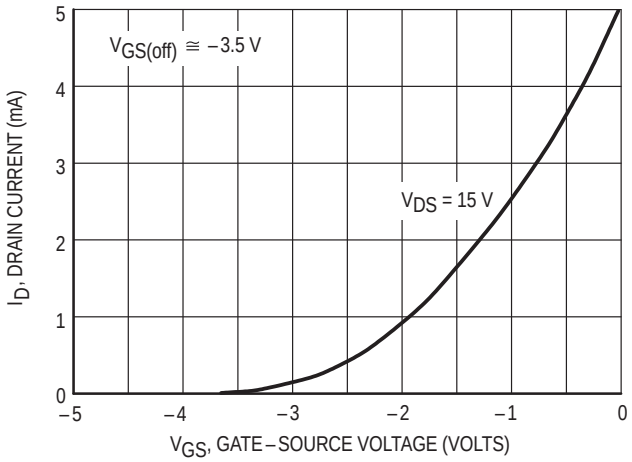



**Figure 6. Common Source Transfer Characteristics**

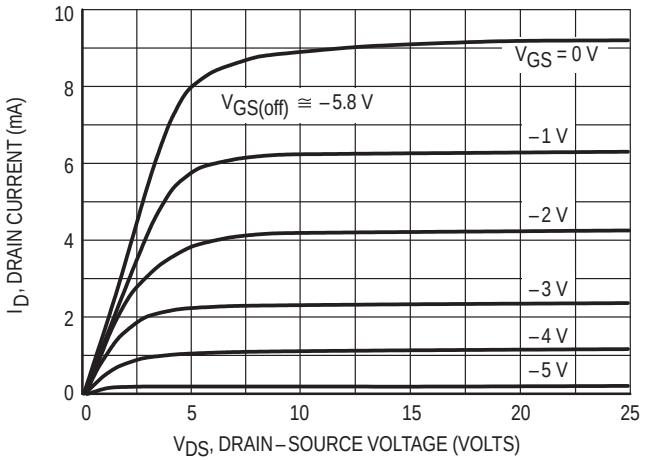



**Figure 7. Typical Drain Characteristics**

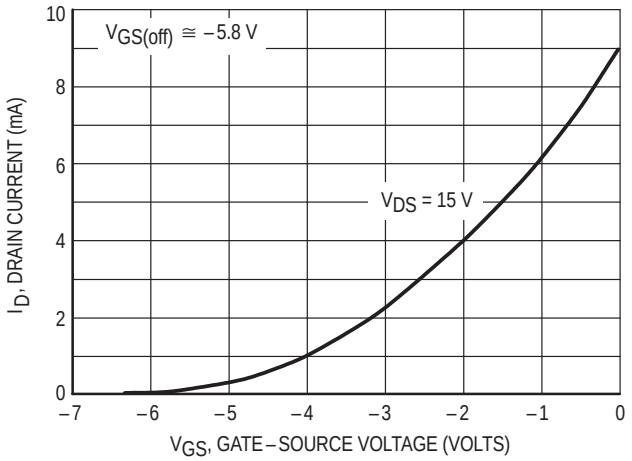



**Figure 8. Common Source Transfer Characteristics**

Note: Graphical data is presented for dc conditions. Tabular data is given for pulsed conditions (Pulse Width = 630 ms, Duty Cycle = 10%). Under dc conditions, self heating in higher $I_{DSS}$ units reduces $I_{DSS}$.