

**2N3436
2N3437
2N3438**

**CASE 22-03, STYLE 4
TO-18 (TO-206AA)**

**JFET
LOW-FREQUENCY**

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|-----------|-------------|----------------------------|
| Drain-Gate Voltage | V_{DG} | 50 | Vdc |
| Gate-Source Voltage | V_{GS} | 50 | Vdc |
| Gate Current | I_G | 10 | mA |
| Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 300 1.7 | mW mW/ $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -65 to +175 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

| Characteristic | Symbol | Min | Max | Unit |
|---|---------------|-----|--------------------|------|
| OFF CHARACTERISTICS | | | | |
| Gate-Source Breakdown Voltage ($I_G = 1.0 \mu\text{A}$) | $V_{(BR)GSS}$ | 50 | — | Vdc |
| Gate Reverse Current ($V_{GS} = -30 \text{ V}$) | I_{GSS} | — | 0.5 | nA |
| Gate Source Cutoff Voltage ($V_{DS} = 20 \text{ V}$, $I_D = 1.0 \mu\text{A}$) | $V_{GS(off)}$ | — | 10.0 5.0 2.5 | Vdc |
| Gate Source Voltage ($V_{DS} = 20 \text{ V}$, $I_D = 1.0 \mu\text{A}$) | V_{GS} | — | 9.8 4.8 2.3 | Vdc |

ON CHARACTERISTICS

| | | | | |
|--|-------------|-------------------|------------------|----|
| Zero-Gate-Voltage Drain Current ($V_{DS} = 20 \text{ V}$) | I_{DSS}^* | 3.0 0.8 0.2 | 15 4.0 1.0 | mA |
|--|-------------|-------------------|------------------|----|

SMALL-SIGNAL CHARACTERISTICS

| | | | | |
|--|------------|---------------------|-----------------------|------------------|
| Forward Transfer Admittance ($V_{DS} = 20 \text{ V}$, $f = 1.0 \text{ kHz}$) | $ Y_{fs} $ | 2500 1500 800 | 10000 6000 4500 | μmhos |
| Output Admittance ($V_{DS} = 30 \text{ V}$, $f = 1.0 \text{ kHz}$) | $ Y_{os} $ | — — — | 35 20 5 | μmhos |
| Input Capacitance ($V_{DS} = 10 \text{ V}$) ($V_{DS} = 6.0 \text{ V}$) ($V_{DS} = 4.0 \text{ V}$, $f = 1.0 \text{ MHz}$) | C_{iss} | — | 18 | pF |

FUNCTIONAL CHARACTERISTICS

| | | | | |
|---|----|---|-----|----|
| Noise Figure ($V_{DS} = 10 \text{ V}$, $R_G = 1.0 \text{ m}\Omega$, $f = 1.0 \text{ kHz}$) | NF | — | 2.0 | dB |
|---|----|---|-----|----|

*Pulse Width $\leq 630 \text{ msec}$, Duty Cycle $\leq 10\%$.