# IF1331

## N-Channel Silicon Junction Field-Effect Transistor

- **Low-Noise, High Gain Amplifier**

### Absolute maximum ratings at $T_A$ = 25°C

| | |
|---|---|
| Reverse Gate Source & Reverse Gate Drain Voltage | – 20 V |
| Continuous Forward Gate Current | 10 mA |
| Continuous Device Power Dissipation | 225 mW |
| Power Derating | 1.8 mW/°C |
| Storage Temperature Range | – 65°C to 200°C |

| **At 25°C free air temperature:** | | **IF1331** | | **Process NJ132H** | | |
|---|---|---|---|---|---|---|
| **Static Electrical Characteristics** | | **Min** | **Max** | **Unit** | **Test Conditions** | |
| Gate Source Breakdown Voltage | $V_{(BR)GSS}$ | – 20 | | V | $I_G = -1\ \mu A$, $V_{DS} = 0V$ | |
| Gate Reverse Current | $I_{GSS}$ | | – 0.1 | nA | $V_{DS} = 0V$, $V_{GS} = -10V$ | |
| Gate Source Cutoff Voltage | $V_{GS(OFF)}$ | – 0.35 | – 1.5 | V | $V_{DS} = 10V$, $I_D = 0.5$ nA | |
| Drain Saturation Current (Pulsed) | $I_{DSS}$ | 5 | 20 | mA | $V_{DS} = 10V$, $V_{GS} = 0V$ | |
| **Dynamic Electrical Characteristics** | | | | | | |
| Common Source Forward Transconductance | $g_{fs}$ | 10 | | mS | $V_{DS} = 10V$, $I_D = 5$ mA | f = 1 kHz |
| Common Source Input Capacitance | $C_{iss}$ | | 20 | pF | $V_{DS} = 10V$, $I_D = 5$ mA | f = 1 MHz |
| Common Source Reverse Transfer Capacitance | $C_{rss}$ | | 5 | pF | $V_{DS} = 10V$, $I_D = 5$ mA | f = 1 MHz |
| | | **Typ** | | | | |
| Equivalent Short Circuit Input Noise Voltage | $\overline{e}_N$ | 2.5 | | nV/√Hz | $V_{DS} = 10V$, $I_D = 5$ mA | f = 1 kHz |

### TO-72 Package

Dimensions in Inches (mm)

### Pin Configuration

1 Source, 2 Drain, 3 Gate, 4 Case