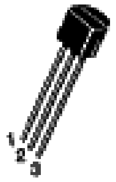
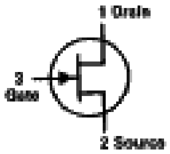
# JF1033B, S, Y

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





## JFET
## HIGH FREQUENCY AMPLIFIERS

**N-CHANNEL DEPLETION**

### MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|---|---|---|---|
| Drain-Source Voltage | $V_{DS}$ | 20 | Vdc |
| Gate-Source Voltage | $V_{GS}$ | 25 | Vdc |
| Drain Current | $I_D$ | 20 | mA |
| Forward Gate Current | $I_{GF}$ | 10 | mA |
| Total Device Dissipation @ $T_A = 25°C$<br>Derate above 25°C | $P_D$ | 310<br>2.82 | mW<br>mW/°C |
| Operating and Storage Junction Temperature Range | $T_J, T_{stg}$ | −65 to +150 | °C |

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

| Characteristic | | Symbol | Min | Max | Unit |
|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | |
| Gate-Source Breakdown Voltage<br>($I_G = -10\ \mu A$) | | $V_{(BR)GSS}$ | −25 | — | Vdc |
| Drain-Source Breakdown Voltage<br>($I_D = 10\ \mu A$) | | $V_{(BR)DGO}$ | 20 | — | Vdc |
| Gate Reverse Current<br>($V_{GS} = -10$ V, $V_{DS} = 0$) | | $I_{GSS}$ | — | −100 | nA |
| Gate Source Cutoff Voltage<br>($V_{DS} = 10$ V, $I_D = 10\ \mu A$) | | $V_{GS(off)}$ | −1.0 | −8.0 | Vdc |
| **ON CHARACTERISTICS** | | | | | |
| Zero-Gate-Voltage Drain Current<br>($V_{DS} = 10$ V, $V_{GS} = 0$) | JF1033Y<br>JF1033B<br>JF1033S | $I_{DSS}$ | 2.5<br>5.0<br>10.0 | 6.0<br>12.0<br>20.0 | mA |
| **SMALL-SIGNAL CHARACTERISTICS** | | | | | |
| Forward Transconductance<br>($V_{DS} = 10$ V, $V_{GS} = 0$, f = 1.0 kHz) | | $Re(y_{fs})$ | 4.5 | 13.0 | mmhos |
| **FUNCTIONAL CHARACTERISTICS** | | | | | |
| Noise Figure<br>($V_{DS} = 10$ V, $V_{GS} = 0$, f = 100 MHz) | | NF | — | 2.5 | dB |