# p-channel JFET
## *designed for . . .*

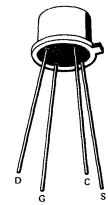
**Performance Curves PC**
**See Section 4**

## ■ General Purpose Amplifiers

### *ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) ..... 20 V
Drain-Source Voltage ..... -20 V
Gate Current ..... 10 mA
Total Device Dissipation at (or below)
25°C Free-Air Temperature (Note 2) ..... 300 mW
Storage Temperature Range ..... -65 to +200°C
Lead Temperature 1/16" From Case For 10 Sec .... 300°C

**TO-72**
**See Section 5**


### *ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

| | | Characteristic | | 2N3909 Min | 2N3909 Max | Unit | Test Conditions | |
|---|---|---|---|---|---|---|---|---|
| 1 | STATIC | $I_{GSS}$ | Gate Reverse Current | | 10 | nA | $V_{GS}$ = 10 V, $V_{DS}$ = 0 | |
| 2 | STATIC | $I_{GSS}$ | Gate Reverse Current | | 1 | μA | $V_{GS}$ = 10 V, $V_{DS}$ = 0 | T = 100°C |
| 3 | STATIC | $BV_{GSS}$ | Gate-Source Breakdown Voltage | 20 | | V | $I_G$ = 10 μA, $V_{DS}$ = 0 | |
| 4 | STATIC | $V_{GS(off)}$ | Gate-Source Cutoff Voltage | | 8.0 | V | $V_{DS}$ = -10 V, $I_D$ = -10 μA | |
| 5 | STATIC | $V_{GS}$ | Gate-Source Voltage | 0.3 | 7.9 | V | $V_{DS}$ = -10 V, $I_D$ = -30 μA | |
| 6 | STATIC | $I_{DSS}$ | Saturation Drain Current | -0.3 | -15 | mA | $V_{DS}$ = -10 V, $V_{GS}$ = 0 | |
| 7 | DYNAMIC | $g_{fs}$ | Common-Source Forward Transconductance | 1,000 | 5,000 | μmho | $V_{DS}$ = -10 V, $V_{GS}$ = 0 | f = 1 kHz |
| 8 | DYNAMIC | $g_{os}$ | Common-Source Output Conductance | | 100 | μmho | $V_{DS}$ = -10 V, $V_{GS}$ = 0 | f = 1 kHz |
| 9 | DYNAMIC | $\|y_{fs}\|$ | Common-Source Forward Transadmittance | 900 | | μmho | $V_{DS}$ = -10 V, $V_{GS}$ = 0 | f = 10 MHz |
| 10 | DYNAMIC | $C_{iss}$ | Common-Source Input Capacitance | | 32 | pF | $V_{DS}$ = -10 V, $V_{GS}$ = 0 | f = 1 MHz |
| 11 | DYNAMIC | $C_{rss}$ | Common-Source Reverse Transfer Capacitance | | 16 | pF | $V_{DS}$ = -10 V, $V_{GS}$ = 0 | f = 1 MHz |

PC

*JEDEC registered data

**Notes**
1 Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
2 Derate linearly to 175°C free-air temperature at rate of 2 mW/°C.