

B-30

01/99

IF1320

N-Channel Silicon Junction Field-Effect Transistor

• Low-Noise, High Gain Amplifier

Absolute maximum ratings at T<sub>A</sub> = 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:<br>Static Electrical Characteristics |                      | IF1320 |       | Process NJ132L |                                                 |           |
|--------------------------------------------------------------------|----------------------|--------|-------|----------------|-------------------------------------------------|-----------|
|                                                                    |                      | Min    | Max   | Unit           | Test Conditions                                 |           |
| Gate Source Breakdown Voltage                                      | V <sub>(BR)GSS</sub> | – 20   |       | V              | I <sub>G</sub> = – 1 µA, V <sub>DS</sub> = 0 V  |           |
| Gate Reverse Current                                               | I <sub>GSS</sub>     |        | – 0.1 | nA             | V <sub>DS</sub> = 0 V, V <sub>GS</sub> = – 10 V |           |
| Gate Source Cutoff Voltage                                         | V <sub>GS(OFF)</sub> | – 0.35 | – 1.5 | V              | V <sub>DS</sub> = 10 V, I <sub>D</sub> = 0.5 nA |           |
| Drain Saturation Current (Pulsed)                                  | I <sub>DSS</sub>     | 5      | 20    | mA             | V <sub>DS</sub> = 10 V, V <sub>GS</sub> = 0 V   |           |
| Dynamic Electrical Characteristics                                 |                      |        |       |                |                                                 |           |
| Common Source Forward Transconductance                             | g <sub>fs</sub>      | 15     |       | mS             | V <sub>DS</sub> = 10 V, I <sub>D</sub> = 5 mA   | f = 1 kHz |
| Common Source Input Capacitance                                    | C <sub>iss</sub>     |        | 20    | pF             | V <sub>DS</sub> = 10 V, I <sub>D</sub> = 5 mA   | f = 1 MHz |
| Common Source Reverse Transfer Capacitance                         | C <sub>rss</sub>     |        | 5     | pF             | V <sub>DS</sub> = 10 V, I <sub>D</sub> = 5 mA   | f = 1 MHz |
| Typ                                                                |                      |        |       |                |                                                 |           |
| Equivalent Short Circuit Input Noise Voltage                       | e <sub>N</sub>       | 2.5    |       | nV/√Hz         | V <sub>DS</sub> = 10 V, I <sub>D</sub> = 5 mA   | f = 1 kHz |

TO-236AB Package  
Dimensions in Inches (mm)

Pin Configuration  
1 Drain, 2 Source, 3 Gate

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