

2N2609

GENERAL DESCRIPTION - The 2N2609 is a silicon Planar* P-channel field-effect transistor designed primarily for low power audio-frequency applications in industrial service.

ABSOLUTE MAXIMUM RATINGS (Note 1)

Maximum Temperatures

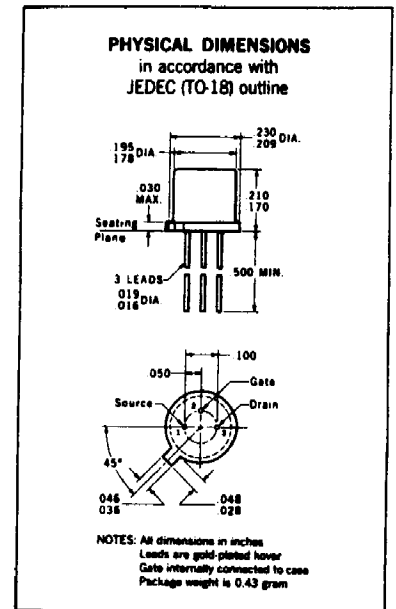
| | |
|---|-----------------|
| Operating Junction Temperature | 175°C |
| Storage Temperature | -65°C to +200°C |
| Soldering Temperature (10 seconds time limit) | 260°C |

Maximum Power Dissipation

| | |
|--|----------|
| Total Dissipation at 25°C Ambient Temperature (Note 2) | 0.3 Watt |
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Maximum Voltages

| | |
|----------------------------------|-----------|
| V_{SG} Source to Gate Voltage | -30 Volts |
| V_{DS} Drain to Source Voltage | -30 Volts |
| V_{DG} Drain to Gate Voltage | -30 Volts |

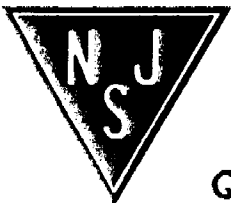


ELECTRICAL CHARACTERISTICS (25°C Free Air Temperature unless otherwise noted)

| Symbol | Characteristic | Min. | Max. | Units | Test Conditions |
|----------------------------|---|------|------|------------|--|
| BV_{GSS} | Gate to Source Breakdown Voltage | 30 | | Volts | $I_G = 1.0 \mu A$ $V_{DS} = 0$ |
| I_{DSS} | Drain Current | 2.0 | 10 | mA | $V_{DS} = -5.0 V$ $V_{GS} = 0$ |
| I_{GSS} | Gate Reverse Current | | 30 | nA | $V_{DS} = 0$ $V_{GS} = 5.0 V$ |
| $V_P (V_{GS} \text{ off})$ | Gate to Source Pinch-off Voltage | 1.0 | 4.0 | Volts | $V_{DS} = -5.0 V$ $I_D = 1.0 \mu A$ |
| Y_{fs} | Forward Transadmittance ($f = 1.0 \text{ kHz}$) | 2500 | | $\mu mhos$ | $V_{DS} = -5.0 V$ $V_{GS} = 0$ |
| C_{iss} | Input Capacitance ($f = 140 \text{ kHz}$) | | 30 | pF | $V_{DS} = -5.0 V$ $V_{GS} = 1.0 V$ |
| $I_{GSS} (150^\circ C)$ | Gate Reverse Current | | 30 | μA | $V_{DS} = 0$ $V_{GS} = 5.0 V$ |
| NF | Spot Noise Figure ($f = 1.0 \text{ kHz}$) | | 3.0 | dB | $V_{DS} = -5.0 V$ $V_{GS} = 0$ |
| | | | | | $R_S = 1.0 M \Omega$ $BW = 160 \text{ Hz}$ |

NOTES:

- (1) These ratings are limiting values above which the serviceability of any individual semiconductor device may be impaired.
- (2) This rating gives a maximum junction temperature of 175°C and junction to ambient thermal resistance of 500°C/Watt (derating factor of 2.0 mW/°C).



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