

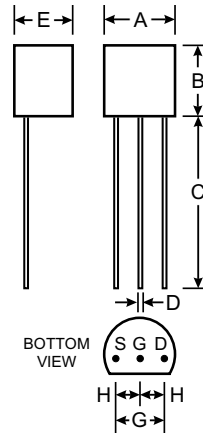
N-CHANNEL ENHANCEMENT MODE TRANSISTOR

Features

- High Breakdown Voltage
- High Input Impedance
- Fast Switching Speed
- Specially Suited for Telephone Subsets

Mechanical Data

- Case: TO-92 Plastic
- Leads: Solderable per MIL-STD-202, Method 208
- Pin Connections: See Diagram
- Weight: 0.18 grams (approx.)



| TO-92 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 4.45 | 4.70 |
| B | 4.46 | 4.70 |
| C | 12.7 | — |
| D | 0.41 | 0.63 |
| E | 3.43 | 3.68 |
| G | 2.42 | 2.67 |
| H | 1.14 | 1.40 |
| All Dimensions in mm | | |

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|----------------|-------------|------------------|
| Drain-Source-Voltage | V_{DSS} | 200 | V |
| Drain-Gate-Voltage | V_{DGS} | 200 | V |
| Gate-Source-Voltage (pulsed) (Note 2) | V_{GS} | ± 20 | V |
| Drain-Current (continuous) | I_D | 120 | mA |
| Power Dissipation @ $T_C = 25^\circ\text{C}$ (Note 1) | P_d | 830 | mW |
| Operating and Storage Temperature Range | T_j, T_{STG} | -55 to +150 | $^\circ\text{C}$ |

Inverse Diode @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|--------|-------|------|
| Maximum Forward Current (continuous) | I_F | 0.5 | A |
| Forward Voltage Drop (typical) @ $V_{GS} = 0, I_F = 0.5\text{A}, T_j = 25^\circ\text{C}$ | V_F | 0.85 | V |

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|-------------------------------------|-----|------------------|-----------|---------------------|---|
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | 200 | 230 | — | V | $I_D = 100\mu\text{A}, V_{GS} = 0$ |
| Gate-Body Leakage Current | I_{GSS} | — | — | 10 | nA | $V_{GS} = 15\text{V}, V_{DS} = 0$ |
| Drain-Cutoff Current | I_{DSS} I_{DSX} | — | — | 30 1.0 | nA μA | $V_{DS} = 130\text{V}, V_{GS} = 0$ $V_{DS} = 70\text{V}, V_{GS} = 0.2\text{V}$ |
| Gate-Source Threshold Voltage | $V_{GS(th)}$ | — | 1.8 | 3 | V | $V_{GS} = V_{DS}, I_D = 1.0\text{mA}$ |
| Drain-Source ON Resistance | $r_{DS(ON)}$ | — | 18 | 28 | Ω | $V_{GS} = 2.8\text{V}, I_D = 20\text{mA}$ |
| Thermal Resistance, Junction to Ambient Air | $R_{\theta JA}$ | — | — | 150 | K/W | (Note 1) |
| Input Capacitance Output Capacitance Feedback Capacitance | C_{iss} C_{oss} C_{rss} | — | 58 8.0 1.5 | — | pF | $V_{DS} = 20\text{V}, V_{GS} = 0, f = 1.0\text{MHz}$ |
| Turn On Time Turn Off Time | t_{on} t_{off} | — | 5.0 15 | — | ns | $V_{GS} = 10\text{V}, V_{DS} = 10\text{V}, R_D = 100\Omega$ |

- Notes: 1. Valid provided that leads are kept at ambient temperature at a distance of 2.0mm from case.
2. Pulse Test: Pulse width = 80 μs , duty factor = 1%.

