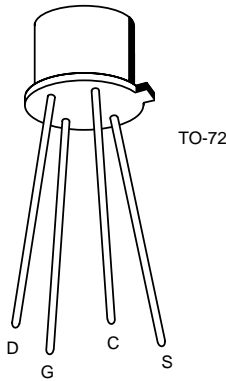


FEATURES

- Low ON Resistance
- Low Capacitance
- High Gain
- High Gate Breakdown Voltage
- Low Threshold Voltage

PIN CONFIGURATION



1003

ABSOLUTE MAXIMUM RATINGS

($T_A = 25^\circ\text{C}$ unless otherwise noted)

| | |
|--|---|
| Drain-Source Voltage or Drain-Body Voltage | 25V |
| Peak Gate-Source Voltage (Note 1) | $\pm 125\text{V}$ |
| Drain Current | 100mA |
| Storage Temperature Range | -65°C to $+200^\circ\text{C}$ |
| Operating Temperature Range | -55°C to $+150^\circ\text{C}$ |
| Lead Temperature (Soldering, 10sec) | $+300^\circ\text{C}$ |
| Power Dissipation | 375mW |
| Derate above 25°C | 3mW/ $^\circ\text{C}$ |

NOTE: Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

ORDERING INFORMATION

| Part | Package | Temperature Range |
|---------|--------------------------|---|
| 2N4351 | Hermetic TO-72 | -55°C to $+150^\circ\text{C}$ |
| X2N4351 | Sorted Chips in Carriers | -55°C to $+150^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| SYMBOL | PARAMETER | MIN | MAX | UNITS | TEST CONDITIONS |
|--------------|---------------------------------------|------|-----|---------------|--|
| BV_{DSS} | Drain-Source Breakdown Voltage | 25 | | V | $I_D = 10\mu\text{A}$, $V_{GS} = 0$ |
| I_{GSS} | Gate Leakage Current | | 10 | pA | $V_{GS} = \pm 30\text{V}$, $V_{DS} = 0$ |
| I_{DSS} | Zero-Gate-Voltage Drain Current | | 10 | nA | $V_{DS} = 10\text{V}$, $V_{GS} = 0$ |
| $V_{GS(th)}$ | Gate-Source Threshold Voltage | 1 | 5 | V | $V_{DS} = 10\text{V}$, $I_D = 10\mu\text{A}$ |
| $I_{D(on)}$ | "ON" Drain Current | 3 | | mA | $V_{GS} = 10\text{V}$, $V_{DS} = 10\text{V}$ |
| $V_{DS(on)}$ | Drain-Source "ON" Voltage | | 1 | V | $I_D = 2\text{mA}$, $V_{GS} = 10\text{V}$ |
| $r_{DS(on)}$ | Drain-Source Resistance | | 300 | ohms | $V_{GS} = 10\text{V}$, $I_D = 0$, $f = 1\text{kHz}$ |
| $ y_{fs} $ | Forward Transfer Admittance | 1000 | | μS | $V_{DS} = 10\text{V}$, $I_D = 2\text{mA}$, $f = 1\text{kHz}$ |
| C_{rss} | Reverse Transfer Capacitance (Note 2) | | 1.3 | pF | $V_{DS} = 0$, $V_{GS} = 0$, $f = 1\text{MHz}$ |
| C_{iss} | Input Capacitance (Note 2) | | 5.0 | | $V_{DS} = 10\text{V}$, $V_{GS} = 0$, $f = 1\text{MHz}$ |
| $C_{d(sub)}$ | Drain-Substrate Capacitance (Note 2) | | 5.0 | | $V_{D(SUB)} = 10\text{V}$, $f = 1\text{MHz}$ |
| $t_{d(on)}$ | Turn-On Delay (Note 2) | | 45 | ns | |
| t_r | Rise Time (Note 2) | | 65 | | |
| $t_{d(off)}$ | Turn-Off Delay (Note 2) | | 60 | | |
| t_f | Fall Time (Note 2) | | 100 | | |

- NOTES:** 1. Device must not be tested at $\pm 125\text{V}$ more than once or longer than 300ms.
2. For design reference only, not 100% tested.