

NTE457 / 2N5457 Silicon N-Channel JFET Transistor General Purpose Amp, Switch

Absolute Maximum Ratings:

| | |
|---|---------------------------------------|
| Drain-Source Voltage, V_{DS} | 25V |
| Drain-Gate Voltage, V_{DG} | 25V |
| Reverse Gate-Source Voltage, V_{GSR} | -25V |
| Gate Current, I_G | 10mA |
| Total Device Dissipation ($T_A = +25^\circ\text{C}$), P_D | 310mW |
| Derate Above 25°C | 2.82mW/ $^\circ\text{C}$ |
| Operating Junction Temperature, T_J | +125 $^\circ\text{C}$ |
| Storage Temperature Range, T_{stg} | -65 $^\circ$ to +150 $^\circ\text{C}$ |

Electrical Characteristics: ($T_A = +25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|--|-------------------|--|------|-----|------|------------------|
| OFF Characteristics | | | | | | |
| Gate-Source Breakdown Voltage | $V_{(BR)GS}$ S | $I_G = -10\mu\text{A}, V_{DS} = 0$ | -25 | - | - | V |
| Gate Reverse Current | I_{GSS} | $V_{GS} = 15\text{V}, V_{DS} = 0$ | - | - | -1 | mA |
| | | $V_{GS} = 15\text{V}, V_{DS} = 0, T_A = +100^\circ\text{C}$ | - | - | -200 | mA |
| Gate-Source Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = 15\text{V}, I_D = 10\text{nA}$ | -0.5 | - | -6.0 | V |
| Gate-Source Voltage | V_{GS} | $V_{DS} = 15\text{V}, I_D = 100\mu\text{A}$ | - | - | -2.5 | V |
| ON Characteristics | | | | | | |
| Zero-Gate Voltage Drain Current | I_{DSS} | $V_{DS} = 15\text{V}, V_{GS} = 0$, Note 1 | 1 | 3 | 5 | mA |
| Small-Signal Characteristics | | | | | | |
| Forward Transfer Admittance Common Source | $ y_{fs} $ | $V_{DS} = 15\text{V}, V_{GS} = 0, f = 1\text{kHz}$, Note 1 | 1000 | - | 5000 | μmhos |
| Output Admittance Common Source | $ y_{os} $ | $V_{DS} = 15\text{V}, V_{GS} = 0, f = 1\text{kHz}$, Note 1 | - | 10 | 50 | μmhos |
| Input Capacitance | C_{iss} | $V_{DS} = 15\text{V}, V_{GS} = 0, f = 1\text{kHz}$ | - | 4.5 | 7.0 | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS} = 15\text{V}, V_{GS} = 0, f = 1\text{kHz}$ | - | 1.5 | 3.0 | pF |

Note 1. Pulse Test: Pulse Width $\leq 630\text{ms}$, Duty Cycle $\leq 10\%$.

