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## NTE457

### Silicon N-Channel JFET Transistor General Purpose Amp, Switch TO92 Type Package

**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 $25^\circ\text{C}$ .....	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
<b>OFF Characteristics</b>						
Gate-Source Breakdown Voltage	$V_{(BR)GS}$	$I_G = -10\mu\text{A}, V_{DS} = 0$	-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
<b>ON Characteristics</b>						
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 15\text{V}, V_{GS} = 0$ , Note 1	1	3	5	mA
<b>Small-Signal Characteristics</b>						
Forward Transfer Admittance Common Source	$ y_{fs} $	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1\text{kHz}$ , Note 1	1000	-	5000	$\leq\text{mhos}$
Output Admittance Common Source	$ y_{os} $	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1\text{kHz}$ , Note 1	-	10	50	$\leq\text{mhos}$
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  $\leq 10\%$ .

