

NTE457

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	$V_{(BR)GS}$	$I_G = -10\mu\text{A}$, $V_{DS} = 0$	-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 $\leq 10\%$.

