

## NTE467 Silicon N-Channel JFET Transistor Chopper, High Speed Switch

**Absolute Maximum Ratings:**

Drain-Source Voltage, $V_{DS}$ .....	30V
Drain-Gate Voltage, $V_{DG}$ .....	30V
Reverse Gate-Source Voltage, $V_{GSR}$ .....	30V
Forward Gate Current, $I_{G(f)}$ .....	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 Range, $T_J$ .....	$-65^\circ$ to $+150^\circ\text{C}$
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	$V_{(BR)GSS}$	$I_G = 10\mu\text{A}, V_{DS} = 0$	30	-	-	V
Gate Reverse Current	$I_{GSS}$	$V_{GS} = -15\text{V}, V_{DS} = 0$	-	-	1.0	nA
		$V_{GS} = -15\text{V}, V_{DS} = 0, T_A = +100^\circ\text{C}$	-	-	1.0	$\mu\text{A}$
Drain Cutoff Current	$I_{D(off)}$	$V_{DS} = 15\text{V}, V_{GS} = -12\text{V}$	-	-	1.0	nA
		$V_{DS} = 15\text{V}, V_{GS} = -12\text{V}, T_A = +100^\circ\text{C}$	-	-	1.0	$\mu\text{A}$
<b>ON Characteristics</b>						
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 20\text{V}, V_{GS} = 0$ , Note 1	50	-	-	mA
Drain-Source ON-Voltage	$V_{DS(on)}$	$I_D = 12\text{mA}, V_{GS} = 0$	-	-	0.5	V
Static Drain-Source ON Resistance	$r_{DS(on)}$	$I_D = 1\text{mA}, V_{GS} = 0$	-	-	30	$\Omega$
Input Capacitance	$C_{iss}$	$V_{GS} = -12\text{V}, V_{DS} = 0, f = 1\text{MHz}$	-	-	10	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{GS} = -12\text{V}, V_{DS} = 0, f = 1\text{MHz}$	-	-	4	pF
<b>Switching Characteristics</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10\text{V}, V_{GS(on)} = 0,$ $V_{GS(off)} = 10\text{V}, I_{D(on)} = 12\text{mA},$ $R_G = 50\Omega$	-	-	4	ns
Rise Time	$t_r$		-	-	5	ns
Turn-Off Delay Time	$t_{d(off)}$		-	-	5	ns
Fall Time	$t_f$		-	-	10	ns

Note 1. Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle  $\leq 3\%$ .

