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## NTE468

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

**Applications:**

- Analog Switches
- Choppers
- Commutators

**Absolute Maximum Ratings:**

Drain-Source Voltage, $V_{DS}$ .....	35V
Drain-Gate Voltage, $V_{DG}$ .....	35V
Gate Current, $I_G$ .....	50mA
Total Device Dissipation ( $T_A = +25^\circ\text{C}$ ), $P_D$ .....	625mW
Derate Above $25^\circ\text{C}$ .....	5.68mW/ $^\circ\text{C}$
Operating Junction Temperature Range, $T_J$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Storage Temperature Range, $T_{stg}$ .....	$-55^\circ$ to $+150^\circ\text{C}$
Lead Temperature (During Soldering), $T_L$ .....	$+300^\circ\text{C}$

**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	$V_{(BR)GS}$	$I_G = 1\mu\text{A}, V_{DS} = 0$	35	-	-	V
Gate Reverse Current	$I_{GSS}$	$V_{GS} = -15\text{V}, V_{DS} = 0$	-	-	-1.0	nA
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 5\text{V}, I_D = 1\mu\text{A}$	-3	-	-10	V
Drain Cutoff Current	$I_{D(off)}$	$V_{DS} = 5\text{V}, V_{GS} = -10\text{V}$	-	-	1.0	nA
<b>ON Characteristics</b>						
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 15\text{V}, V_{GS} = 0$ , Note 1	20	-	-	mA
Static Drain-Source ON Resistance	$r_{DS(on)}$	$V_{DS} = 0.1\text{V}$	-	-	30	$\Omega$
Drain-Gate ON Capacitance	$C_{dg(on)}$	$V_{DS} = V_{GS} = 0, f = 1\text{MHz}$	-	-	28	pF
Source-Gate ON Capacitance	$C_{sg(on)}$	$V_{DS} = V_{GS} = 0, f = 1\text{MHz}$	-	-	28	pF
Drain-Gate OFF Capacitance	$C_{dg(off)}$	$V_{GS} = -10\text{V}, f = 1\text{MHz}$	-	-	5	pF
Source-Gate OFF Capacitance	$C_{sg(off)}$	$V_{GS} = -10\text{V}, f = 1\text{MHz}$	-	-	5	pF

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

