



ELECTRONICS, INC.
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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°C	2.82mW/ $^\circ\text{C}$
Operating Junction Temperature Range, T_J	-65° to $+150^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° 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	$V_{(BR)GSS}$	$I_G = 10\mu\text{A}, V_{DS} = 0$	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	μA
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	μA
ON Characteristics						
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	Ω
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
Switching Characteristics						
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 $\leq 3\%$.

