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NTE466

Silicon N-Channel JFET Transistor Chopper, High Speed Switch TO218 Type package

Absolute Maximum Ratings:

Drain-Source Voltage, V_{DS}	40V
Drain-Gate Voltage, V_{DG}	40V
Reverse Gate-Source Voltage, V_{GSR}	-40V
Forward Gate Current, $I_{G(f)}$	50mA
Total Device Dissipation ($T_A = +25^\circ\text{C}$), P_D	360mW
Derate Above 25°C	2.4mW/ $^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+175^\circ\text{C}$

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	$V_{(BR)GSS}$	$I_G = 1\text{A}, V_{DS} = 0$	-40	-	-	V
Gate Reverse Current	I_{GSS}	$V_{GS} = -20\text{V}, V_{DS} = 0$	-	-	0.25	nA
		$V_{GS} = -20\text{V}, V_{DS} = 0, T_A = +150^\circ\text{C}$	-	-	0.5	$^\circ\text{A}$
Gate-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 15\text{V}, I_D = 0.5\text{nA}$	-4	-	-10	V
Drain Cutoff Current	$I_{D(off)}$	$V_{DS} = 15\text{V}, V_{GS} = -10\text{V}$	-	-	0.25	nA
		$V_{DS} = 15\text{V}, V_{GS} = -10\text{V}, T_A = +150^\circ\text{C}$	-	-	0.5	$^\circ\text{A}$
ON Characteristics						
Zero-Gate-Voltage Drain Current	I_{DSS}	$V_{DS} = 15\text{V}, V_{GS} = 0$, Note 1	50	-	-	mA
Drain-Source ON-Voltage	$V_{DS(on)}$	$I_D = 20\text{mA}, V_{GS} = 0$	-	-	0.75	V
Small-Signal Characteristics						
Drain-Source "ON" Resistance	$r_{DS(on)}$	$V_{GS} = 0, I_D = 0, f = 1\text{kHz}$	-	-	25	\leq
Input Capacitance	C_{iss}	$V_{DS} = 0, V_{GS} = -10\text{V}, f = 1\text{MHz}$	-	-	18	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 0, V_{GS} = -10\text{V}, f = 1\text{MHz}$	-	-	0.8	pF
Switching Characteristics (Note 2)						
Turn-On Delay Time	$t_{d(on)}$	$V_{DD} = 10\text{V}, I_{D(on)} = 20\text{mA},$ $V_{GS(on)} = 0, V_{GS(off)} = -10\text{V}$	-	-	6	ns
Rise Time	t_r		-	-	3	ns
Turn-Off Time	t_{off}		-	-	25	ns

Note 1. Pulse Test: Pulse Width = 100ms, Duty Cycle \leq 10%.

Note 2. The $I_{D(on)}$ values are nominal; exact values vary slightly with transistor parameters.

