

NTE464 (P-Ch) & NTE465 (N-Ch) Silicon Complementary MOSFET Transistors Enhancement Mode for Switching Applications

Absolute Maximum Ratings:

Drain-Source Voltage, V_{DS}	25V
Drain-Gate Voltage, V_{DG}	30V
Gate-Source Voltage, V_{GS}	$\pm 30V$
Gate Current, I_G	30mA
Total Device Dissipation ($T_A = +25^\circ C$), P_D	300mW
Derate Above $25^\circ C$	1.7mW/ $^\circ C$
Total Device Dissipation ($T_C = +25^\circ C$), P_D	800mW
Derate Above $25^\circ C$	4.56mW/ $^\circ C$
Operating Junction Temperature, T_J	$+175^\circ C$
Storage Temperature Range, T_{stg}	-55° to $+175^\circ C$

Electrical Characteristics: ($T_A = +25^\circ C$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
OFF Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSX}$	$I_D = -10\mu A, V_{GS} = 0$	-25	-	-	V
Zero-Gate-Voltage Drain Current	I_{DSS}	$V_{DS} = -10V, V_{GS} = 0, T_A = +25^\circ C$	-	-	-10	nA
		$V_{DS} = -10V, V_{GS} = 0, T_A = +150^\circ C$	-	-	-10	μA
Gate Reverse Current	I_{GSS}	$V_{GS} = \pm 30V, V_{DS} = 0$	-	-	± 10	pA
ON Characteristics						
Gate Threshold Voltage	$V_{GS(Th)}$	$V_{DS} = -10V, I_D = -10\mu A$	-1	-	-5	V
Drain-Source On-Voltage	$V_{DS(on)}$	$I_D = -2mA, V_{GS} = -10V$	-	-	-1	V
On-State Drain Current	$I_{D(on)}$	$V_{GS} = -10V, V_{DS} = -10V$	-3	-	-	mA

Electrical Characteristics (Cont'd): ($T_A = +25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Small-Signal Characteristics						
Drain-Source Resistance NTE464	$r_{ds(on)}$	$V_{GS} = -10\text{V}, I_D = 0, f = 1\text{kHz}$	-	-	600	Ω
NTE465			-	-	300	Ω
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10\text{V}, I_D = 2\text{mA}, f = 1\text{kHz}$	1000	-	-	μmhos
Input Capacitance	C_{iss}	$V_{DS} = -10\text{V}, V_{GS} = 0, f = 140\text{kHz}$	-	-	5	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = 0, V_{GS} = 0, f = 140\text{kHz}$	-	-	1.3	pF
Drain-Substrate Capacitance NTE464	$C_{d(sub)}$	$V_{D(SUB)} = -10\text{V}, f = 140\text{kHz}$	-	-	4	pF
NTE465			-	-	5	pF
Switching Characteristics						
Turn-On Delay	t_{d1}	$I_D = -2\text{mA}, V_{DS} = -10\text{V}, V_{GS} = -10\text{V}$	-	-	45	ns
Rise Time	t_r		-	-	65	ns
Turn-Off Delay	t_{d2}		-	-	60	ns
Fall Time	t_f		-	-	100	ns

