

NTE460 Silicon P-Channel JFET Transistor AF Amp

Absolute Maximum Ratings:

Drain-Gate Voltage, V_{DG}	20V
Reverse Gate-Source Voltage, V_{GSR}	20V
Gate Current, I_G	10mA
Total Device Dissipation ($T_A = +25^\circ\text{C}$), P_D	0.3W
Derate above 25°C	1.7mW/ $^\circ\text{C}$
Storage Temperature Range, T_{stg}	-65° to $+200^\circ\text{C}$

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	$V_{(BR)GSS}$	$I_G = 10\mu\text{A}$, $V_{DS} = 0$	20	–	–	V
Gate Reverse Current	I_{GSS}	$V_{GS} = 10\text{V}$, $V_{DS} = 0$	–	–	10	nA
		$V_{GS} = 10\text{V}$, $V_{DS} = 0$, $T_A = +150^\circ\text{C}$	–	–	10	μA
ON Characteristics						
Zero–Gate–Voltage Drain Current	I_{DSS}	$V_{DS} = -10\text{V}$, $V_{GS} = 0$, Note 1	2.0	–	6.0	mA
Gate–Source Voltage	V_{GS}	$V_{DG} = -15\text{V}$, $I_D = 10\mu\text{A}$	–	–	6.0	V
Drain–Source Resistance	r_{DS}	$I_D = 100\mu\text{A}$, $V_{GS} = 0$	–	–	800	Ω
Small–Signal Characteristics						
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10\text{V}$, $I_D = 2\text{mA}$, $f = 1\text{kHz}$, Note 1	1500	–	3000	μmhos
		$V_{DS} = 10\text{V}$, $I_D = 2\text{mA}$, $f = 10\text{MHz}$, Note 1	1350	–	–	μmhos
Output Admittance	$ y_{os} $	$V_{DS} = 10\text{V}$, $I_D = 2\text{mA}$, $f = 1\text{kHz}$	–	–	40	μmhos
Reverse Transfer Conductance	$ y_{rs} $	$V_{DS} = 10\text{V}$, $I_D = 2\text{mA}$, $f = 1\text{kHz}$	–	–	0.1	μmhos
Input Conductance	$ y_{is} $	$V_{DS} = 10\text{V}$, $I_D = 2\text{mA}$, $f = 1\text{kHz}$	–	–	0.2	μmhos
Input Capacitance	C_{iss}	$V_{DS} = 10\text{V}$, $V_{GS} = 1\text{V}$, $f = 1\text{MHz}$	–	–	20	pF
Functional Characteristics						
Noise Figure	NF	$V_{DS} = -5\text{V}$, $I_D = 1\text{mA}$, $R_g = 1\text{M}\Omega$, $f = 1\text{kHz}$	–	–	3.0	dB

Note 1. Pulse Test: PulseWidth $\leq 630\text{ms}$, Duty Cycle $\leq 10\%$.

