

2N5952

N-Channel RF Amplifier

- This device is designed primarily for electronic switching applications such as low on resistance analog switching.
- Sourced from process 50.

Absolute Maximum Ratings * $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{DG}	Drain-Gate Voltage	30	V
V_{GS}	Gate-Source Voltage	-30	V
I_{GF}	Forward Gate Current	10	mA
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 ~ +150	$^\circ\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

1. These ratings are based on a maximum junction temperature of 150 degrees C.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

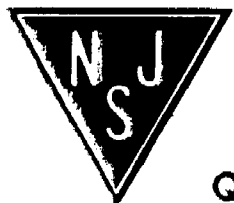
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$V_{DS} = 0, I_G = -1.0\mu\text{A}$	-30			V
I_{GSS}	Gate Reverse Current	$V_{GS} = -15\text{V}, V_{DS} = 0$			-1.0	nA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15\text{V}, I_D = 100\text{nA}$	-1.3		-3.5	V
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current *	$V_{DS} = 15\text{V}, V_{GS} = 0$	4.0		8.0	mA
Small Signal Characteristics						
g_{fs}	Forward Transfer Conductance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{kHz}$	2000		6500	μmhos
g_{os}	Output Conductance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 100\text{MHz}$			75	μmhos
C_{iss}	Input Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{MHz}$			6.0	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{MHz}$			2.0	pF
NF	Noise Figure	$V_{DS} = 15\text{V}, R_G = 1.0\text{k}\Omega, f = 1.0\text{kHz}$			2.0	dB

* Pulse Test: Pulse Width $\leq 300\text{ms}$, Duty Cycle $\leq 1.0\%$

Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C/W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C/W}$

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