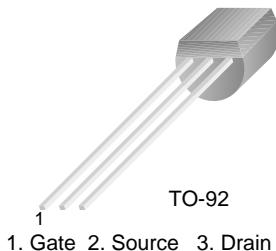


2N5950

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* $T_a=25^\circ\text{C}$ 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	°C

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

NOTES:

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

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/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
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Off Characteristics

$V_{(\text{BR})\text{GSS}}$	Gate-Source Breakdown Voltage	$I_G = 1.0\mu\text{A}$, $V_{DS} = 0$	-30		V
I_{GSS}	Gate Reverse Current	$V_{GS} = 25\text{V}$, $V_{DS} = 0$, $T = 25^\circ\text{C}$ $T = 100^\circ\text{C}$		-1.0 -200	nA nA
$V_{GS(\text{off})}$	Gate-Source Cut-off Voltage	$V_{DS} = 15\text{V}$, $I_D = 100\text{nA}$	-2.5	-6.0	V
$V_{GS(f)}$	Gate-Source Forward Voltage	$I_G = 1.0\text{mA}$		1.0	V
V_{GS}	Gate-Source Forward Voltage	$V_{DS} = 15\text{V}$, $I_D = 1\text{mA}$	-1.8	-5.0	V

On Characteristics

* I_{DSS}	Zero-Gate Voltage Drain Current *	$V_{DS} = 15\text{V}$, $V_{GS} = 0$	10	15	mA
$R_{D(\text{on})}$	Drain-Source On Resistance	$I_D = 476\mu\text{A}$, $f = 1.0\text{kHz}$		210	Ω

Small Signal Characteristics

g_{fs}	Forward Transferconductance	$V_{DS} = 15\text{V}$, $V_{GS} = 0\text{V}$, $f = 100\text{MHz}$ $V_{DS} = 15\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{kHz}$	3000 3500	7500	μ/Ω
C_{iss}	Input Capacitance	$V_{DS} = 15\text{V}$, $V_{GS} = 0\text{V}$, $f = 1.0\text{MHz}$		6	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 15\text{V}$, $V_{GS} = 0\text{V}$, $f = 1.0\text{MHz}$		2	pF

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle = 2%



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Datasheet Identification	Product Status	Definition
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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.

Rev. I30

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru
moschip.ru_4

moschip.ru_6
moschip.ru_9