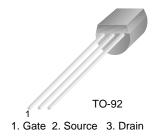


September 2007

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°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

These rating are based on a maximum junction temperature of 150 degrees C.

Thermal Characteristics T_a=25°C unless otherwise noted

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

²⁾ These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

$\textbf{Electrical Characteristics*} \ \, \textbf{T}_{a} = 25^{\circ}\textbf{C} \ \, \textbf{unless otherwise noted}$

	Symbol	Parameter	Test Condition	Min.	Max.	Units
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Off Characteristics

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

On Characteristics

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

Small Signal Characteristics

gfs	Forward Transferconductance	$V_{DS} = 15V, V_{GS} = 0V, f = 100MHz$ $V_{DS} = 15V, V_{GS} = 0V, f = 1kHz$	3000 3500	7500	μ/Ω
Ciss	Input Capacitance	$V_{DS} = 15V, V_{GS} = 0V, f = 1.0MHz$		6	pF
Crss	Reverse Transfer Capacitance	$V_{DS} = 15V, V_{GS} = 0V, f = 1.0MHz$		2	pF

^{*} Pulse Test: Pulse Width ≤ 300μs, Duty Cycle = 2%





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Definition of Terms

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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.
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