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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

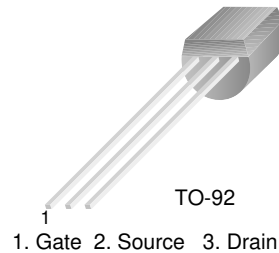




# J305

## 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	$^\circ\text{C}$

\* 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	350	mW
	Derate above $25^\circ\text{C}$	2.8	$\text{mW}/^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

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

Symbol	Parameter	Test Condition	Min.	Max.	Units
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#### Off Characteristics

$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$I_G = 1.0\mu\text{A}, V_{DS} = 0$	-30		V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = 20\text{V}, V_{DS} = 0$		-100	pA
$V_{GS(off)}$	Gate-Source Cut-off Voltage	$V_{DS} = 15\text{V}, I_D = 100\text{nA}$	-0.5	-3	V
$V_{GS}$	Gate-Source Forward Voltage	$V_{DS} = 15\text{V}, I_D = 0.2\text{mA}$	-1.5	-4.0	V

#### On Characteristics

* $I_{DSS}$	Zero-Gate Voltage Drain Current *	$V_{DS} = 15\text{V}, V_{GS} = 0$	1	8	mA
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#### Small Signal Characteristics



$g_{fs}$	Forward Transferconductance	$V_{DS} = 15\text{V}, V_{GS} = 0\text{V}$	3000		$\mu\Omega$
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\* Pulse Test: Pulse Width  $\leq 300\mu\text{s}$ , Duty Cycle = 2%



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## PRODUCT STATUS DEFINITIONS

### Definition of Terms

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Preliminary	First Production	This datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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