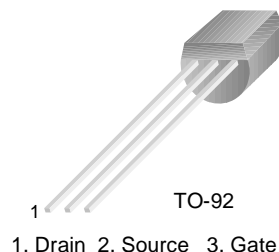


J304

N-Channel RF Amplifier

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



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	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 ratings 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.

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 Breakdwon 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 Cutoff Voltage	$V_{DS} = 15\text{V}, I_D = 1.0\text{nA}$	-2.0		-6.0	V
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current	$V_{DS} = 15\text{V}, V_{GS} = 0$	5.0		15	mA
g_{fs}	Forward Transconductance	$V_{GS} = 0\text{V}, V_{DS} = 15\text{V}, f = 1\text{KHz}$	4500		7500	μS
g_{oss}	Output Conductance	$V_{GS} = 0\text{V}, V_{DS} = 15\text{V}, f = 1\text{KHz}$			50	μS

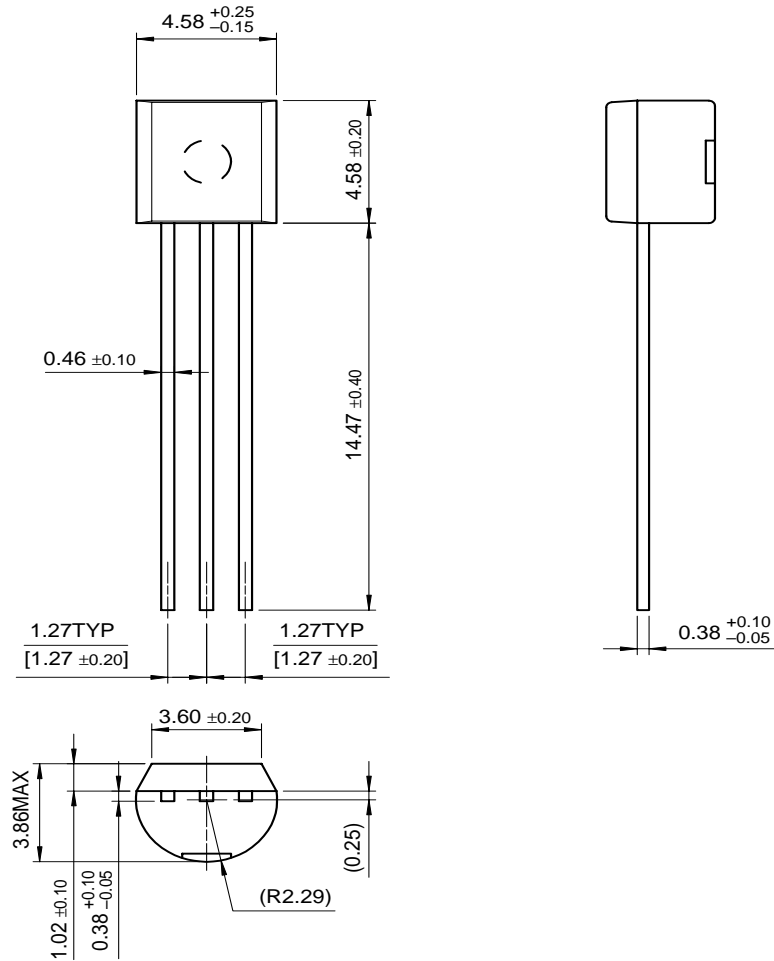
Thermal Characteristics $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation	350	mW
	Derate above 25°C	2.8	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	$^{\circ}\text{C}/\text{W}$

* Device mounted on FR-4 PCB $1.5" \times 1.6" \times 0.06"$

Package Dimensions

TO-92



Dimensions in Millimeters

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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 in order to improve design.
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