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J304

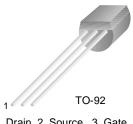


SEMICONDUCTOR®

J304

N-Channel RF Amplifier

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



1. Drain 2. Source 3. Gate

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings* T_C=25°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	°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.

Electrical Characteristics T_C=25°C unless otherwise noted

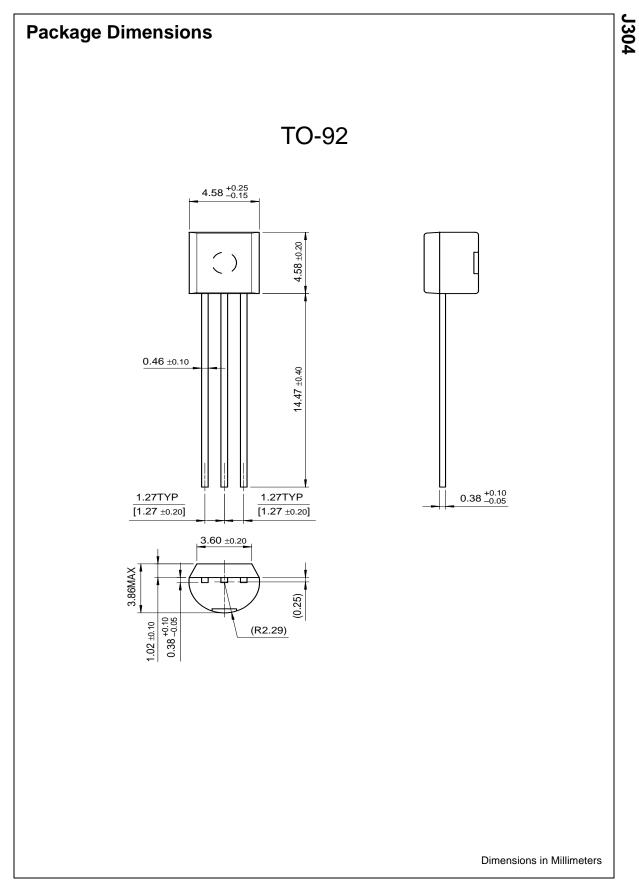
Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
Off Charac	teristics					
V _{(BR)GSS}	Gate-Source Breakdwon Voltage	$I_{G} = -1.0 \mu A, V_{DS} = 0$	-30			V
I _{GSS}	Gate Reverse Current	$V_{GS} = -20V, V_{DS} = 0$			-100	pА
V _{GS} (off)	Gate-Source Cutoff Voltage	$V_{DS} = 15V, I_{D} = 1.0nA$	-2.0		-6.0	V
On Charac	teristics					
I _{DSS}	Zero-Gate Voltage Drain Current	V _{DS} = 15V, VGS = 0	5.0		15	mA
gfs	Forward Transconductance	$V_{GS} = 0V, V_{DS} = 15V, f = 1KHz$	4500		7500	μS
goss	Output Conductance	V _{GS} = 0V, V _{DS} = 15V, f = 1KHz			50	μS

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 _{θJA}	Thermal Resistance, Junction to Ambient	357	°C/W

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

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Programmable Active Droop™	OPTOPLANAR™	SMART START™	

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Definition of Terms

Datasheet Identification	Product Status	Definition
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Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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