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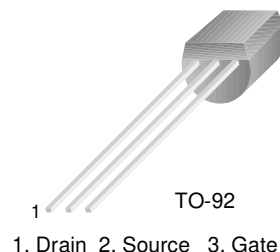
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# J304

## 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 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 $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
<b>Off Characteristics</b>						
$V_{(BR)GSS}$	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
<b>On Characteristics</b>						
$I_{DSS}$	Zero-Gate Voltage Drain Current	$V_{DS} = 15\text{V}, V_{GS} = 0$	5.0		15	mA
gfs	Forward Transconductance	$V_{GS} = 0\text{V}, V_{DS} = 15\text{V}, f = 1\text{KHz}$	4500		7500	$\mu\text{S}$
goss	Output Conductance	$V_{GS} = 0\text{V}, V_{DS} = 15\text{V}, f = 1\text{KHz}$			50	$\mu\text{S}$

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

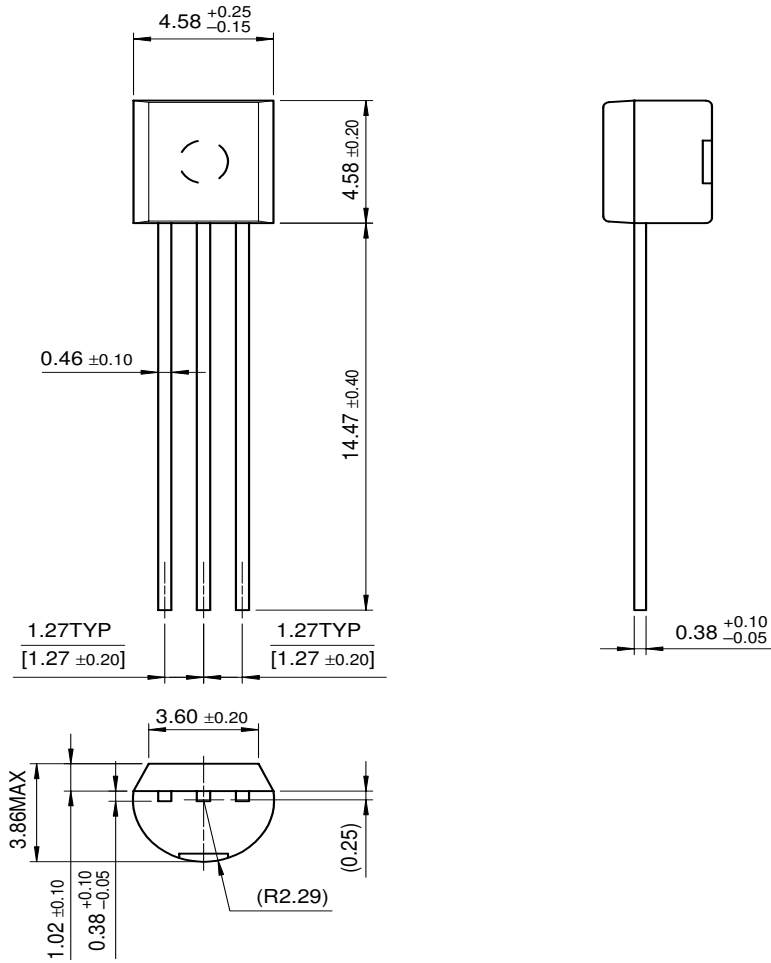
Symbol	Parameter	Max.	Units
$P_D$	Total Device Dissipation	350	mW
	Derate above $25^\circ\text{C}$	2.8	mW/ $^\circ\text{C}$
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

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

# Package Dimensions

J304

## TO-92



Dimensions in Millimeters

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CoolFET™	FAST <sub>r</sub> ™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOL™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
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