



**THE DATASHEET OF**  
**2N5952**

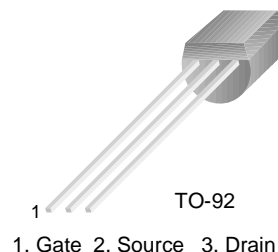


## 2N5952

2N5952

### 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 \* $T_C=25^\circ\text{C}$ 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	$^\circ\text{C}$

\* These 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 state 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 Breakdown Voltage	$V_{DS} = 0, I_G = -1.0\mu\text{A}$	-30			V
$I_{GSS}$	Gate Reverse Current	$V_{GS} = -15\text{V}, V_{DS} = 0$			-1.0	nA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15\text{V}, I_D = 100\text{nA}$	-1.3		-3.5	V
<b>On Characteristics</b>						
$I_{DSS}$	Zero-Gate Voltage Drain Current *	$V_{DS} = 15\text{V}, V_{GS} = 0$	4.0		8.0	mA
<b>Small Signal Characteristics</b>						
$g_{fs}$	Forward Transfer Conductance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{kHz}$	2000		6500	$\mu\text{mhos}$
$g_{os}$	Output Conductance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 100\text{MHz}$			75	$\mu\text{mhos}$
$C_{iss}$	Input Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{MHz}$			6.0	pF
$C_{rss}$	Reverse Transfer Capacitance	$V_{DS} = 15\text{V}, V_{GS} = 0, f = 1.0\text{MHz}$			2.0	pF
NF	Noise Figure	$V_{DS} = 15\text{V}, R_G = 1.0\text{k}\Omega, f = 1.0\text{kHz}$			2.0	dB

\* Pulse Test: Pulse Width  $\leq 300\text{ms}$ , Duty Cycle  $\leq 1.0\%$

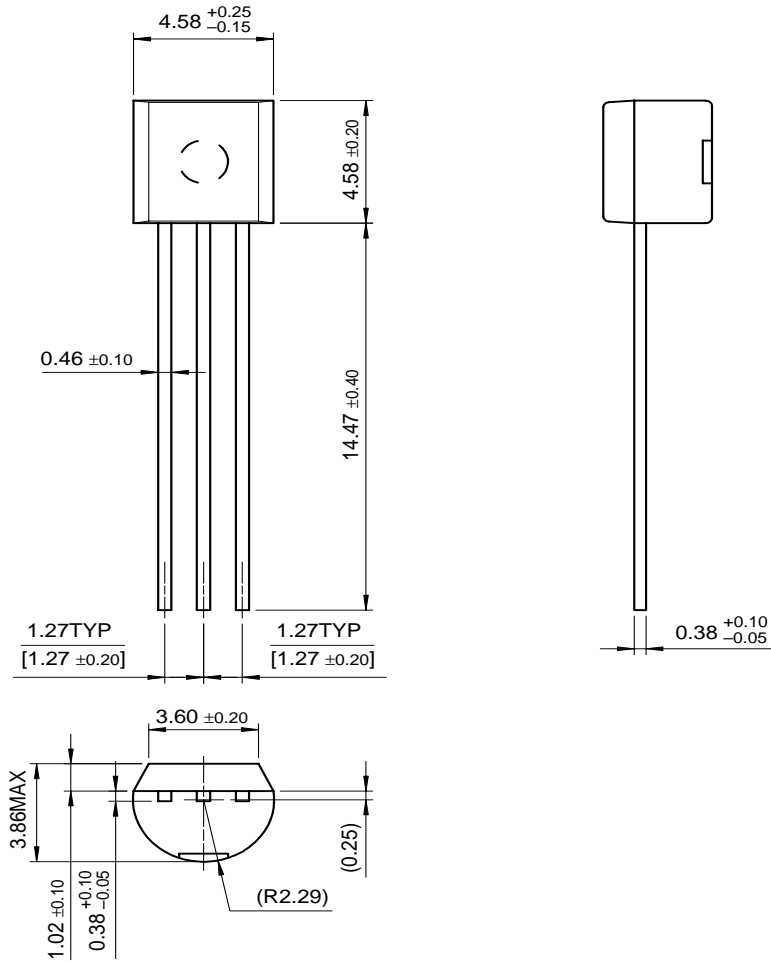
### Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted

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

# Package Dimensions

2N5952

## TO-92



Dimensions in Millimeters

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