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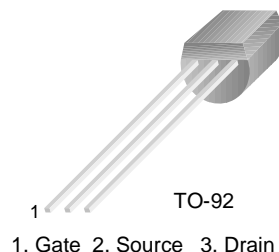# 2N5952

N-Channel RF Ampifier

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

TO-92

1. Gate 2. Source   3. Drain

Absolute Maximum Ratings * T_C=25°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	°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°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdown Voltage	$V_{DS} = 0$, $I_G = -1.0\mu A$	-30			V
I_{GSS}	Gate Reverse Current	$V_{GS} = -15V$, $V_{DS} = 0$			-1.0	nA
$V_{GS(off)}$	Gate-Source Cutoff Voltage	$V_{DS} = 15V$, $I_D = 100nA$	-1.3		-3.5	V
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current *	$V_{DS} = 15V$, $V_{GS} = 0$	4.0		8.0	mA
Small Signal Characteristics						
g_{fs}	Forward Transfer Conductance	$V_{DS} = 15V$, $V_{GS} = 0$, f = 1.0kHz	2000		6500	µmhos
g_{os}	Output Conductance	$V_{DS} = 15V$, $V_{GS} = 0$, f = 100MHz			75	µmhos
C_{iss}	Input Capacitance	$V_{DS} = 15V$, $V_{GS} = 0$, f = 1.0MHz			6.0	pF
C_{rss}	Reverse Transfer Capacitance	$V_{DS} = 15V$, $V_{GS} = 0$, f = 1.0MHz			2.0	pF
NF	Noise Figure	$V_{DS} = 15V$, $R_G = 1.0k\Omega$, f = 1.0kHz			2.0	dB

* Pulse Test: Pulse Width ≤ 300ms, Duty Cycle ≤ 1.0%

Thermal Characteristics T_A=25°C unless otherwise noted

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

Package Dimensions

TO-92

$4.58 \, {}^{+0.25}_{-0.15}$

4.58 ± 0.20

0.46 ± 0.10

14.47 ± 0.40

1.27TYP
[1.27 ±0.20]

1.27TYP
[1.27 ±0.20]

$0.38 \, {}^{+0.10}_{-0.05}$

3.60 ±0.20

3.86MAX

(0.25)

1.02 ± 0.10

$0.38 \, {}^{+0.10}_{-0.05}$

(R2.29)
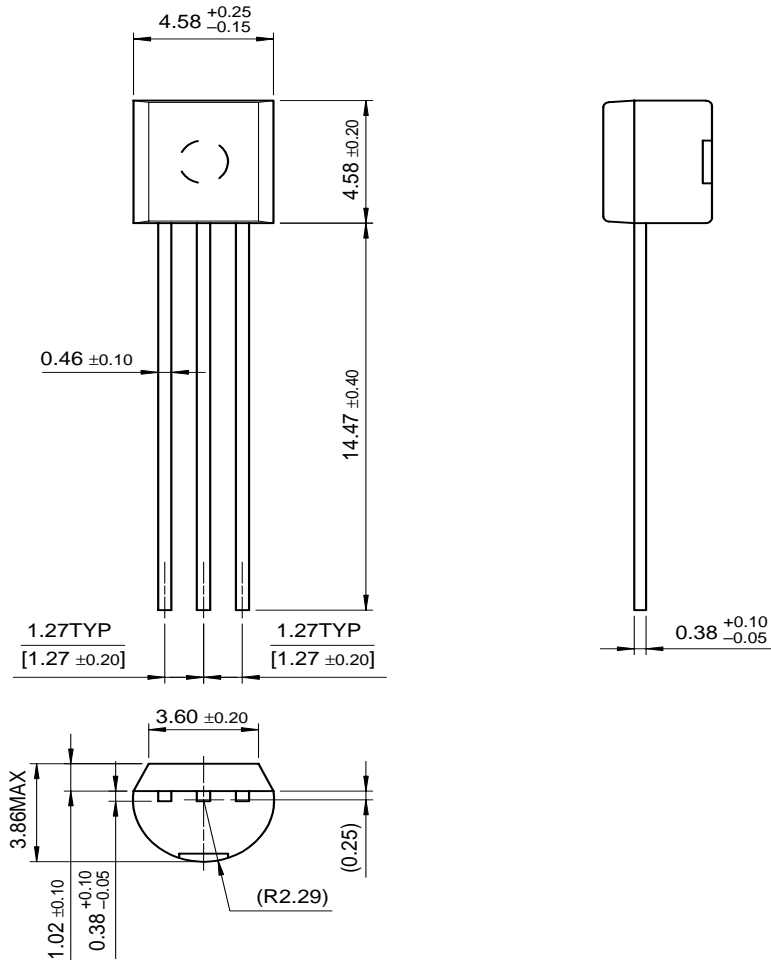
Dimensions in Millimeters

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CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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E²CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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