

## IF9030

## N-Channel Silicon Junction Field-Effect Transistor

## • Low-Noise, High Gain Amplifier

Absolute maximum ratings at  $T_A = 25^\circ\text{C}$ 

Reverse Gate Source & Reverse Gate Drain Voltage	- 20 V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	300 mW
Power Derating	2.4 mW/ $^\circ\text{C}$
Storage Temperature Range	- 65 $^\circ\text{C}$ to 200 $^\circ\text{C}$

At 25 $^\circ\text{C}$  free air temperature:

## Static Electrical Characteristics

		IF9030		Process NJ903L		
		Min	Max	Unit	Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	- 20		V	$I_G = -1\ \mu\text{A}$ , $V_{DS} = \emptyset\text{V}$	
Gate Reverse Current	$I_{GSS}$		- 0.1	nA	$V_{GS} = -10\text{V}$ , $V_{DS} = \emptyset\text{V}$	
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	- 0.35	- 2	V	$V_{DS} = 10\text{V}$ , $I_D = 0.5\ \text{nA}$	
Drain Saturation Current (Pulsed)	$I_{DSS}$	30	300	mA	$V_{DS} = 10\text{V}$ , $V_{GS} = \emptyset\text{V}$	

## Dynamic Electrical Characteristics

Common Source Forward Transconductance	$g_{fs}$	80		mS	$V_{DS} = 10\text{V}$ , $V_{GS} = \emptyset\text{V}$	$f = 1\ \text{kHz}$
Common Source Input Capacitance	$C_{iss}$		60	pF	$V_{DS} = 10\text{V}$ , $I_D = 5\ \text{mA}$	$f = 1\ \text{MHz}$
Common Source Reverse Transfer Capacitance	$C_{rss}$		20	pF	$V_{DS} = 10\text{V}$ , $I_D = 5\ \text{mA}$	$f = 1\ \text{MHz}$

## Typ

Equivalent Short Circuit Input Noise Voltage	$\bar{e}_N$	0.5		nV/ $\sqrt{\text{Hz}}$	$V_{DG} = 4\text{V}$ , $I_D = 5\ \text{mA}$	$f = 1\ \text{kHz}$
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## TO-52 Package

Dimensions in Inches (mm)

## Pin Configuration

1 Source, 2 Drain, 3 Gate &amp; Case



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