

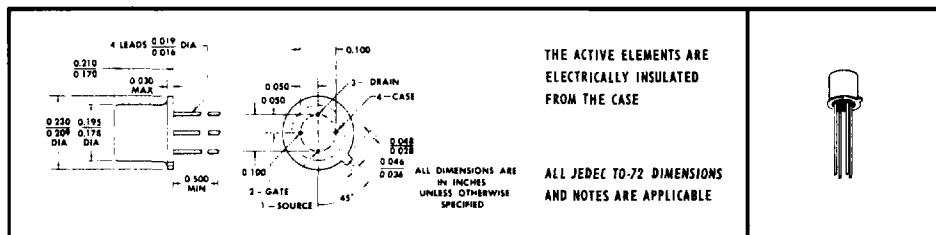
TYPES 2N3909, 2N3909A P-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTORS

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ELECTRICALLY SIMILAR TO 2N2386 AND 2N2386A
FOR AUDIO- TO HIGH-FREQUENCY SMALL-SIGNAL AMPLIFIERS
2N3909A offers greatly improved $|y_{fs}|/C_{rss}$ ratio
resulting from process innovation:

- $|y_{fs}|$ Min Raised from 1 mmho to 2.2 mmho
- C_{rss} Max Lowered from 16 pF to 3 pF

*mechanical data



*absolute maximum ratings at 25°C free-air temperature (unless otherwise noted)

Drain-Gate Voltage	-20 V
Drain-Source Voltage	-20 V
Reverse Gate-Source Voltage	20 V
Continuous Forward Gate Current	-10 mA
Continuous Device Dissipation at (or below) 25°C Free-Air Temperature (See Note 1)	300 mW
Storage Temperature Range	-65°C to 200°C
Lead Temperature 1/8 Inch from Case for 10 Seconds	300°C

*electrical characteristics at 25°C free-air temperature (unless otherwise noted)

PARAMETER	TEST CONDITIONS†	2N3909		2N3909A		UNIT
		MIN	MAX	MIN	MAX	
$V_{(BR)SS}$ Gate-Source Breakdown Voltage	$I_G = 10 \mu A, V_{DS} = 0$	20		20		V
I_{GSS} Gate Reverse Current	$V_{GS} = 10 V, V_{DS} = 0$		10		10	nA
	$V_{GS} = 10 V, V_{DS} = 0, T_A = 100^\circ C$		1		1	μA
$V_{GS(off)}$ Gate-Source Cutoff Voltage	$V_{DS} = -10 V, I_D = -10 \mu A$		8		8	V
V_{GS} Gate-Source Voltage	$V_{DS} = -10 V, I_D = -30 \mu A$	0.3	7.9	0.3	7.9	V
I_{DSS} Zero-Gate-Voltage Drain Current	$V_{DS} = -10 V, V_{GS} = 0$	-0.3	-15	-1	-15	mA
$ y_{fs} $ Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = -10 V, V_{GS} = 0, f = 1 \text{ kHz}$	1	5	2.2	5	mmho
$ y_{os} $ Small-Signal Common-Source Output Admittance			0.1		0.1	mmho
C_{iss} Common-Source Short-Circuit Input Capacitance	$V_{DS} = -10 V, V_{GS} = 0, f = 1 \text{ MHz}$		32		9	pF
C_{rss} Common-Source Short-Circuit Reverse Transfer Capacitance			16		3	pF
$ y_{fs} $ Small-Signal Common-Source Forward Transfer Admittance	$V_{DS} = -10 V, V_{GS} = 0, f = 10 \text{ MHz}$	0.9		2		mmho

NOTE 1: Derate linearly to 175°C free-air temperature at the rate of 2 mW/°C

†The fourth lead (case) is connected to the source for all measurements.

*Indicates JEDEC registered data

USES CHIP JP71