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T-29-25

2N3909, A

CASE 20-03, STYLE 5
TO-72 (TO-206AF)

**JFET
AMPLIFIERS**

P-CHANNEL — DEPLETION

Refer to 2N5480 for graphs.

MAXIMUM RATINGS			
Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-20	Vdc
Drain-Gate Voltage	V_{DG}	-20	Vdc
Reverse Gate-Source Voltage	V_{GSR}	20	Vdc
Forward Gate Current	I_{GF}	10	mAdc
Forward Gate-Source Voltage	V_{GSF}	20	Vdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.0	mW mW/ $^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +200	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.) (1)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Gate-Source Breakdown Voltage ($I_G = 10 \mu\text{Adc}$, $V_{DS} = 0$)	$V_{(BR)GSS}$	20	—	Vdc
Gate Reverse Current ($V_{GS} = 10 \text{ Vdc}$, $V_{DS} = 0$) ($V_{GS} = 10 \text{ Vdc}$, $V_{DS} = 0$, $T_A = 100^\circ\text{C}$)	I_{GSS}	—	10 1.0	nAdc μAdc
Gate Source Cutoff Voltage ($V_{DS} = -10 \text{ Vdc}$, $I_D = 10 \mu\text{Adc}$)	$V_{GS(off)}$	—	8.0 8.0	Vdc
Gate Source Voltage ($V_{DS} = -10 \text{ Vdc}$, $I_D = 30 \mu\text{Adc}$)	V_{GS}	0.3	7.9	Vdc
ON CHARACTERISTICS				
Zero-Gate-Voltage Drain Current(2) ($V_{DS} = -10 \text{ Vdc}$, $V_{GS} = 0$)	I_{DSS}	-0.3 -1.0	-15 -15	mAdc
SMALL-SIGNAL CHARACTERISTICS				
Forward Transfer Admittance(2) ($V_{DS} = -10 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	$ y_{fs} $	1000 2200	5000 5000	μmhos
($V_{DS} = -10 \text{ Vdc}$, $V_{GS} = 0$, $f = 10 \text{ MHz}$)		900 2000	— —	
Output Admittance ($V_{DS} = -10 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	$ y_{os} $	—	100	μmhos
Input Capacitance ($V_{DS} = -10 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{iss}	—	32 9.0	pF
Reverse Transfer Capacitance ($V_{DS} = -10 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{rss}	—	16 3.0	pF

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

(2) Pulse Test: Pulse Width $\leq 630 \text{ ms}$, Duty Cycle $\leq 10\%$.

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