

2N5397, 2N5398

N-Channel Silicon Junction Field-Effect Transistor

- VHF Amplifiers
- Oscillators
- Mixers
- Low-Noise, High Power Gain
- High Transconductance

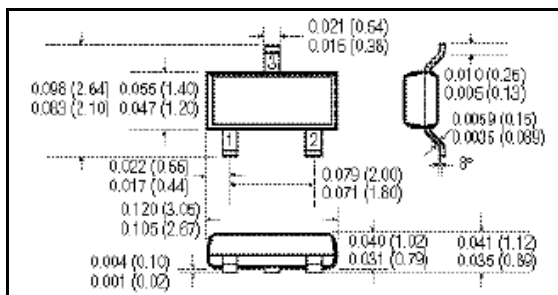
Absolute maximum ratings at $T_A = 25^\circ\text{C}$

Reverse Gate Source & Gate Drain Voltage	-25V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	300 mW
Power Derating	1.7 mW/ $^\circ\text{C}$
Operating Temperature Range	-55 $^\circ\text{C}$ to +125 $^\circ\text{C}$
Storage Temperature Range	-65 $^\circ\text{C}$ to +150 $^\circ\text{C}$

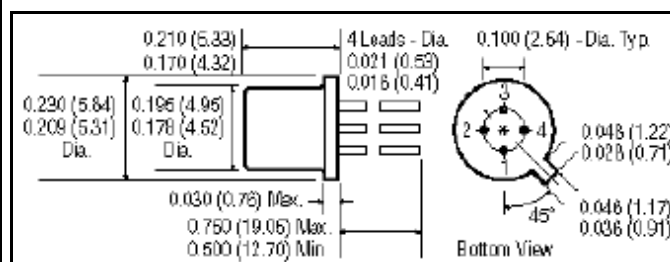
At 25 $^\circ\text{C}$ free air temperature Static Electrical Characteristics		2N5397		2N5398		Process NJ26L	
		Min	Max	Min	Max	Unit	Test Conditions
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	-25		-25		V	$I_G = -1 \mu\text{A}$, $V_{DS} = 0 \text{ V}$
Gate Reverse Current	I_{GSS}		-0.1 -0.1		-0.1 -0.1	nA uA	$V_{GS} = -15 \text{ V}$, $V_{DS} = 0 \text{ V}$ 150 $^\circ\text{C}$
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	-1	-6	-1	-6	V	$V_{DS} = 10 \text{ V}$, $I_D = 1 \text{ nA}$
Gate Source Forward Voltage	$V_{GS(F)}$		1		1	V	$V_{DS} = 0 \text{ V}$, $I_G = 1 \text{ mA}$
Drain Saturation Current (pulsed)	I_{DSS}	10	30	5	40	mA	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0 \text{ V}$

Dynamic Electrical Characteristics

Common-Source Forward Transconductance	g_{fs}	5.5	9	5	10	mS	$V_{DG} = 10 \text{ V}$, $I_D = 10 \text{ mA}$	$f = 450$ MHz
Common-Source Forward Transfer Admittance	$ Y_{fs} $	6	10	5.5	10	mS	$V_{DS} = 10 \text{ V}$, $I_D = 10 \text{ mA}$	$f = 1$ kHz
Common-Source Output Conductance	$ g_{os} $		0.4		0.5	mS	$V_{DG} = 10 \text{ V}$, $I_D = 10 \text{ mA}$	$f = 450$ MHz
Common-Source Input Admittance	$ Y_{is} $		0.2		0.4	mS	$V_{DS} = 10 \text{ V}$, $I_D = 10 \text{ mA}$	$f = 1$ kHz
Common-Source Input Conductance	g_{is}		2		3	mS	$V_{DG} = 10 \text{ V}$, $I_D = 10 \text{ mA}$	$f = 450$ MHz
Common-Source Input Capacitance	C_{iss}		5		5.5	pF	$V_{DG} = 15 \text{ V}$, $V_{GS} = 0 \text{ V}$	$f = 1$ MHz
Common-Source Reverse Transfer Capacitance	C_{rss}		1.2		1.3	pF	$V_{DG} = 15 \text{ V}$, $V_{GS} = 0 \text{ V}$	$f = 1$ MHz



SOT-23: SMP5397, SMP5398
1-Source, 2-Drain, 3-Gate



TO-72: 2N5397, 2N5398
1-Source, 2-Drain, 3-Gate, 4- Case

Dimensions in
Inches (mm)



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