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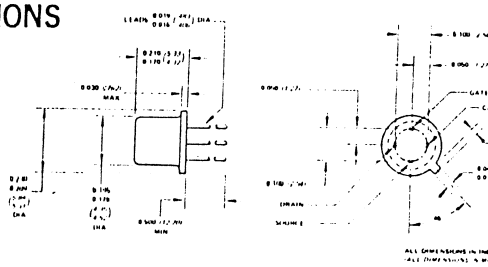
2N5397

N-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTOR

FOR UHF AMPLIFIER, MIXER AND OSCILLATOR APPLICATIONS AND VIDEO AMPLIFIER APPLICATIONS

- G_{ps} = 10 dB Typical (Common Gate) at 450 MHz (2N5397)
- NF = 3 dB Typical at 450 MHz
- C_{rss} = 1 pF Typical



TO-72
Fourth lead is in electrical contact with case.

PRODUCT CONDITIONING

Units receive the following treatment before final electrical tests:

High Temp Storage: 24 Hours at 150°C
Thermal Shock: +100 to 0°C for 5 Cycles
25,000g Acceleration/Impact in the Y_1 Plane
Helium and/or Gross Leak Tests for Hermeti

*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage . . . . . -2
Gate Current 10
Total Device Dissipation (Derate 1.7 mW/°C) 300
Storage Temperature Range . . . . . -65 to +20
Lead Temperature 1/16" from case for 10 sec 30

*ELECTRICAL CHARACTERISTICS (25°C unless otherwise specified)

Characteristic		2N5397 Test Conditions	Min	Max	Unit
I_{GSS}	Gate Reverse Current	V_{GS} = -15 V, V_{DS} = 0, 25°C		-0.1	nA
		V_{DS} = 0, 150°C		-0.1	µA
BV_{GSS}	Gate-Source Breakdown Voltage	I_G = -1 µA, V_{DS} = 0	-25		V
V_P	Gate-Source Pinch-Off Voltage	V_{DS} = 10 V, I_D = 1 nA	-1	-6	V
I_{DSS}	Drain Current at Zero Gate Voltage †	V_{DS} = 10 V, V_{GS} = 0	10	30	mA
$V_{GS(f)}$	Gate-Source Forward Voltage	I_G = 1 mA, V_{DS} = 0		1	V
g_{fs}	Common-Source Forward Transconductance †	V_{DS} = 10 V, I_D = 10 mA, f = 1 kHz	6000	10,000	µmho
g_{oss}	Common-Source Output Conductance			200	µmho
C_{rss}	Common-Source Reverse Transfer Capacitance	V_{DG} = 10 V, I_D = 10 mA, f = 1 MHz		1.2	pF
C_{iss}	Common-Source Input Capacitance			5	pF

*HIGH FREQUENCY CHARACTERISTICS at 450 MHz (25°C)

Characteristic		Test Conditions	Min	Max	Unit	Test Conditions	Min	Max	Unit
g_{iss}	Common-Source Input Conductance	V_{DG} = 10 V, I_D = 10 mA		2000	µmho	V_{DS} = 10 V, V_{GS} = 0		3000	µmho
g_{oss}	Common-Source Output Conductance			400	µmho			500	µmho
g_{fs}	Common-Source Forward Transconductance †		5500	9000	µmho		5000	10,000	µmho
G_{ps}	Common-Source Power Gain (neutralized)	V_{DG} = 10 V, I_D = 10 mA, See Page 4	15		dB				
NF	Common-Source, Spot Noise Figure (neutralized)	V_{DG} = 10 V, I_D = 10 mA, See Page 4		3.5	dB				

*JEDEC Registered Data
† Pulse test duration: 2 ms.