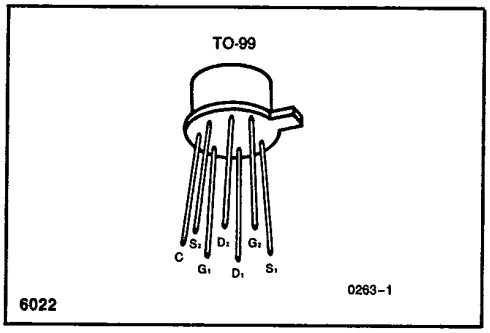
T-31-25

U257
Dual N-Channel JFET High Frequency Amplifier

FEATURES
- $g_{fs} > 4500\mu s$ From DC to 100MHz
- Matched V_{GS}, g_{fs} and g_{os}

PIN CONFIGURATION



ABSOLUTE MAXIMUM RATINGS
(T_A = 25°C unless otherwise noted)

Gate-Drain or Gate-Source Voltage (Note 1) ..... −25V
Gate Current (Note 1) 50mA
Storage Temperature Range ..... −65°C to +200°C
Operating Temperature Range ..... −55°C to +150°C
Lead Temperature (Soldering, 10sec) ..... +300°C

	One Side	Both Sides
Power Dissipation (T_A = 85°C)	250mW	500mW
Derate above 25°C	3.8mW/°C	7.7mW/°C

NOTE: *Stresses above those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions above those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.*

ORDERING INFORMATION

TO-99
U257

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Symbol	Parameter	Test Conditions		Min	Max	Units
I_{GSS}	Gate Reverse Current	V_{GS} = 15V, V_{DS} = 0			−100	pA
			T_A = 150°C		−250	nA
BV_{GSS}	Gate-Source Breakdown Voltage	I_G = −1μA, V_{DS} = 0		−25		V
VGS(off)	Gate-Source Cutoff Voltage	V_{DS} = 10V, I_D = 1nA		−1	−5	V
I_{DSS}	Saturation Drain Current (Note 2)	V_{DS} = 10V, V_{GS} = 0		5	40	mA
g_{fs}	Common-Source Forward Transconductance	V_{DS} = 10V, I_D = 5mA	f = 1kHz	4500	10,000	μs
g_{fs}	Common-Source Forward Transconductance	V_{DG} = 10V, I_D = 5mA	f = 100MHz (Note 3)	4500	10,000	
g_{os}	Common-Source Output Conductance	V_{DS} = 10V, I_D = 5mA	f = 1kHz		200	
g_{oss}	Common-Source Output Conductance	V_{DG} = 10V, I_D = 5mA	f = 100MHz		200	
C_{iss}	Common-Source Input Capacitance		f = 1MHz		5	pF
C_{rss}	Common-Source Reverse Transfer Capacitance				1.2	
$\overline{e_n}$	Equivalent Input Noise Voltage	(Note 3)	f = 10kHz		30	$\frac{nV}{\sqrt{Hz}}$
$\frac{I_{DSS1}}{I_{DSS2}}$	Drain Current Ratio at Zero Gate Voltage (Note 2)	V_{DS} = 10V, V_{GS} = 0		0.85	1	
$\lvert V_{GS1} - V_{GS2} \rvert$	Differential Gate-Source Voltage	V_{DG} = 10V, I_D = 5mA			100	mV
$\frac{g_{fs1}}{g_{fs2}}$	Transconductance Ratio		f = 1kHz	0.85	1	
$\lvert g_{os1} - g_{os2} \rvert$	Differential Output Conductance				20	μs

NOTES: 1. Per transistor.
2. Pulse test required, pulse width = 300μs, duty cycle ≤ 3%.
3. For design reference only, not 100% tested.

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NOTE: All typical values have been characterized but are not tested.