n-channel JFET
designed for . . .

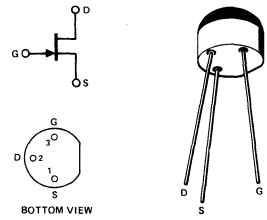
- **VHF/UHF Amplifiers**
- **Oscillators**
- **Mixers**

Performance Curves NZF
See Section 4

BENEFITS

- High Power Gain
  22 dB Typical at 100 MHz
  Common-Source
  17 dB Typical at 100 MHz
  Common-Gate
- Low Noise
  NF = 2 dB Typical at 100 MHz
- High Dynamic Range Greater than 100 dB

TO-106
See Section 5



ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage . . . . . -25 V
Gate Current . . . . . 10 mA
Total Device Dissipation
(25°C Free-Air Temperature) . . . . . 350 mW
Power Derating (to +125°C) . . . . . 3.5 mW/°C
Storage Temperature Range . . . . . -55 to +125°C
Operating Temperature Range . . . . . -55 to +125°C
Lead Temperature
(1/16" from case for 10 seconds) . . . . . 300°C

ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		E300 Min	E300 Typ	E300 Max	Unit	Test Conditions	
1	STATIC	I_{GSS}	Gate Reverse Current (Note 1)			-500	pA	V_{GS} = -15 V, V_{DS} = 0	
2	STATIC	$V_{GS(off)}$	Gate-Source Cutoff Voltage	-1		-6	V	V_{DS} = 10 V, I_D = 1 nA	
3	STATIC	BV_{GSS}	Gate-Source Breakdown Voltage	-25				V_{DS} = 0, I_G = -1 μA	
4	STATIC	I_{DSS}	Saturation Drain Current (Note 2)	6		30	mA	V_{DS} = 10 V, V_{GS} = 0	
5	STATIC	$V_{GS(f)}$	Gate-Source Forward Voltage			1	V	I_G = 1 mA, V_{DS} = 0	
6	DYN	g_{fs}	Common-Source Forward Transconductance (Note 2)	4,500		9,000	μmho	V_{DG} = 10 V, I_D = 5 mA	f = 1 kHz
7	DYN	g_{os}	Common-Source Output Transconductance			200			
8	DYN	C_{iss}	Common-Source Input Capacitance		3.5	5.5	pF	V_{DG} = 10 V, I_D = 5 mA	f = 1 MHz
9	DYN	C_{rss}	Common-Source Reverse Transfer Capacitance		0.8	1.7			
10	DYN	C_{oss}	Common-Source Output Capacitance		1.5				
11	HI FREQ	$\lvert y_{fs} \rvert$	Common-Source Forward Transcadmittance		6,200		μmho	V_{DG} = 15 V, I_D = 5 mA	f = 100 MHz
12	HI FREQ				6,000				f = 450 MHz
13	HI FREQ	$\lvert y_{fg} \rvert$	Common-Gate Forward Transcadmittance		6,000				f = 100 MHz
14	HI FREQ				5,500				f = 450 MHz
15	HI FREQ	G_{fg}	Common-Gate Power Gain		17		dB		f = 100 MHz (Note 3)
16	HI FREQ	NF	Noise Figure (Single Sideband)		2				

NZF

NOTES:
1. Approximately doubles for every 10°C increase in T_A.
2. Pulse test duration = 2 ms.
3. Typical values for performance at 100 MHz in a common-gate circuit operating 3 dB bandwidth is 2 MHz.