n-channel JFETs *designed for . . .*

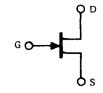
■ Small-Signal Low Noise Amplifiers

Performance Curves NP
See Section 4

BENEFITS

- Operates from High Supply Voltages
  $BV_{GSS} > 50$ V

TO-18
See Section 5



*ABSOLUTE MAXIMUM RATINGS (25°C)

Gate-Drain or Gate-Source Voltage (Note 1) . . . . . -50 V
Gate Current . . . . . 10 mA
Total Device Dissipation at (or below) 25°C
Free-Air Temperature (Note 2) . . . . . 300 mW
Storage Temperature Range . . . . . -65 to +200°C

*ELECTRICAL CHARACTERISTICS (25°C unless otherwise noted)

		Characteristic		2N3458		2N3459		2N3460		Unit	Test Conditions	
				Min	Max	Min	Max	Min	Max			
1	STATIC	I_{GSS}	Gate Reverse Current		-0.25		-0.25		-0.25	nA	V_{GS} = -30 V, V_{DS} = 0	
2					-0.5		-0.5		-0.5	μA		150°C
3		BV_{GSS}	Gate-Source Breakdown Voltage	-50		-50		-50		V	I_G = -1 μA, V_{DS} = 0	
4		$I_{D(off)}$	Drain Cutoff Current		1 (-8)		1 (-4)		1 (-2)	nA (V)	V_{DS} = 20 V, V_{GS} = ( )	
5		$V_{GS(off)}$	Gate-Source Cutoff Voltage		-7.8		-3.4		-1.8	V	V_{DS} = 20 V, I_D = 1 μA	
6		I_{DSS}	Drain Current at Zero Gate Voltage	3.0	15.0	0.8	4.0	0.2	1.0	mA	V_{DS} = 20 V, V_{GS} = 0	
7	DYNAMIC	g_{fs}	Common-Source Forward Transconductance	2500	10,000	1500	6000	800	4500	μmho	V_{DS} = 20 V, V_{GS} = 0	f = 1 kHz
8		g_{oss}	Common-Source Output Conductance		35		20		5		V_{DS} = 30 V, V_{GS} = 0	f = 1 MHz
9		C_{oss}	Common-Source Output Capacitance		5		5		5	pF		
10		C_{iss}	Common-Source Input Capacitance		18 (10)		18 (6)		18 (4)	pF (V)	V_{GS} = 0 V, V_{DS} = ( ),	f = 1 MHz
11		NF	Noise Figure		6		4		4	dB	V_{DS} = 10 V, V_{GS} = 0, R_{gen} = 1 meg, BW = 6 Hz	f = 20 Hz

* JEDEC registered data.

NP

NOTES:
1. Due to symmetrical geometry, these units may be operated with source and drain leads interchanged.
2. Derate linearly to 200°C free-air temperature at rate of 1.7 mW/°C.