

2N3458 2N3459 2N3460

CASE 22-03, STYLE 4
TO-18 (TO-206AA)

JFET
LOW-FREQUENCY/
LOW NOISE

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Gate Voltage	V_{DG}	50	Vdc
Gate-Source Voltage	V_{GS}	50	Vdc
Gate Current	I_G	10	mA
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 1.7	mW mW/ $^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +175	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Gate-Source Breakdown Voltage ($I_G = 1.0\ \mu\text{A}$)	$V_{(BR)GSS}$	-50	—	Vdc
Gate Reverse Current ($V_{GS} = -30\ \text{V}$)	I_{GSS}	—	-.25	nA
Gate Source Cutoff Voltage ($V_{DS} = 20\ \text{V}$, $I_D = 1.0\ \mu\text{A}$)	$V_{GS(off)}$	— — —	-7.8 -3.4 -1.8	Vdc
				2N3458 2N3459 2N3460

ON CHARACTERISTICS

Zero-Gate-Voltage Drain ($V_{DS} = 20\ \text{Volts}$)	I_{DSS}^*	3.0 0.8 0.2	15.0 4.0 1.0	mA
				2N3458 2N3459 2N3460

SMALL-SIGNAL CHARACTERISTICS

Forward Transfer Admittance ($V_{DS} = 20\ \text{Volts}$, $f = 1.0\ \text{kHz}$)	$ y_{fs} ^*$	2500 1500 800	10000 6000 4500	μmhos
				2N3458 2N3459 2N3460
Output Admittance ($V_{DS} = 30\ \text{Volts}$, $f = 1.0\ \text{kHz}$)	$ y_{os} $	— — —	35 20 5	μmhos
				2N3458 2N3459 2N3460
Input Capacitance ($V_{DS} = 10\ \text{V}$)	C_{iss}	—	18	pF
Output Capacitance ($V_{DS} = 30\ \text{V}$)	C_{oss}	—	5.0	pF

FUNCTIONAL CHARACTERISTICS

Noise Figure ($V_{DS} = 10\ \text{V}$, $f = 20\ \text{Hz}$, $R_G = 1.0\ \text{M}\Omega$)	NF	— — —	6.0 4.0 4.0	dB
				2N3458 2N3459 2N3460

*Pulse Width $\leq 100\ \text{msec}$, Duty Cycle $\leq 10\%$.