

**2N5457
2N5458
2N5459**

**CASE 29-05, STYLE 5
TO-92 (TO-226AA)**

**JFET
GENERAL PURPOSE**

N-CHANNEL — DEPLETION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	25	Vdc
Drain-Gate Voltage	V_{DG}	25	Vdc
Reverse Gate-Source Voltage	V_{GSR}	-25	Vdc
Gate Current	I_G	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	310 2.82	mW mW/ $^\circ\text{C}$
Junction Temperature Range	T_J	125	$^\circ\text{C}$
Storage Channel Temperature Range	T_{stg}	-65 to +150	$^\circ\text{C}$

Refer to 2N4220 for graphs.

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

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Gate-Source Breakdown Voltage ($I_G = -10 \mu\text{Adc}$, $V_{DS} = 0$)	$V_{(BR)GSS}$	-25	—	—	Vdc	
Gate Reverse Current ($V_{GS} = -15 \text{Vdc}$, $V_{DS} = 0$) ($V_{GS} = -15 \text{Vdc}$, $V_{DS} = 0$, $T_A = 100^\circ\text{C}$)	I_{GSS}	—	—	-1.0 -200	nAdc	
Gate Source Cutoff Voltage ($V_{DS} = 15 \text{Vdc}$, $I_D = 10 \text{nAdc}$)	$V_{GS(off)}$	2N5457 2N5458 2N5459	-0.5 -1.0 -2.0	— — —	-6.0 -7.0 -8.0	Vdc
Gate Source Voltage ($V_{DS} = 15 \text{Vdc}$, $I_D = 100 \mu\text{Adc}$) ($V_{DS} = 15 \text{Vdc}$, $I_D = 200 \mu\text{Adc}$) ($V_{DS} = 15 \text{Vdc}$, $I_D = 400 \mu\text{Adc}$)	V_{GS}	2N5457 2N5458 2N5459	— — —	-2.5 -3.5 -4.5	— — —	Vdc

ON CHARACTERISTICS

Zero-Gate-Voltage Drain Current* ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$)	I_{DSS}	2N5457 2N5458 2N5459	1.0 2.0 4.0	3.0 6.0 9.0	5.0 9.0 16	mAdc
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SMALL-SIGNAL CHARACTERISTICS

Forward Transfer Admittance Common Source* ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{kHz}$)	$ y_{fs} $	2N5457 2N5458 2N5459	1000 1500 2000	— — —	5000 5500 6000	μmhos
Output Admittance Common Source* ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{kHz}$)	$ y_{os} $		—	10	50	μmhos
Input Capacitance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{MHz}$)	C_{iss}		—	4.5	7.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{MHz}$)	C_{rss}		—	1.5	3.0	pF

*Pulse Test: Pulse Width $\leq 630 \text{ms}$; Duty Cycle $\leq 10\%$.