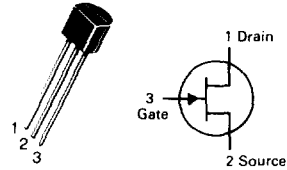


2N5668 thru 2N5670

CASE 29-04, STYLE 5
TO-92 (TO-226AA)



**JFET
VHF AMPLIFIERS**

N-CHANNEL — DEPLETION

Refer to 2N5484 for graphs.

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
Drain Current	I_D	20	mAdc
Forward Gate Current	$I_{G(f)}$	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	350 2.8	mW mW/°C
Storage Channel Temperature Range	T_{stg}	-65 to +150	°C

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

Characteristic	Symbol	Min	Typ	Max	Unit	
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}	—	—	2.0 2.0	nAdc μAdc	
Gate Source Cutoff Voltage ($V_{DS} = 15 \text{ Vdc}$, $I_D = 10 \text{ nAdc}$)	$V_{GS(off)}$	2N5668 2N5669 2N5670	-0.2 -1.0 -2.0	— — —	4.0 6.0 8.0	Vdc
ON CHARACTERISTICS						
Zero-Gate-Voltage Drain Current(1) ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$)	I_{DSS}	2N5668 2N5669 2N5670	1.0 4.0 8.0	— — —	5.0 10 20	mAdc
SMALL-SIGNAL CHARACTERISTICS						
Forward Transfer Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	$ y_{fs} $	2N5668 2N5669 2N5670	1500 2000 3000	— — —	6500 6500 7500	μmhos
Input Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 100 \text{ MHz}$)	$\text{Re}(y_{is})$		—	125	800	μmhos
Output Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)	$ y_{os} $	2N5668 2N5669 2N5670	— — —	— — —	20 50 75	μmhos
Output Conductance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 100 \text{ MHz}$)	$\text{Re}(y_{os})$	2N5668 2N5669 2N5670	— — —	10 25 35	50 100 150	μmhos
Forward Transconductance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 100 \text{ MHz}$)	$\text{Re}(y_{fs})$	2N5668 2N5669 2N5670	1000 1600 2500	— — —	— — —	μmhos
Input Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{iss}		—	4.7	7.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{rss}		—	1.0	3.0	pF

2N5668 thru 2N5670

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

Characteristic	Symbol	Min	Typ	Max	Unit
Output Capacitance ($V_{DS} = 15\text{ Vdc}$, $V_{GS} = 0$, $f = 1.0\text{ MHz}$)	C_{oss}	—	1.4	4.0	pF

FUNCTIONAL CHARACTERISTICS

Noise Figure (Figure 1) ($V_{DS} = 15\text{ Vdc}$, $V_{GS} = 0$, $f = 100\text{ MHz}$ at $R_G' = 1.0\text{ k ohm}$)	NF	—	—	2.5	dB
Common Source Power Gain (Figure 1) ($V_{DS} = 15\text{ Vdc}$, $V_{GS} = 0$, $f = 100\text{ MHz}$)	G_{ps}	16	—	—	dB

(1) Pulse Test: Pulse Width = 100 ms, Duty Cycle $\leq 10\%$.

100 MHz, POWER GAIN AND NOISE FIGURE TEST CIRCUIT

