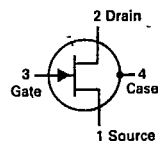


2N3823

JAN, JTX, JTXV AVAILABLE
CASE 20-03; STYLE 1
TO-72 (TO-206AF)



JFET
VHF AMPLIFIER

N-CHANNEL — DEPLETION

Refer to 2N4416 for graphs.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	Vdc
Drain-Gate Voltage	V_{DG}	30	Vdc
Gate-Source Voltage	V_{GS}	-30	Vdc
Gate Current	I_G	10	mAdc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.0	mW mW/°C
Junction Temperature Range	T_J	175	°C
Storage Temperature Range	T_{stg}	-65 to +200	°C

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Gate-Source Breakdown Voltage ($I_G = -1.0 \mu\text{A}$, $V_{DS} = 0$)	$V_{(BR)GSS}$	-30	—	Vdc
Gate Reverse Current ($V_{GS} = -20 \text{ Vdc}$, $V_{DS} = 0$) ($V_{GS} = -20 \text{ Vdc}$, $V_{DS} = 0$, $T_A = 150^\circ\text{C}$)	I_{GSS}	—	-0.5 -500	nAdc
Gate Source Cutoff Voltage ($I_D = 0.5 \text{ nAdc}$, $V_{DS} = 15 \text{ Vdc}$)	$V_{GS(off)}$	—	-8.0	Vdc
Gate Source Voltage ($I_D = 0.4 \text{ mAdc}$, $V_{DS} = 15 \text{ Vdc}$)	V_{GS}	-1.0	-7.5	Vdc
ON CHARACTERISTICS				
Zero-Gate-Voltage Drain Current(1) ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$)	I_{DSS}	4.0	20	mAdc
SMALL-SIGNAL CHARACTERISTICS				
Forward Transfer Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)(1) ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 200 \text{ MHz}$)	$ y_{fs} $	3500 3200	6500 —	μhos
Input Admittance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 200 \text{ MHz}$)	$\text{Re}(y_{is})$	—	800	μhos
Output Conductance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ kHz}$)(1) ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 200 \text{ MHz}$)	$ y_{os} $ $\text{Re}(y_{os})$	— —	35 200	μhos
Input Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{iss}	—	6.0	pF
Reverse Transfer Capacitance ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $f = 1.0 \text{ MHz}$)	C_{rss}	—	2.0	pF
FUNCTIONAL CHARACTERISTICS				
Noise Figure ($V_{DS} = 15 \text{ Vdc}$, $V_{GS} = 0$, $R_S = 1000 \text{ ohms}$, $f = 100 \text{ MHz}$)	NF	—	2.5	dB

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