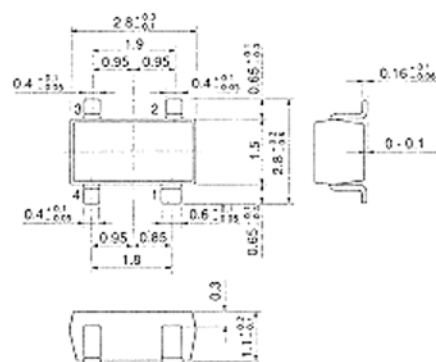


3SK191

GaAs DUAL GATE FET

UHF TV TUNER RF AMPLIFIER

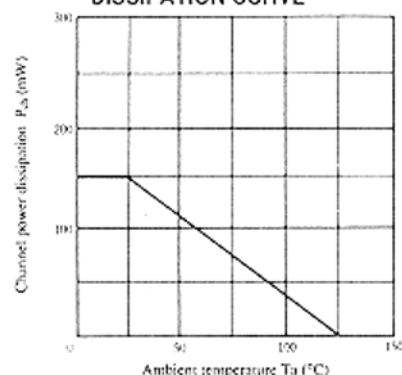


(MPAK-4)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	3SK191	Unit
Drain to source voltage	V_{DS}	12	V
Gate 1 to source voltage	V_{G1S}	+0.5, -6	V
Gate 2 to source voltage	V_{G2S}	+0.5, -6	V
Drain current	I_D	80	mA
Channel power dissipation	P_{ch}	150	mW
Channel temperature	T_{ch}	125	°C
Storage temperature	T_{stg}	-55 to +125	°C

MAXIMUM CHANNEL POWER DISSIPATION CURVE

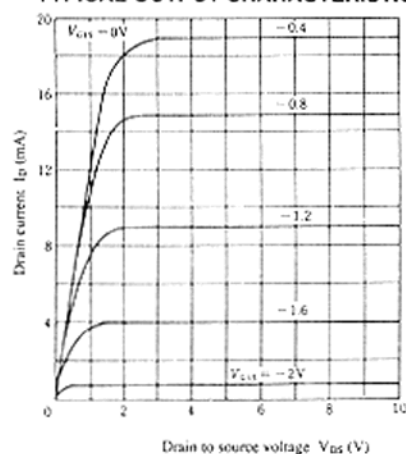


■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

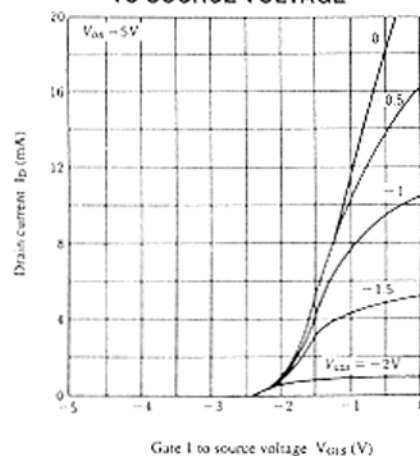
Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain to source breakdown voltage	$V_{(BR)DSX}$	$I_D = 50\mu A, V_{G1S} = -6V, V_{G2S} = 0$	12	—	—	V
Gate 1 to source breakdown voltage	$V_{(BR)G1SS}$	$I_{G1} = -10\mu A, V_{G2S} = V_{DS} = 0$	-6	—	—	V
Gate 2 to source breakdown voltage	$V_{(BR)G2SS}$	$I_{G2} = -10\mu A, V_{G1S} = V_{DS} = 0$	-6	—	—	V
Gate 1 cutoff current	I_{G1SS}	$V_{G1S} = -5V, V_{G2S} = V_{DS} = 0$	—	—	-5	μA
Gate 2 cutoff current	I_{G2SS}	$V_{G2S} = -5V, V_{G1S} = V_{DS} = 0$	—	—	-5	μA
Drain current	I_{DSS}	$V_{DS} = 5V, V_{G1S} = V_{G2S} = 0$	10	—	32	mA
Gate 1 to source cutoff voltage	$V_{G1S(off)}$	$V_{DS} = 5V, V_{G2S} = 0, I_D = 100\mu A$	—	—	-5	V
Gate 2 to source cutoff voltage	$V_{G2S(off)}$	$V_{DS} = 5V, V_{G1S} = 0, I_D = 100\mu A$	—	—	-4	V
Forward transfer admittance	$ y_{fs} $	$V_{DS} = 5V, V_{G2S} = 0, I_D = 10mA, f = 1kHz$	10	—	—	mS
Input capacitance	C_{iss}	$V_{DS} = 5V, V_{G1S} = V_{G2S} = -6V, f = 1MHz$	—	0.55	1.0	pF
Output capacitance	C_{oss}		—	0.3	0.6	pF
Reverse transfer capacitance	C_{rss}		—	0.02	0.05	pF
Power gain	PG	$V_{DS} = 5V, V_{G2S} = 0, I_D = 10mA$	12	16.6	—	dB
Noise figure	NF	$f = 900MHz$	—	1.5	3.0	dB

* Marking is "NT-".

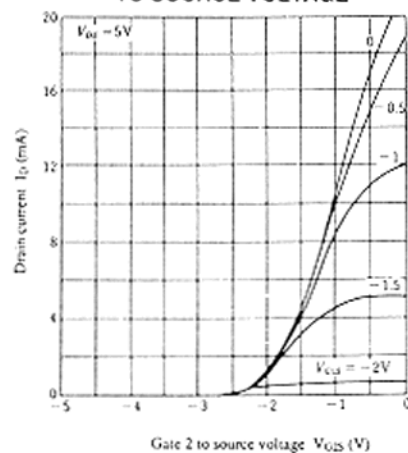
TYPICAL OUTPUT CHARACTERISTICS



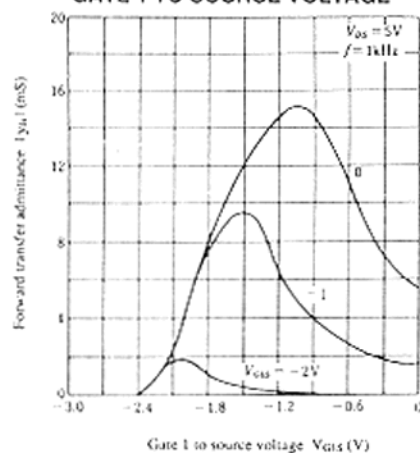
DRAIN CURRENT VS. GATE 1 TO SOURCE VOLTAGE



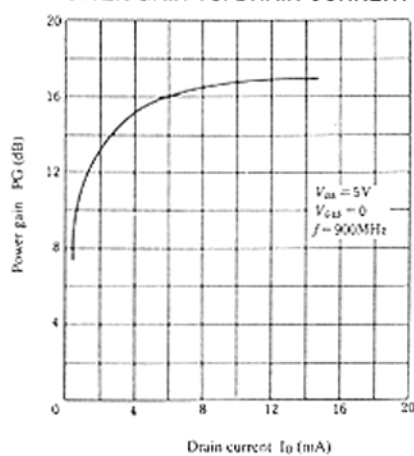
DRAIN CURRENT VS. GATE 2 TO SOURCE VOLTAGE



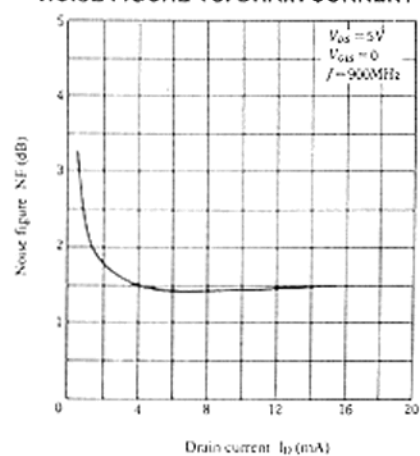
FORWARD TRANSFER ADMITTANCE VS. GATE 1 TO SOURCE VOLTAGE



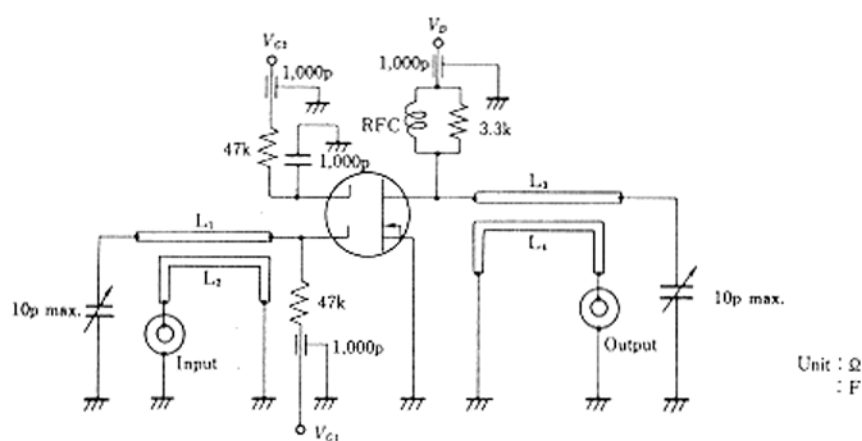
POWER GAIN VS. DRAIN CURRENT



NOISE FIGURE VS. DRAIN CURRENT



■ PG, NF TEST CIRCUIT



RFC : $\phi 1\text{mm}$ Enameled Copper Wire, Inside dia 6mm, 3 Pattern