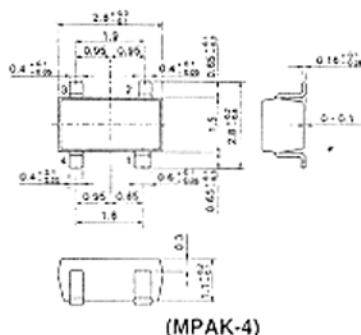


3SK194

SILICON N-CHANNEL DUAL GATE MOS FET
VHF/UHF TV TUNER RF AMPLIFIER

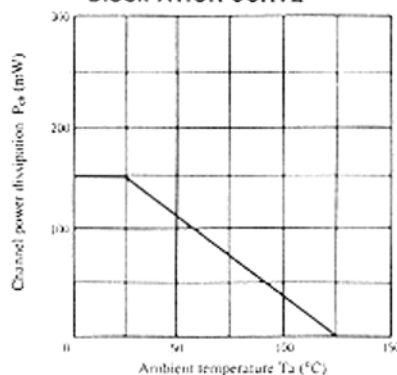


1. Source
 2. Gate 1
 3. Gate 2
 4. Drain
- (Dimensions in mm)

■ ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Item	Symbol	3SK194	Unit
Drain to source voltage	V _{DS}	15	V
Gate 1 to source voltage	V _{G1S}	±10	V
Gate 2 to source voltage	V _{G2S}	±10	V
Drain current	I _D	35	mA
Channel power dissipation	P _{ch}	150	mW
Channel temperature	T _{ch}	125	°C
Storage temperature	T _{stg}	-55 to +125	°C

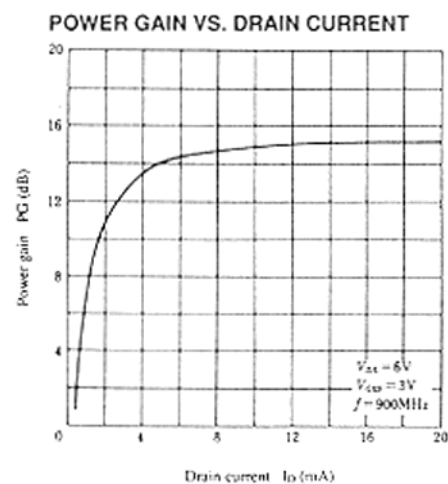
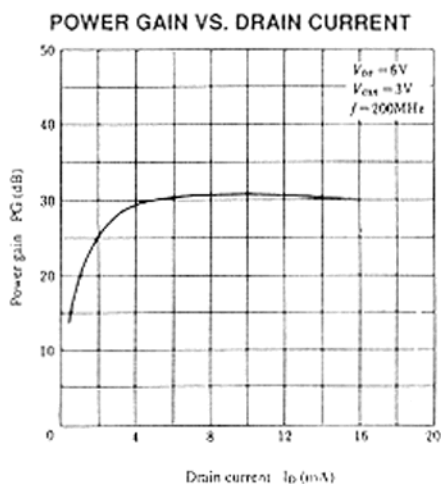
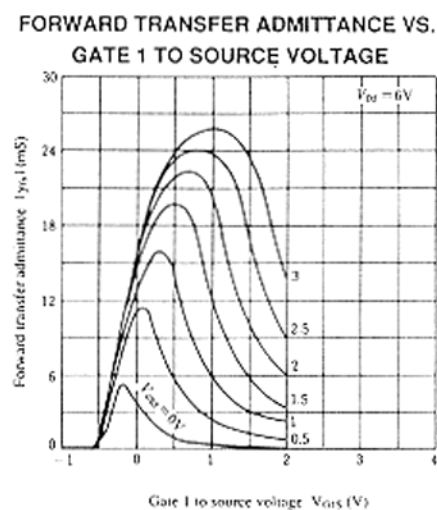
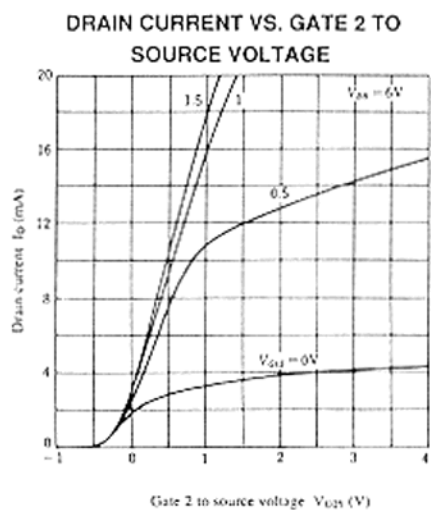
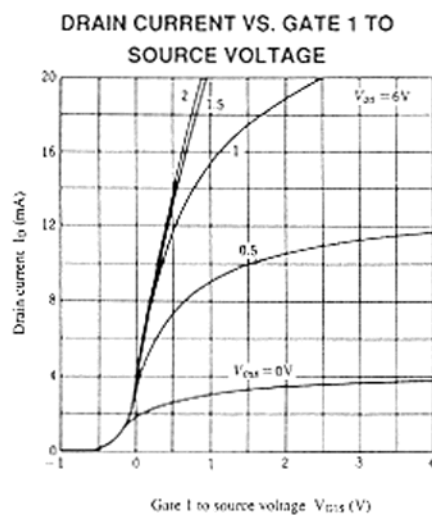
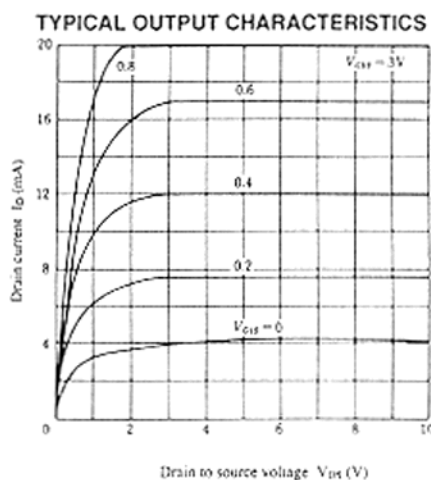
MAXIMUM CHANNEL POWER DISSIPATION CURVE



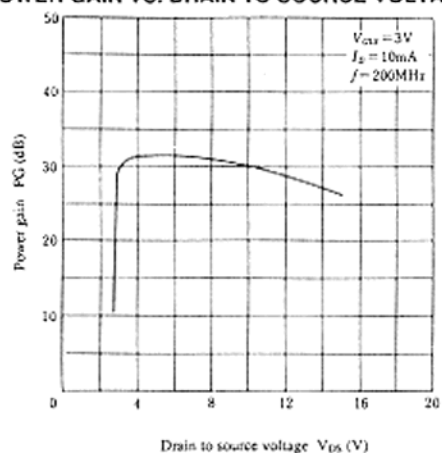
■ ELECTRICAL CHARACTERISTICS (T_a=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain to source breakdown voltage	V _{(BR)DSX}	I _D = 200μA, V _{G1S} = V _{G2S} = -5V	15	—	—	V
Gate 1 to source breakdown voltage	V _{(BR)G1SS}	I _{G1} = ±10μA, V _{G2S} = V _{DS} = 0	±10	—	—	V
Gate 2 to source breakdown voltage	V _{(BR)G2SS}	I _{G2} = ±10μA, V _{G1S} = V _{DS} = 0	±10	—	—	V
Gate 1 cutoff current	I _{G1SS}	V _{G1S} = ±8V, V _{G2S} = V _{DS} = 0	—	—	±100	nA
Gate 2 cutoff current	I _{G2SS}	V _{G2S} = ±8V, V _{G1S} = V _{DS} = 0	—	—	±100	nA
Gate 1 to source cutoff voltage	V _{G1S(off)}	V _{DS} = 10V, V _{G2S} = 3V, I _D = 100μA	—	—	-1.0	V
Gate 2 to source cutoff voltage	V _{G2S(off)}	V _{DS} = 10V, V _{G1S} = 3V, I _D = 100μA	—	—	-1.5	V
Drain current	I _{DSS}	V _{DS} = 6V, V _{G1S} = 0, V _{G2S} = 3V	0	—	10	mA
Forward transfer admittance	y _{fs}	V _{DS} = 6V, V _{G2S} = 3V, I _D = 10mA, f = 1kHz	17	—	—	mS
Input capacitance	C _{iss}	V _{DS} = 6V, V _{G2S} = 3V, I _D = 10mA, f = 1MHz	—	2.8	3.5	pF
Output capacitance	C _{oss}		—	1.8	2.5	pF
Reverse transfer capacitance	C _{rss}		—	0.02	—	pF
Power gain	PG	V _{DS} = 6V, V _{G2S} = 3V, I _D = 10mA	12	15	—	dB
Noise figure	NF	f = 900MHz	—	3.0	4.5	dB
Noise figure	NF	V _{DD} = 12V, V _{AGC} = 10.5V, f = 60MHz	—	3.0	4.0	dB
Power gain	PG	V _{DS} = 6V, V _{G2S} = 3V, I _D = 10mA	27	30	—	dB
Noise figure	NF	f = 200MHz	—	1.0	2.5	dB

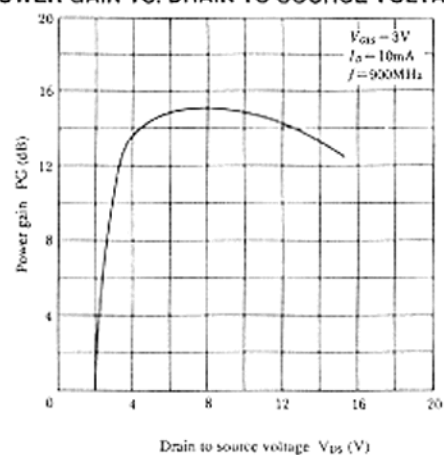
* Marking is HY-L.



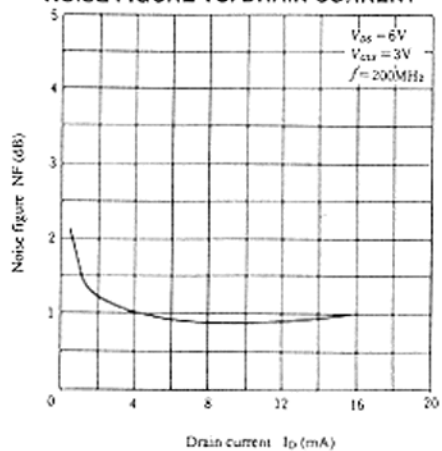
POWER GAIN VS. DRAIN TO SOURCE VOLTAGE



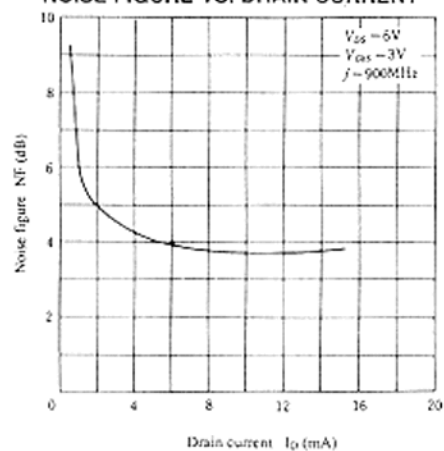
POWER GAIN VS. DRAIN TO SOURCE VOLTAGE



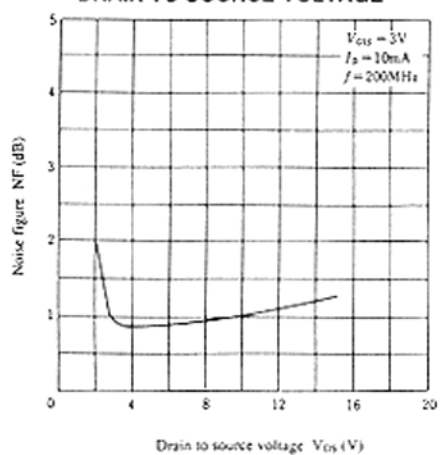
NOISE FIGURE VS. DRAIN CURRENT



NOISE FIGURE VS. DRAIN CURRENT



NOISE FIGURE VS.
DRAIN TO SOURCE VOLTAGE



NOISE FIGURE VS.
DRAIN TO SOURCE VOLTAGE

