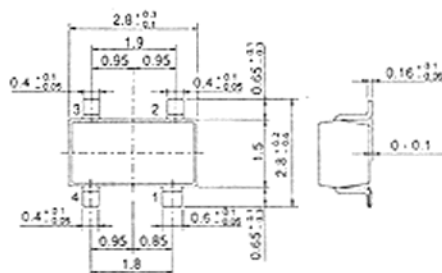


3SK186

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

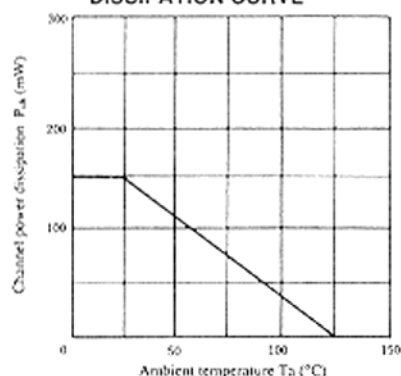


(MPAK-4)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	3SK186	Unit
Drain to source voltage	V_{DS}	12	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



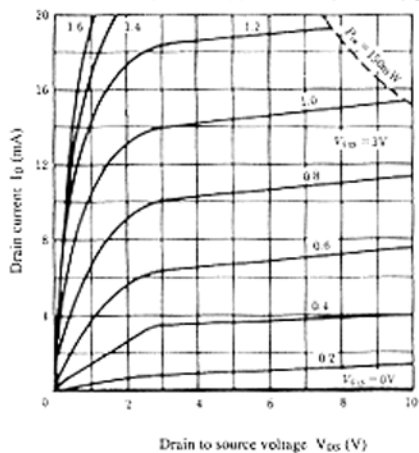
■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

Item	Symbol	Test Condition	min.	typ.	max.	Unit
Drain to source breakdown voltage	$V_{(BR)DSX}$	$V_{G1S} = V_{G2S} = -5V, I_D = 200\mu A$	12	—	—	V
Gate 1 to source breakdown voltage	$V_{(BR)G1SS}$	$I_{G1} = \pm 10\mu A, V_{G2S} = V_{DS} = 0$	±10	—	—	V
Gate 2 to source breakdown voltage	$V_{(BR)G2SS}$	$I_{G2} = \pm 10\mu A, V_{G1S} = V_{DS} = 0$	±10	—	—	V
Gate 1 cutoff current	I_{G1SS}	$V_{G1S} = \pm 8V, V_{G2S} = V_{DS} = 0$	—	—	±100	nA
Gate 2 cutoff current	I_{G2SS}	$V_{G2S} = \pm 8V, V_{G1S} = V_{DS} = 0$	—	—	±100	nA
Gate 1 to source cutoff voltage	$V_{G1S(off)}$	$V_{DS} = 6V, V_{G2S} = 3V, I_D = 100\mu A$	+0.5	—	-0.8	V
Gate 2 to source cutoff voltage	$V_{G2S(off)}$	$V_{DS} = 6V, V_{G1S} = 3V, I_D = 100\mu A$	+0.5	—	-0.8	V
Drain current	I_{DSS}	$V_{DS} = 6V, V_{G2S} = 3V, V_{G1S} = 0$	0	—	4	mA
Forward transfer admittance	$ y_{fs} $	$V_{DS} = 6V, V_{G2S} = 3V, I_D = 10mA, f = 1kHz$	15	—	—	mS
Input capacitance	C_{iss}	$V_{DS} = 6V, V_{G2S} = 3V, I_D = 10mA, f = 1MHz$	—	1.7	2.2	pF
Output capacitance	C_{oss}		—	1.0	1.4	pF
Reverse transfer capacitance	C_{rss}		—	0.017	0.03	pF
Power gain	PG	$V_{DS} = 4V, V_{G2S} = 3V, I_D = 10mA, f = 900MHz$	16	19	—	dB
Noise figure	NF		—	3.0	4.5	dB

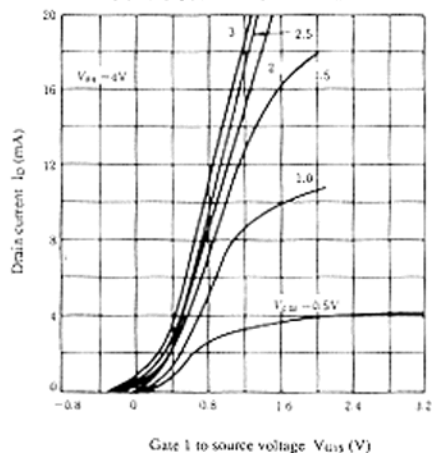
* Marking is [F1-].

3SK186

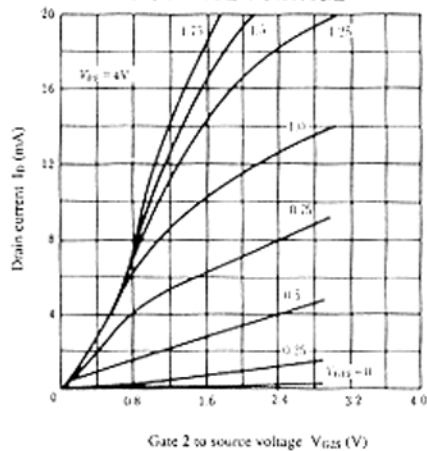
TYPICAL OUTPUT CHARACTERISTICS



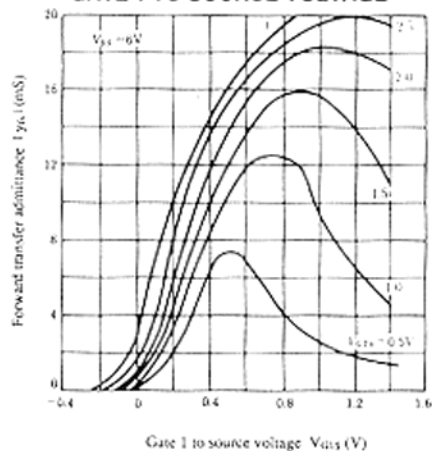
DRAIN CURRENT VS. GATE 1 TO SOURCE VOLTAGE



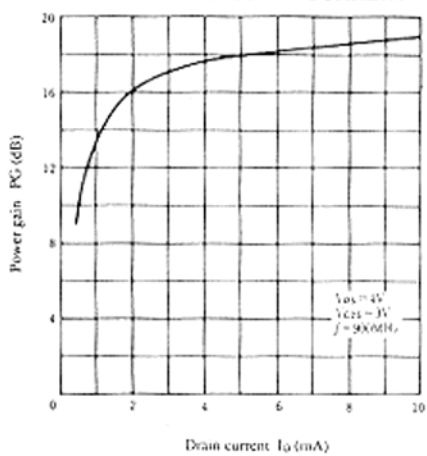
DRAIN CURRENT VS. GATE 2 TO SOURCE VOLTAGE



FORWARD TRANSFER ADMITTANCE VS. GATE 1 TO SOURCE VOLTAGE



POWER GAIN VS. DRAIN CURRENT



NOISE FIGURE VS. DRAIN CURRENT

