

MOS FIELD EFFECT TRANSISTOR

3SK246

RF AMPLIFIER FOR FM TUNER AND VHF TV TUNER

N-CHANNEL Si DUAL GATE MOS FIELD-EFFECT TRANSISTOR

4 PINS SUPER MINI MOLD

FEATURES

- The Characteristic of Cross-Modulation is good.
CM = 92 dB μ TYP. @ f = 200 MHz, G_R = -30 dB
- Low Noise Figure : NF1 = 1.5 dB TYP. (f = 200 MHz)
NF2 = 1.0 dB TYP. (f = 55 MHz)
- High Power Gain : G_{PS} = 21.0 dB TYP. (f = 200 MHz)
- Low Reverse Transfer Capacitance C_{rss} = 0.02 pF TYP.
- Suitable for use as RF amplifier in FM tuner and VHF TV tuner.
- Automatically Mounting: Embossed Type Taping
- Small Package : 4 Pins Super Mini Mold

ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

Drain to Source Voltage	V _{DSX}	18	V
Gate1 to Source Voltage	V _{G1S}	±8(±10)*1	V
Gate2 to Source Voltage	V _{G2S}	±8(±10)*1	V
Gate1 to Drain Voltage	V _{G1D}	18	V
Gate2 to Drain Voltage	V _{G2D}	18	V
Drain Current	I _D	25	mA
Total Power Dissipation	P _D	130*2/250*3	mW
Channel Temperature	T _{ch}	125	°C
Storage Temperature	T _{stg}	-55 to +125	°C

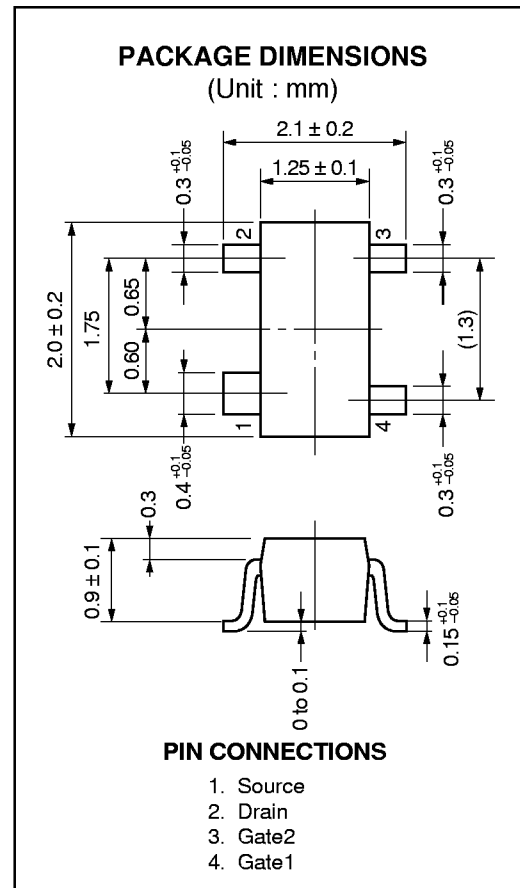
*1: R_L ≥ 10 k Ω

*2: Free air

*3: 15 mm × 15 mm × 1.2 mm board by epoxy glass

PRECAUTION:

Avoid high static voltages or electric fields so that this device would not suffer from any damage due to those voltage or fields.



3SK246 CHARACTERISTICS (T_A = 25 °C)

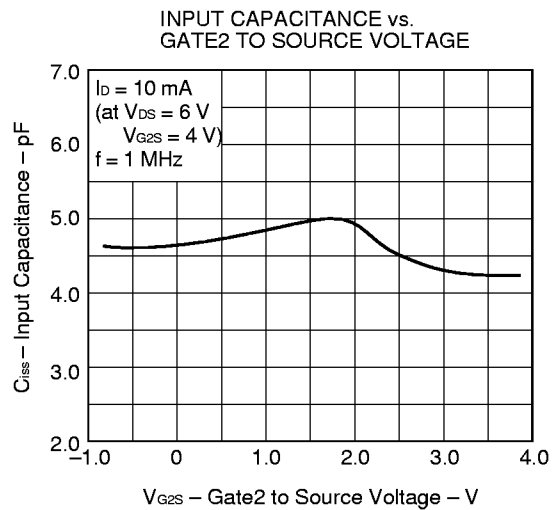
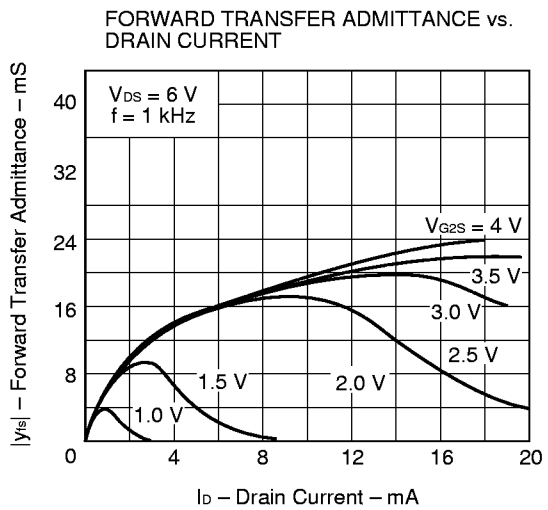
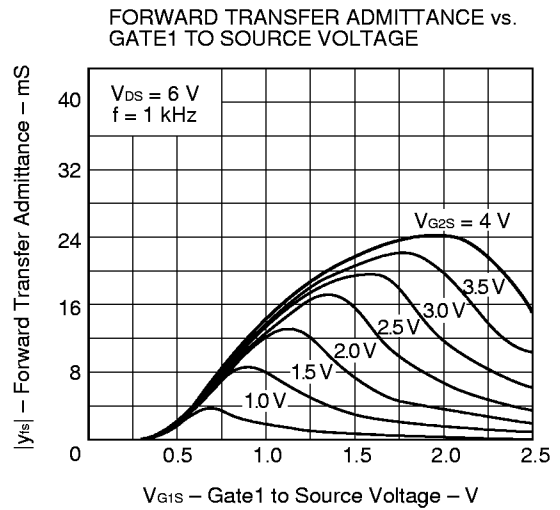
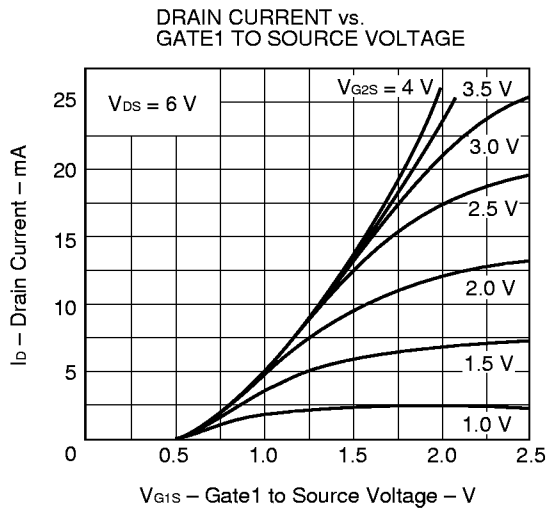
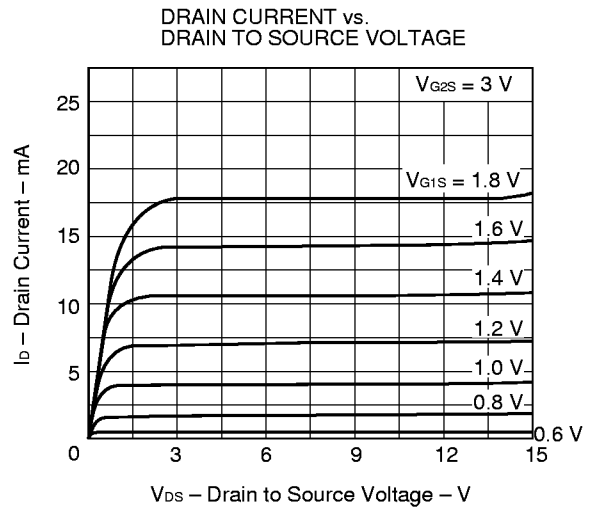
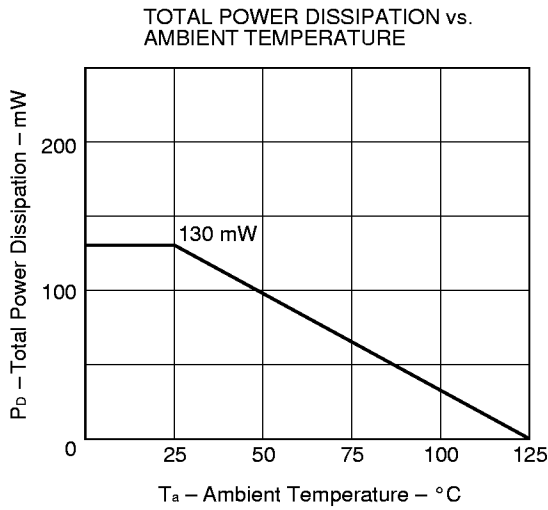
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Drain to Source Breakdown Voltage	BV _{DSX}	18			V	V _{G1S} = V _{G2S} = -2 V, I _b = 10 μA
Drain Current	I _{DSX}	0.01		8.0	mA	V _{DS} = 5 V, V _{G2S} = 3 V, V _{G1S} = 0.75 V
Gate1 to Source Cutoff Voltage	V _{G1S(off)}	0		+1.0	V	V _{DS} = 6 V, V _{G2S} = 3 V, I _b = 10 μA
Gate2 to Source Cutoff Voltage	V _{G2S(off)}	0		+1.0	V	V _{DS} = 6 V, V _{G1S} = 3 V, I _b = 10 μA
Gate1 Reverse Current	I _{G1SS}			±20	nA	V _{DS} = 0, V _{G2S} = 0, V _{G1S} = ±8 V
Gate2 Reverse Current	I _{G2SS}			±20	nA	V _{DS} = 0, V _{G1S} = 0, V _{G2S} = ±8 V
Forward Transfer Admittance	y _{fs}	15	19.5		mS	V _{DS} = 5 V, V _{G2S} = 4 V, I _b = 10 mA f = 1 kHz
Input Capacitance	C _{iss}	3.6	4.3	5.0	pF	V _{DS} = 6 V, V _{G2S} = 3 V, I _b = 10 mA f = 1 MHz
Output Capacitance	C _{oss}	1.0	1.5	2.0	pF	
Reverse Transfer Capacitance	C _{rss}		0.02	0.03	pF	
Power Gain	G _{ps}	19.0	21.0		dB	V _{DS} = 6 V, V _{G2S} = 4 V, I _b = 10 mA f = 200 MHz
Noise Figure 1	NF1		1.5	2.4	dB	V _{DS} = 6 V, V _{G2S} = 4 V, I _b = 10 mA f = 55 MHz
Noise Figure 2	NF2		1.0	2.0	dB	

I_{DSX} Classification

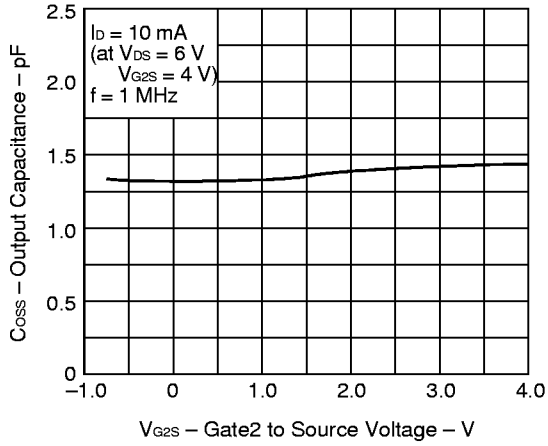
Rank	V21/VBA*	V22/VBB*
Marking	V21	V22
I _{DSX} (mA)	0.01 to 3.0	1.0 to 8.0

* Old Specification / New Specification

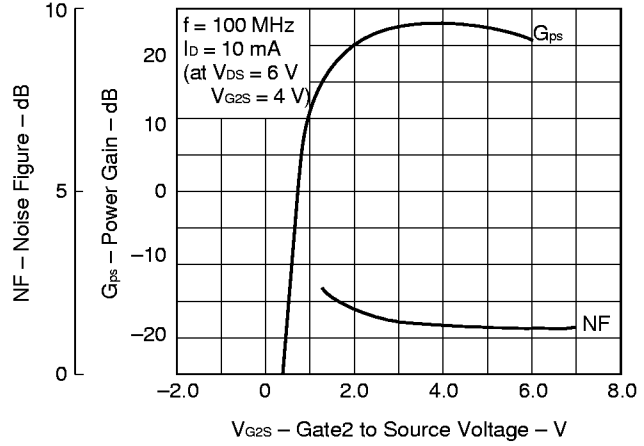
查询 [TYPICAL CHARACTERISTICS](#) (TA = 25 °C)



查询"3SK246"元器件 **CROSS CAPACITANCE vs. GATE2 TO SOURCE VOLTAGE**



POWER GAIN AND NOISE FIGURE vs. GATE2 TO SOURCE VOLTAGE



GPS AND NF TEST CIRCUIT AT f = 200 MHz

