

3SK225

TV Tuner, VHF RF Amplifier Applications

FM Tuner Applications

TV Tuner, UHF RF Amplifier Applications

Unit: mm

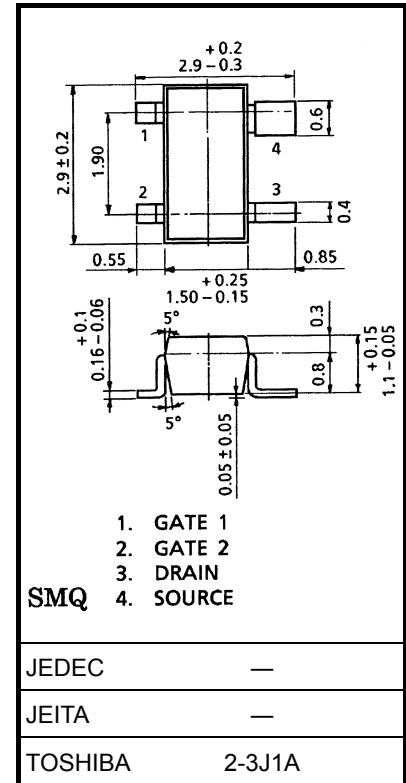
- Superior cross modulation performance.
- Low noise figure: NF = 2.0dB (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V _{DS}	13.5	V
Gate 1-source voltage	V _{G1S}	±8	V
Gate 2-source voltage	V _{G2S}	±8	V
Drain current	I _D	30	mA
Drain power dissipation	P _D	150	mW
Channel temperature	T _{ch}	125	°C
Storage temperature range	T _{stg}	-55~125	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

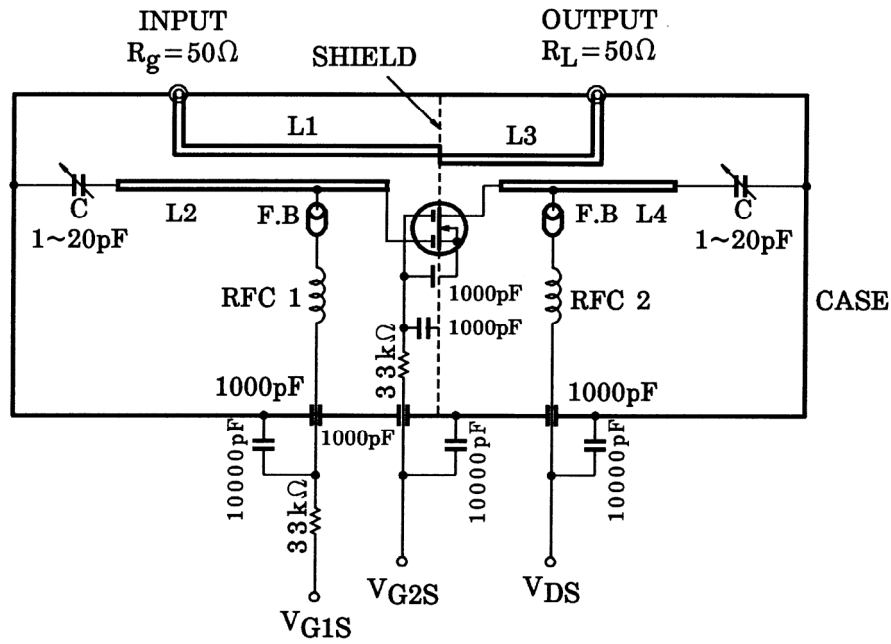
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

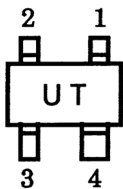
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate 1 leakage current	I _{G1SS}	V _{DS} = 0, V _{G1S} = ±6 V, V _{G2S} = 0	—	—	±50	nA
Gate 2 leakage current	I _{G2SS}	V _{DS} = 0, V _{G1S} = 0, V _{G2S} = ±6 V	—	—	±50	nA
Drain-source voltage	V (BR) DSX	V _{G1S} = -4 V, V _{G2S} = -4 V, I _D = 100 μA	13.5	—	—	V
Drain current	I _{DSS}	V _{DS} = 6 V, V _{G1S} = 0, V _{G2S} = 4.5 V	0	—	0.1	mA
Gate 1-source cut-off voltage	V _{G1S} (OFF)	V _{DS} = 6 V, V _{G2S} = 4.5 V, I _D = 100 μA	0	—	1.0	V
Gate 2-source cut-off voltage	V _{G2S} (OFF)	V _{DS} = 6 V, V _{G1S} = 4 V, I _D = 100 μA	0.5	1.0	1.5	V
Forward transfer admittance	Y _{fs}	V _{DS} = 6 V, V _{G2S} = 4.5 V, I _D = 10 mA, f = 1 kHz	—	21	—	mS
Input capacitance	C _{iss}	V _{DS} = 6 V, V _{G2S} = 4.5 V, I _D = 10 mA, f = 1 MHz	—	3.4	4.4	pF
Reverse transfer capacitance	C _{rss}		—	0.020	0.05	pF
Power gain	G _{ps}	V _{DS} = 6 V, V _{G2S} = 4.5 V, I _D = 10 mA, f = 500 MHz (Figure 1)	19	22	—	dB
Noise figure	NF		—	2.0	3.5	dB

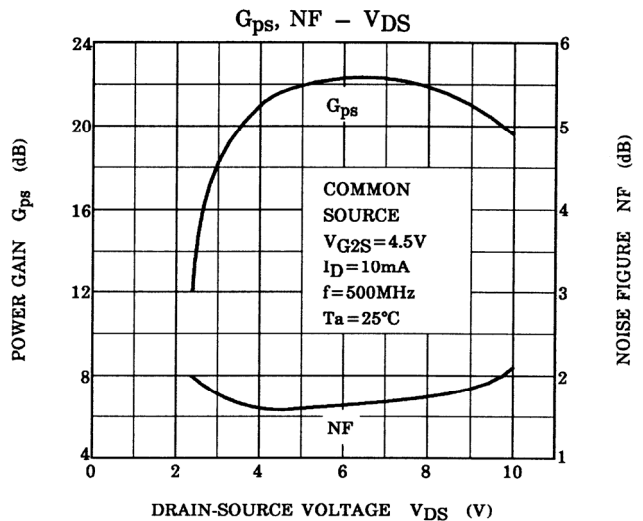
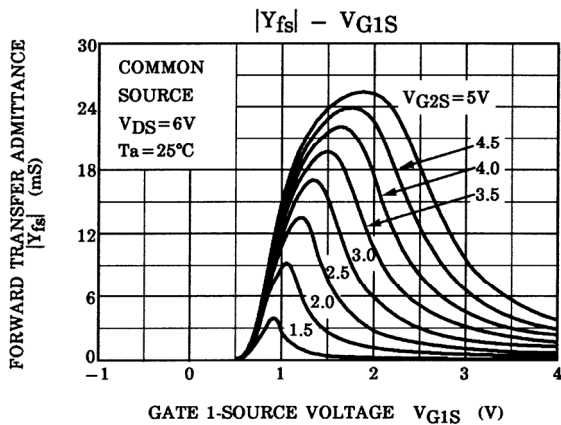
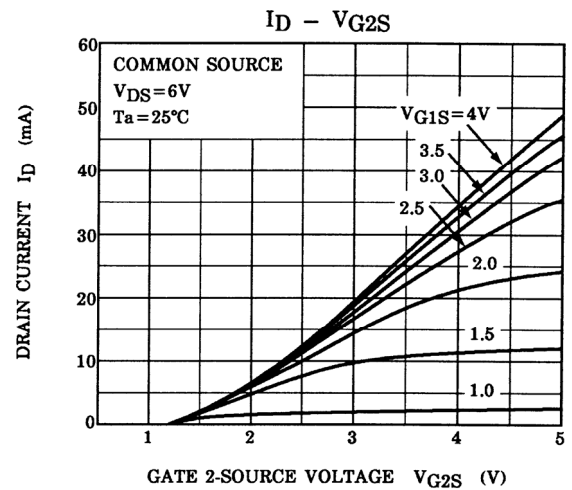
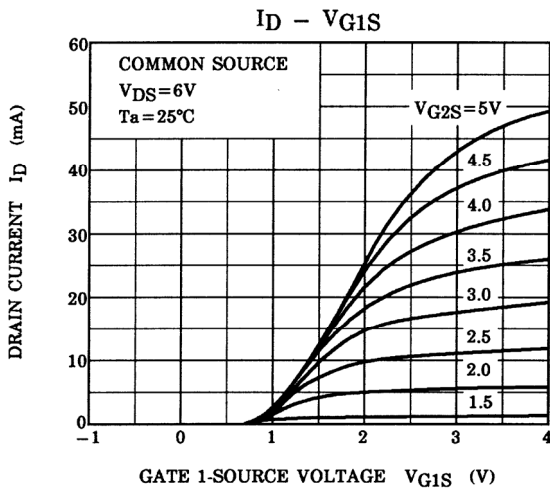
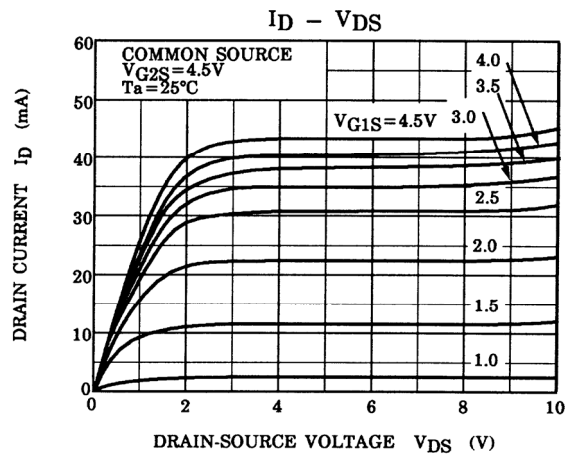
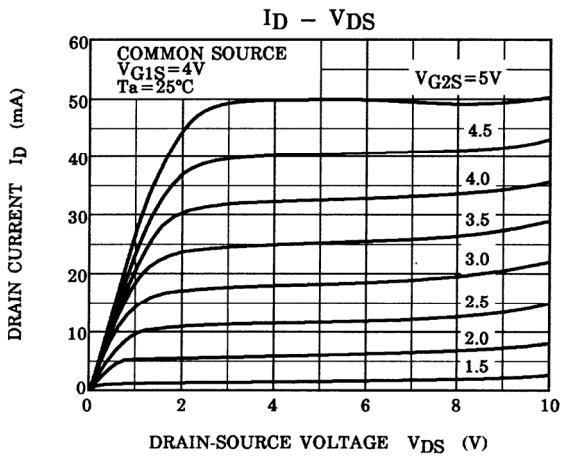


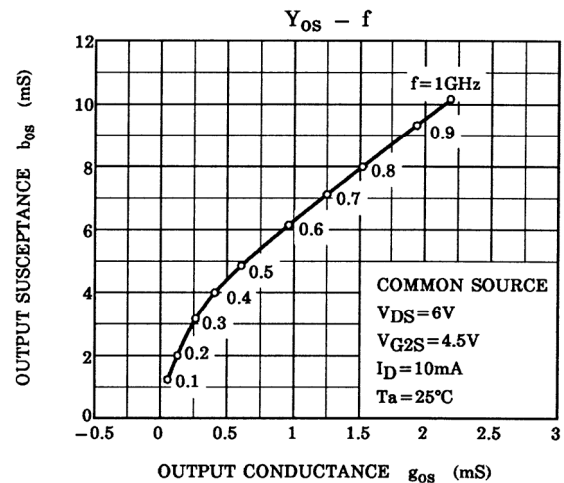
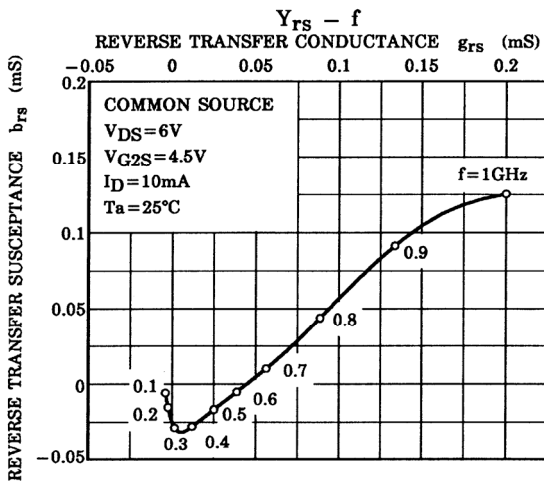
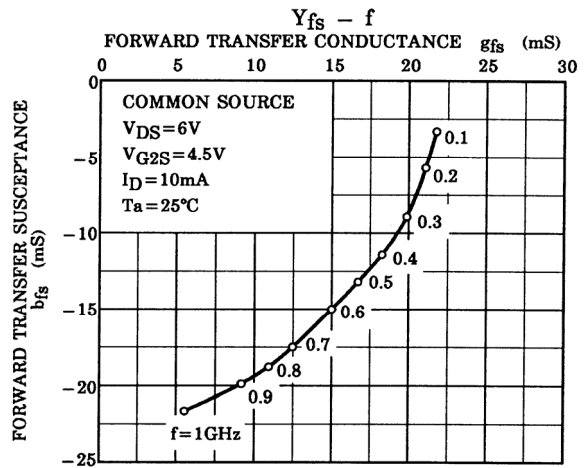
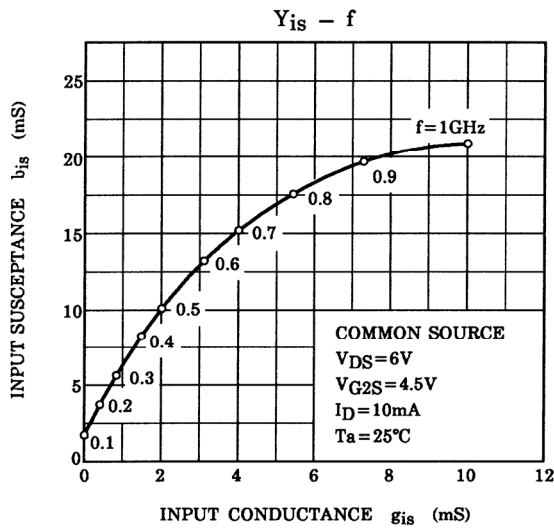
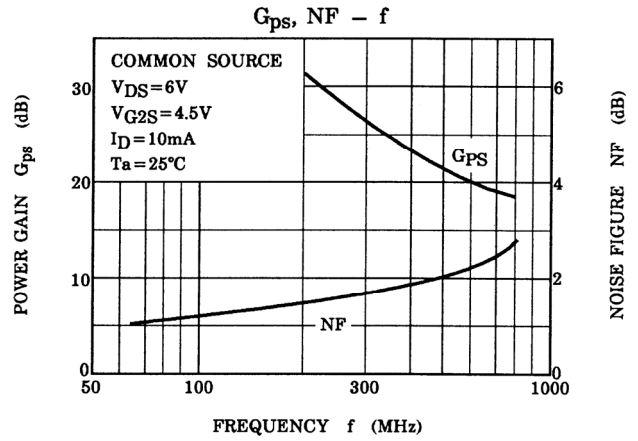
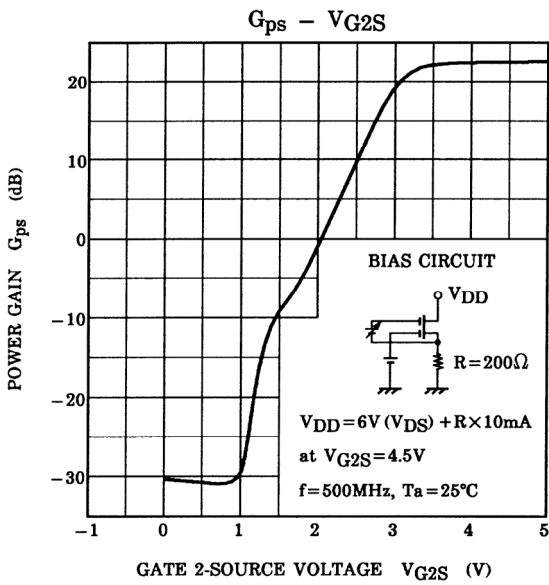
- L1 L4: ϕ 0.8 mm silver plated copper wire
- C: Air trimmer TTA25A200A (MURATA Manufacturing. Co., Ltd.)
- RFC 1: ϕ 0.35 mm copper wire 3 mm ID, 7 T
- RFC 2: ϕ 0.35 mm copper wire 3 mm ID, 10 T

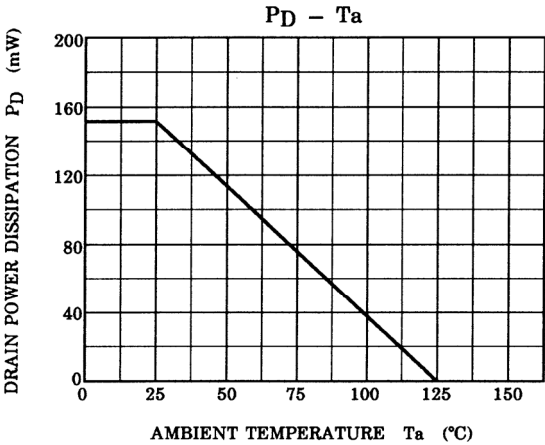
Figure 1 500 MHz, G_{ps} , NF Test Circuit

Marking









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20070701-EN GENERAL

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