

TOSHIBA Field Effect Transistor Silicon N-Channel MOS Type

2SK1771

FM Tuner, VHF RF Amplifier Applications

Unit: mm

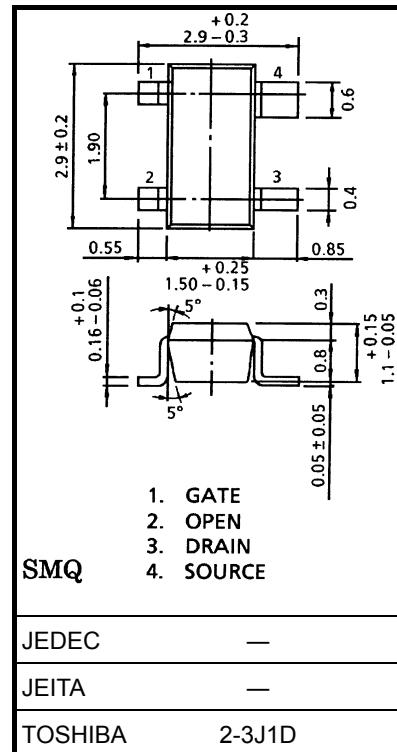
- Superior inter modulation performance.
- Low noise figure: NF = 1.0dB (typ.)

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V _{DS}	12.5	V
Gate-source voltage	V _{GS}	±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.

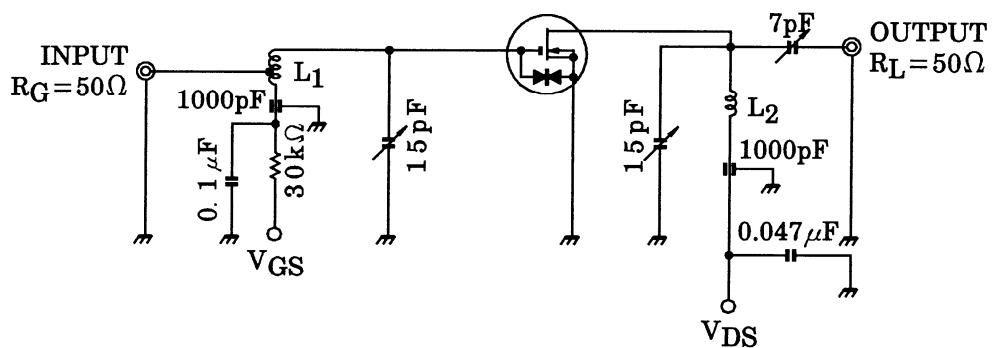
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I _{GSS}	V _{DS} = 0, V _{GS} = ±6 V	—	—	±50	nA
Drain-source voltage	V _{(BR) DSX}	V _{GS} = -4 V, I _D = 100 μA	12.5	—	—	V
Drain current	I _{DSS}	V _{DS} = 8 V, V _{GS} = 0	0	—	0.1	mA
Gate-source cut-off voltage	V _{GS} (OFF)	V _{DS} = 8 V, I _D = 100 μA	0.5	1.0	1.5	V
Forward transfer admittance	Y _{fs}	V _{DS} = 8 V, I _D = 10 mA, f = 1 kHz	—	15	20	mS
Input capacitance	C _{iss}	V _{DS} = 8 V, I _D = 10 mA, f = 1 MHz	2.9	3.5	4.1	pF
Reverse transfer capacitance	C _{rss}		—	0.3	0.8	pF
Power gain	G _{ps}	V _{DS} = 8 V, I _D = 10 mA, f = 100 MHz	18	23	28	dB
Noise figure	NF		—	1.0	2.2	dB

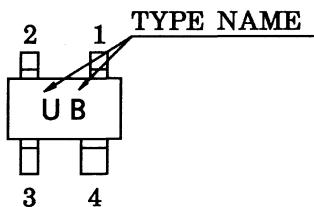


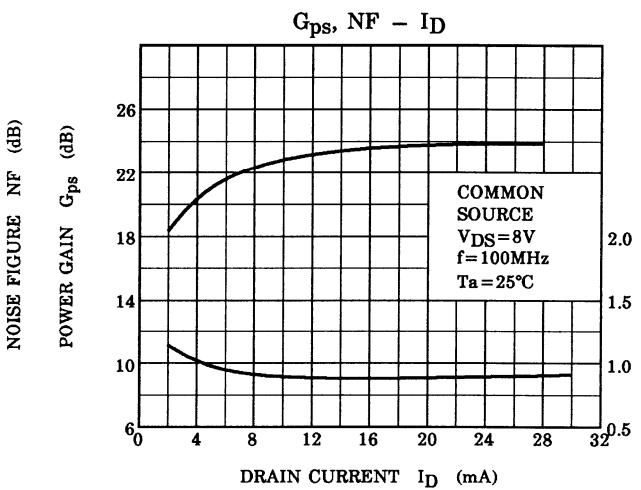
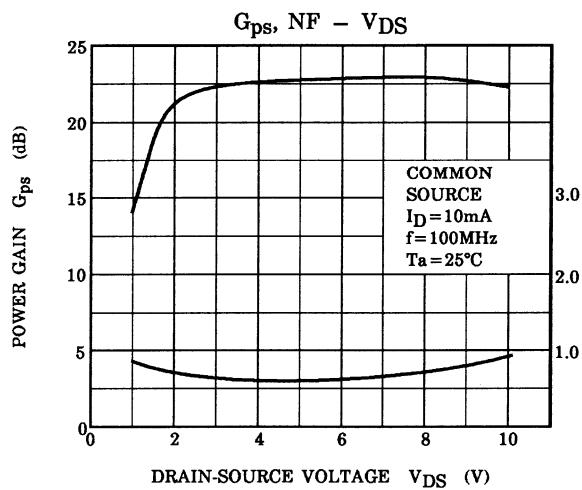
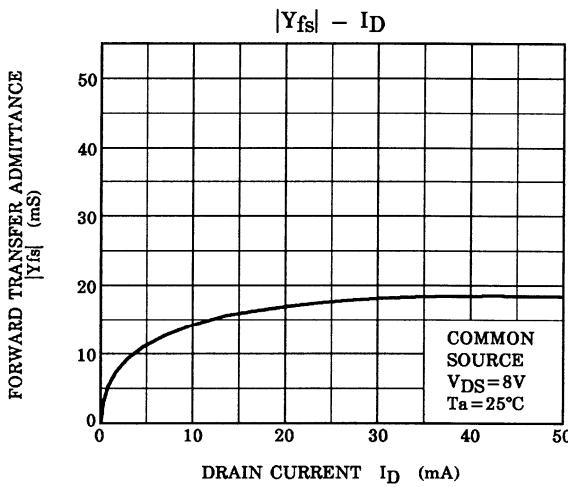
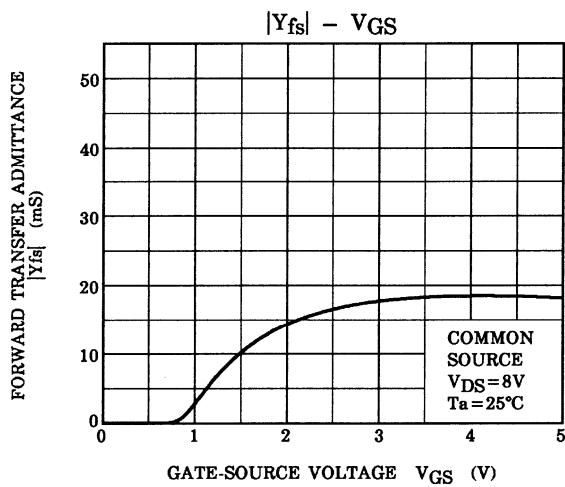
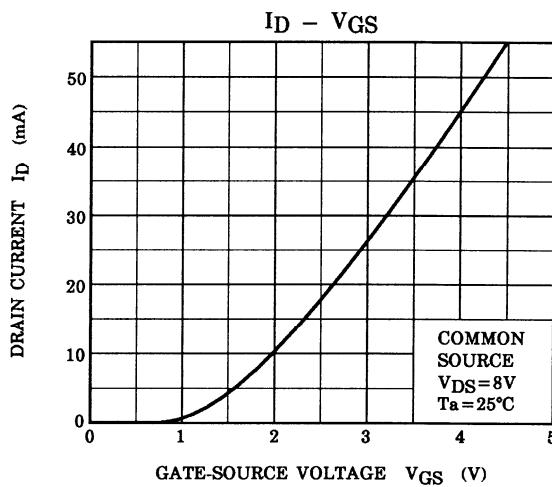
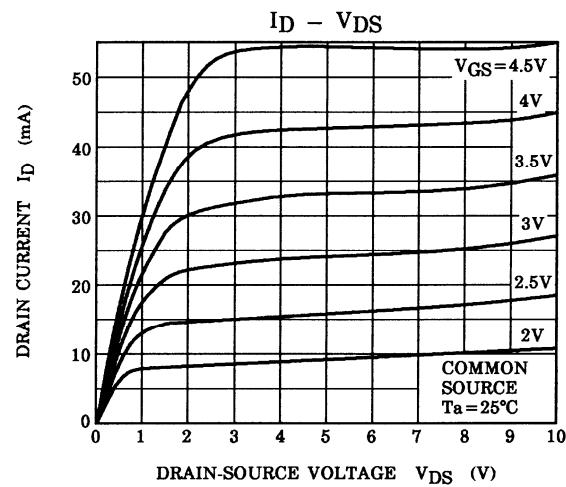
L₁: 1.0 mm ϕ silver plated copper wire 4.0 T, 8 mm ϕ ID TAP at 1.0 T from coil end

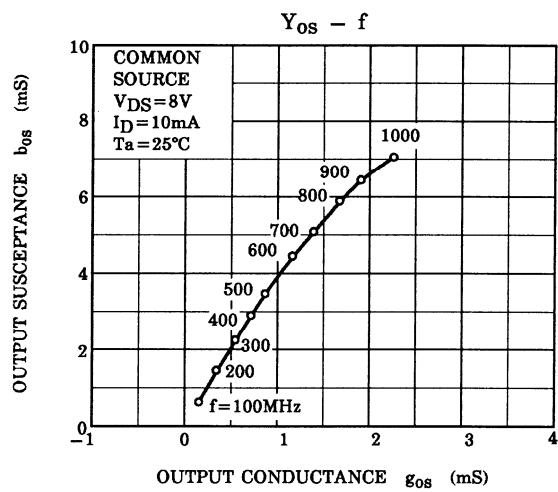
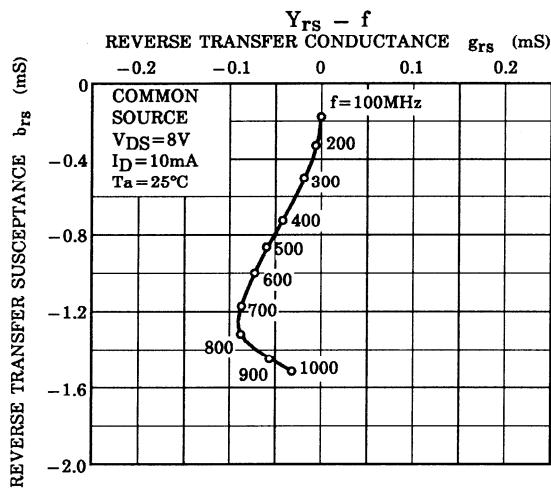
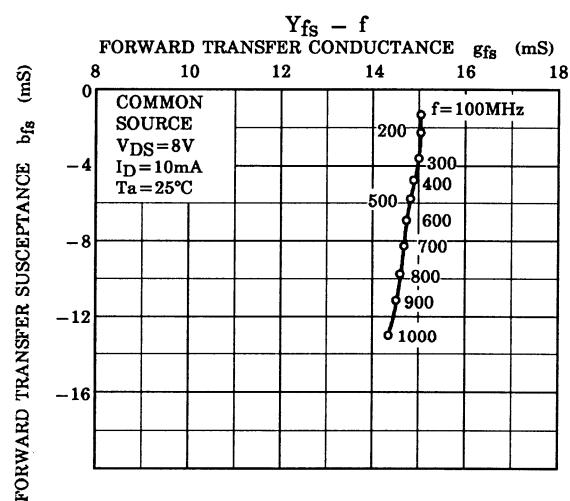
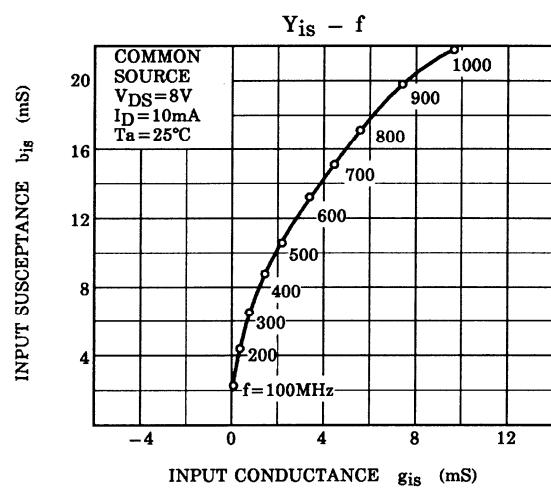
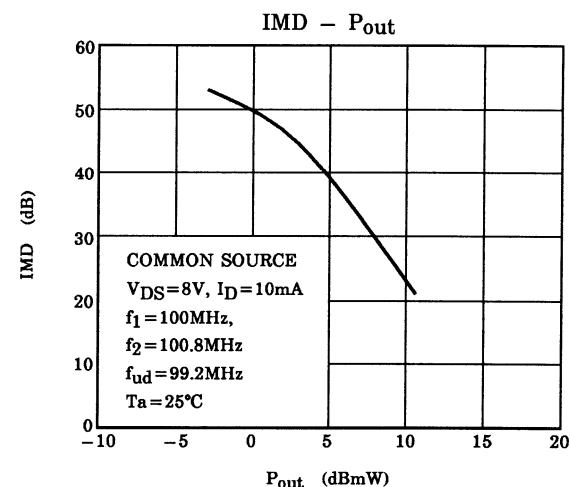
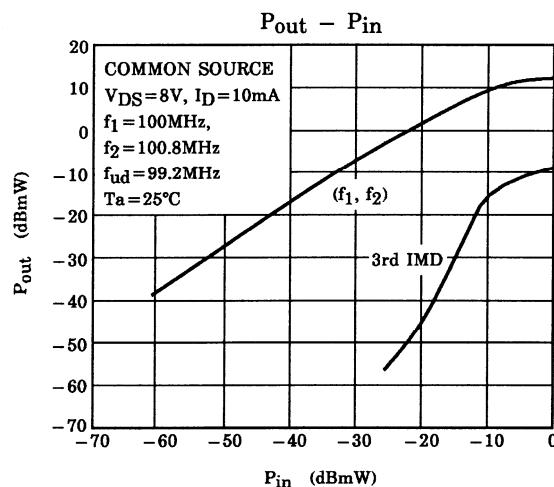
L₂: 1.0 mm ϕ silver plated copper wire 3.0 T, 8 mm ϕ ID, 10 mm length

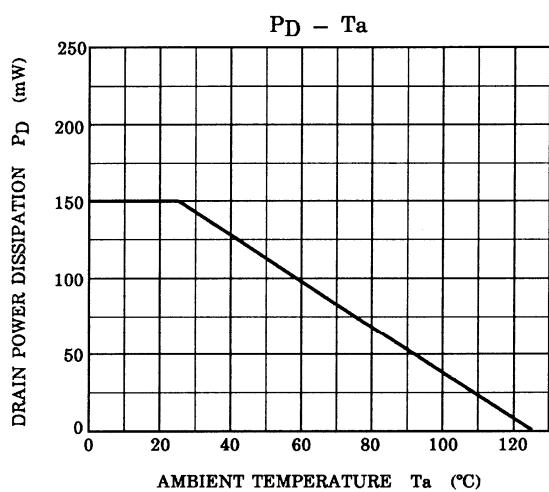
Figure 1 100 MHz G_{ps}, NF Test Circuit

Marking









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