

TOSHIBA Field Effect Transistor Silicon N-Channel MOS Type

2SK1771

FM Tuner, VHF RF Amplifier Applications

Unit: mm

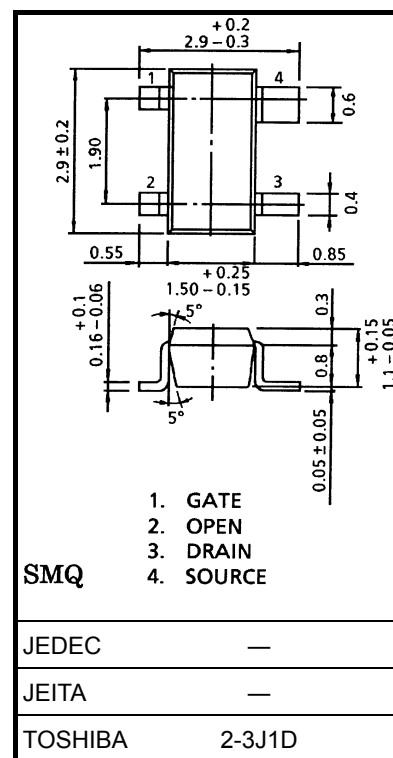
- Superior inter modulation performance.
- Low noise figure: NF = 1.0dB (typ.)

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.

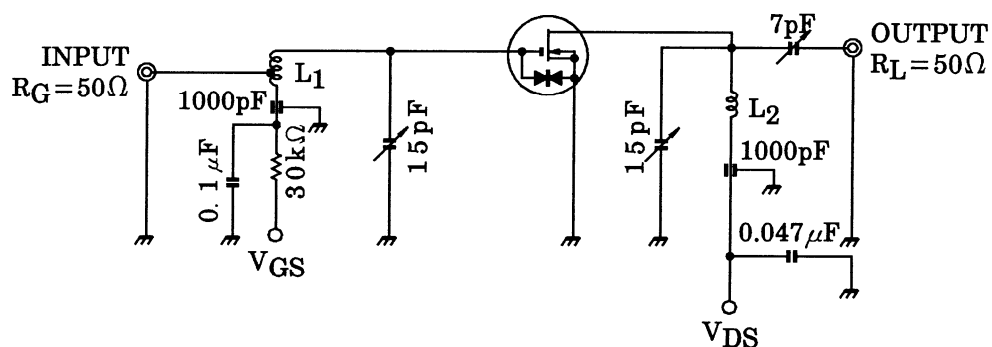
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

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

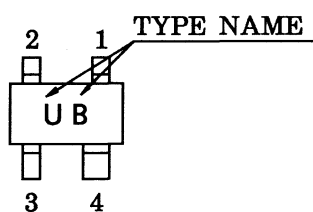


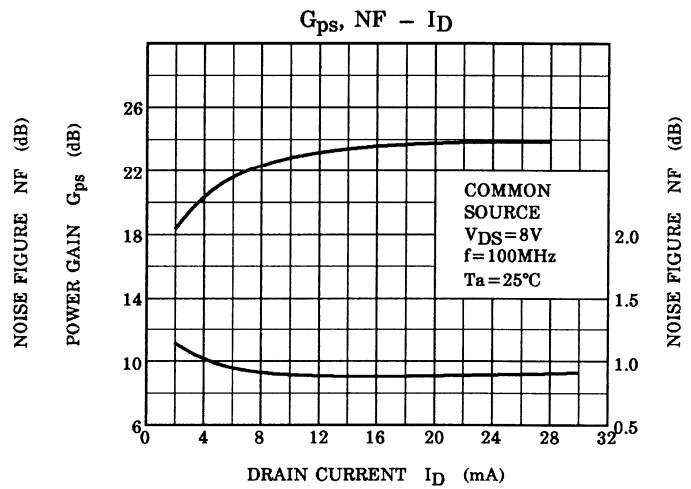
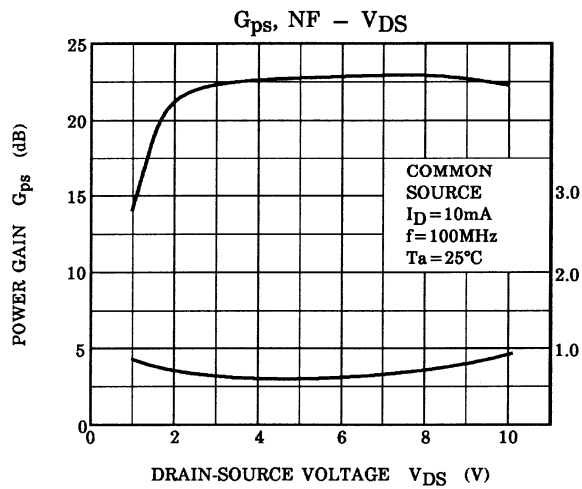
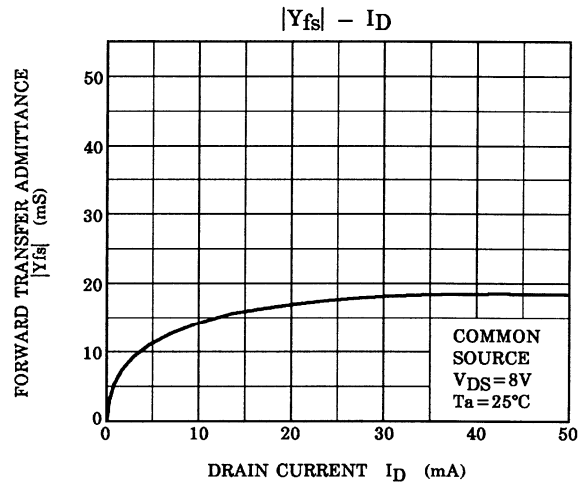
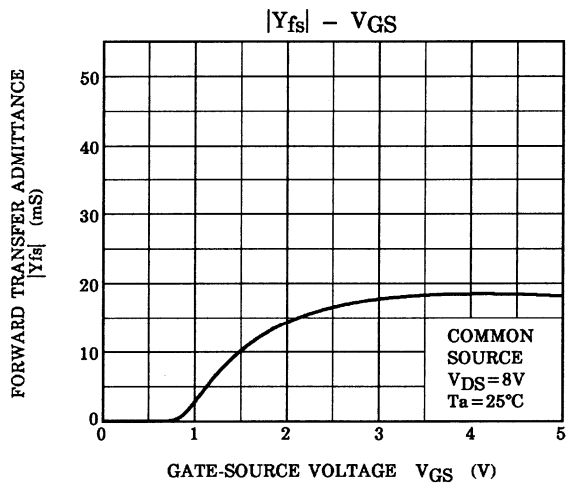
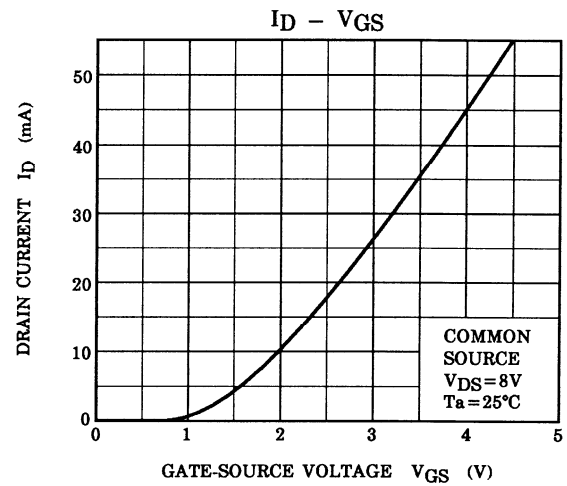
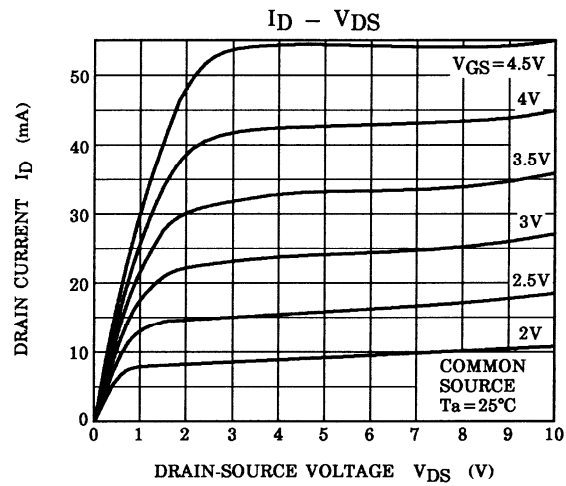
L1: 1.0 mm ϕ silver plated copper wire 4.0 T, 8 mm ϕ ID TAP at 1.0 T from coil end

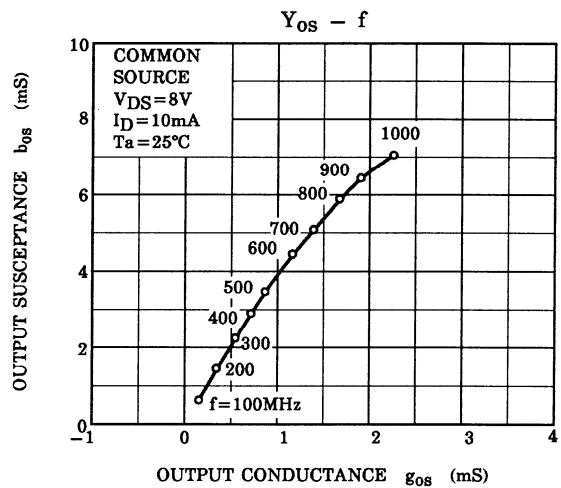
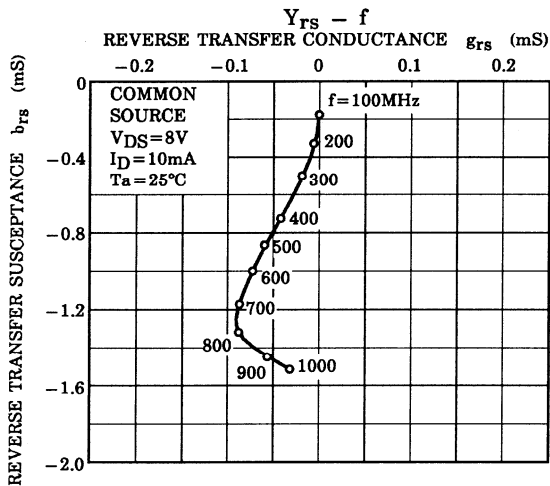
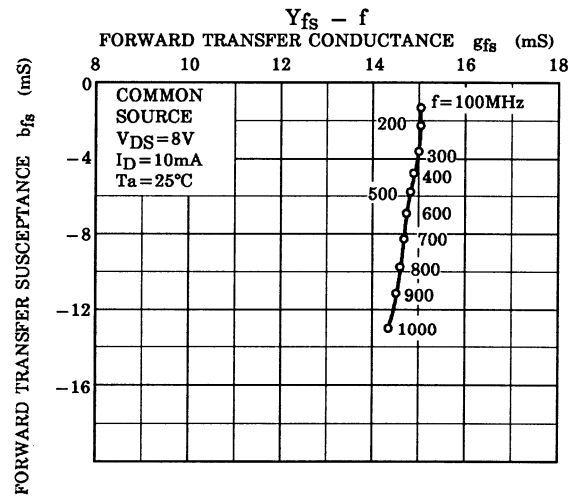
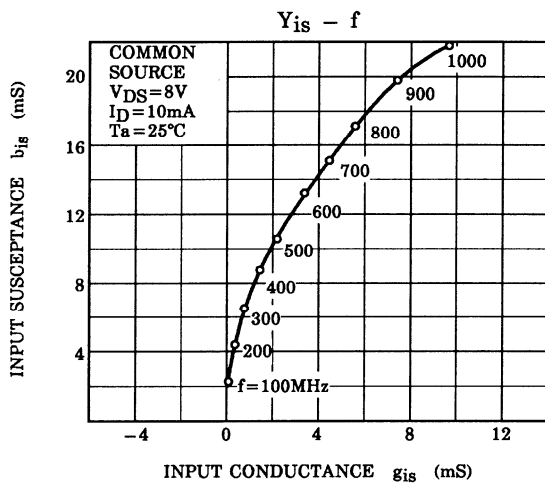
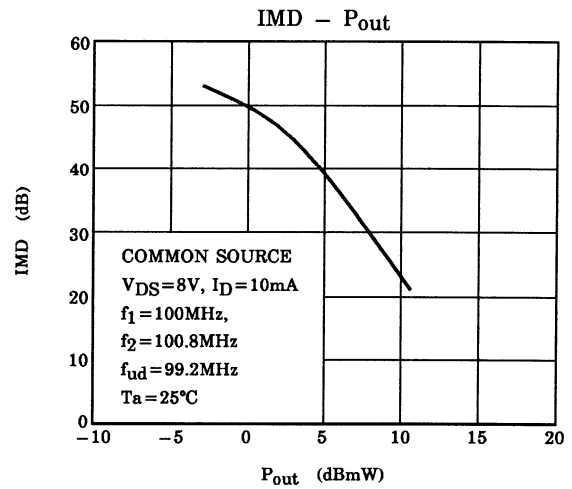
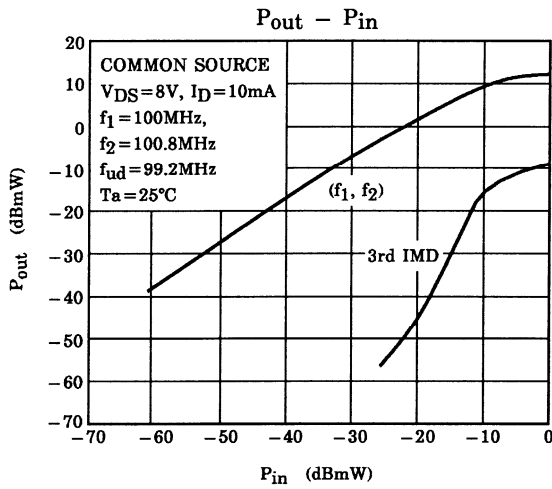
L2: 1.0 mm ϕ silver plated copper wire 3.0 T, 8 mm ϕ ID, 10 mm length

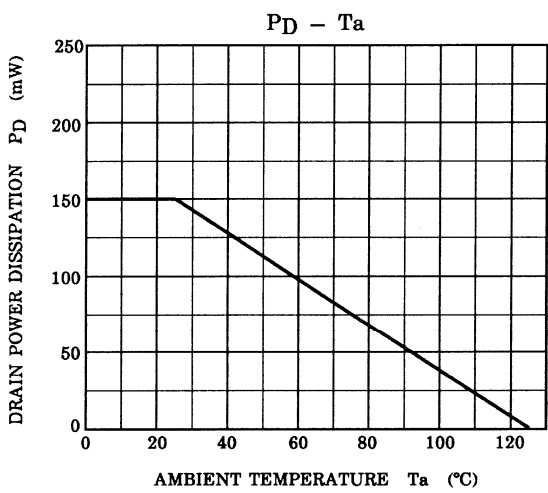
Figure 1 100 MHz G_{ps}, NF Test Circuit

Marking









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