Unit: mm

TOSHIBA Field Effect Transistor Silicon N-Channel MOS Type

2SK1771

FM Tuner, VHF RF Amplifier Applications

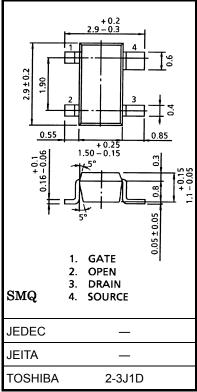
- Superior inter modulation performance.
- Low noise figure: NF = 1.0dB (typ.)

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	ID	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.

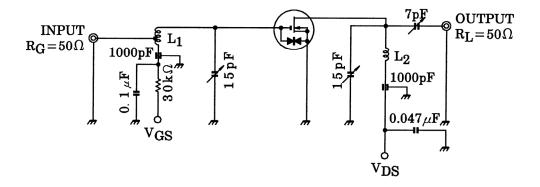
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.013 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Тур.	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 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	٧
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 V, I _D = 10 mA, f = 1 MHz	2.9	3.5	4.1	pF
Reverse transfer capacitance	C _{rss}	VDS - 6 V, ID - 10 IIIA, I - 1 WII IZ	_	0.3	0.8	pF
Power gain	G _{ps}	Voc - 8 V Io - 10 mA f - 100 MHz	18	23	28	dB
Noise figure	NF	$V_{DS} = 8 \text{ V}, I_{D} = 10 \text{ mA}, f = 100 \text{ MHz}$	_	1.0	2.2	dB



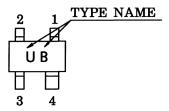
 L_1 : 1.0 mm $_{\phi}$ silver plated copper wire 4.0 T, 8 mm $_{\phi}$ ID TAP at 1.0 T from coil end

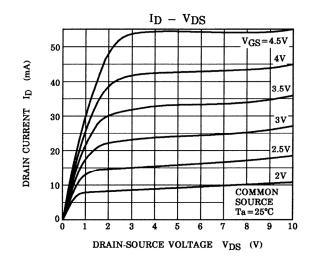
 $L_2{:}~1.0~mm\varphi$ silver plated copper wire 3.0 T, 8 mm φ ID, 10 mm length

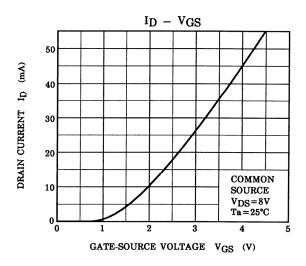
Figure 1 100 MHz G_{ps}, NF Test Circuit

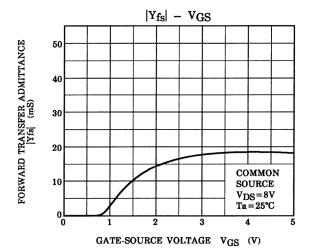
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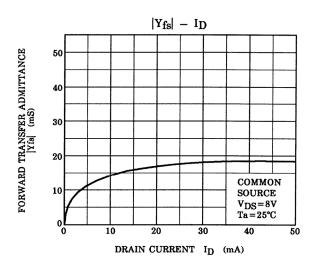
Marking

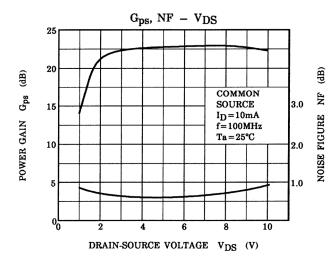


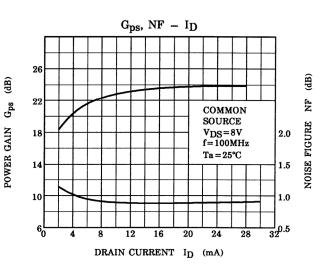




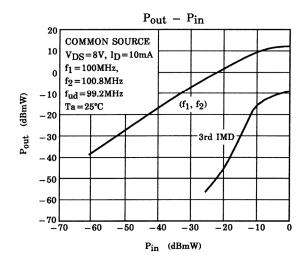


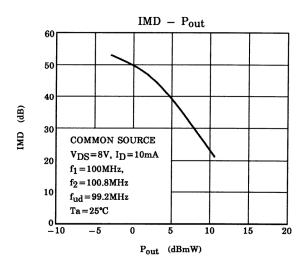


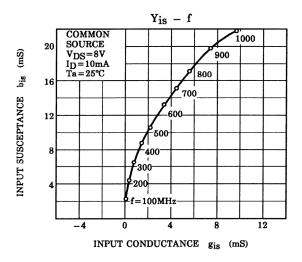


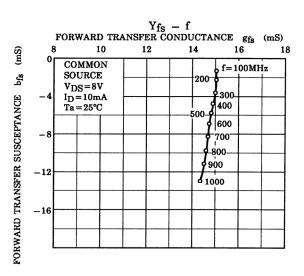


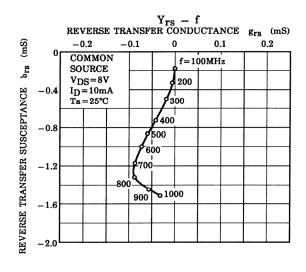
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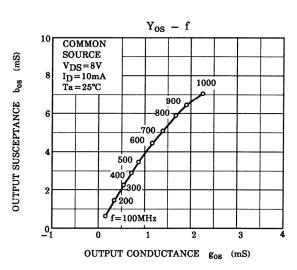




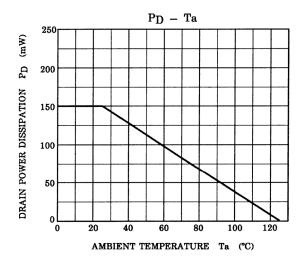








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20070701-EN GENERAL

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