

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N-CHANNEL MOS TYPE

# 2SK1771

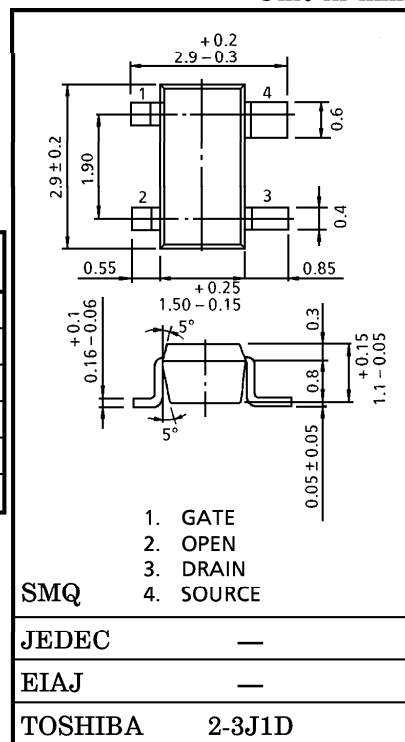
FM TUNER, VHF RF AMPLIFIER APPLICATIONS

Unit in mm

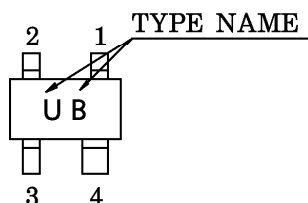
- Superior Inter Modulation Performance.
- Low Noise Figure : NF=1.0dB (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V <sub>DS</sub>	12.5	V
Gate-Source Voltage	V <sub>GS</sub>	±8	V
Drain Current	I <sub>D</sub>	30	mA
Drain Power Dissipation	P <sub>D</sub>	150	mW
Chanel Temperature	T <sub>ch</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C



Marking



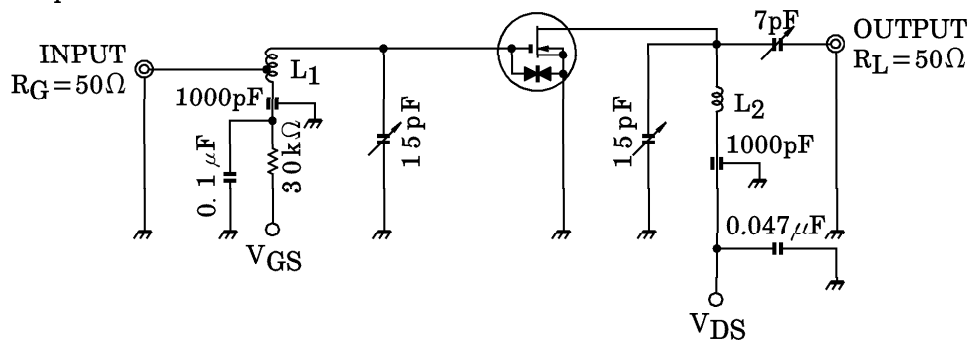
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0, V <sub>GS</sub> =±6V	—	—	±50	nA
Drain-Source Voltage	V(BR)DSX	V <sub>GS</sub> =-4V, I <sub>D</sub> =100μA	12.5	—	—	V
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =8V, V <sub>GS</sub> =0	0	—	0.1	mA
Gate-Source Cut-off Voltage	V <sub>GS</sub> (OFF)	V <sub>DS</sub> =8V, I <sub>D</sub> =100μA	0.5	1.0	1.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> =8V, I <sub>D</sub> =10mA, f=1kHz	—	15	20	mS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =8V, I <sub>D</sub> =10mA, f=1MHz	2.9	3.5	4.1	pF
Reverse Transfer Capacitance	C <sub>rss</sub>		—	0.3	0.8	
Power Gain	G <sub>ps</sub>	V <sub>DS</sub> =8V, I <sub>D</sub> =10mA, f=100MHz	18	23	28	dB
Noise Figure	NF		—	1.0	2.2	

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Fig.1 100MHz  $G_{ps}$ , NF Test Circuit



- L<sub>1</sub> : 1.0mm $\phi$  SILVER PLATED COPPER WIRE  
4.0T, 8mm $\phi$  ID  
TAP at 1.0T FROM COIL END
- L<sub>2</sub> : 1.0mm $\phi$  SILVER PLATED COPPER WIRE  
3.0T, 8mm $\phi$  ID, 10mm LENGTH

