

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL DUAL GATE MOS TYPE

3SK257

TV TUNER, VHF RF AMPLIFIER APPLICATIONS

FM TUNER APPLICATIONS

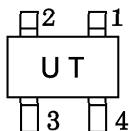
TV TUNER, UHF RF AMPLIFIER APPLICATIONS

- Superior Cross Modulation Performance.
- Low Noise Figure : NF=2.0dB (Typ.)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	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	100	mW
Chanel Temperature	T _{ch}	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

Marking



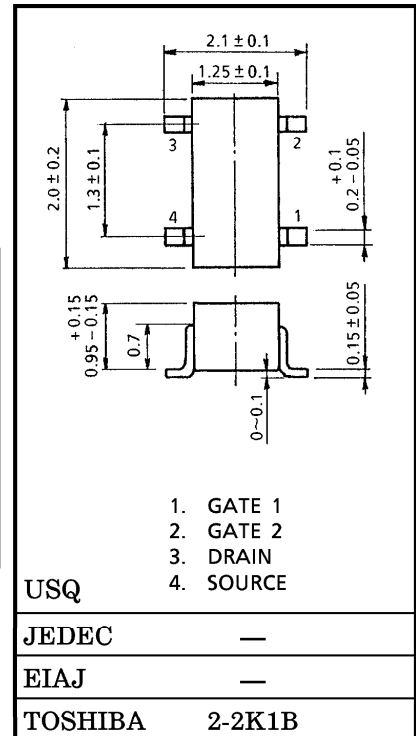
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate 1 Leakage Current	I _{G1SS}	V _{DS} =0, V _{G1S} =±6V, V _{G2S} =0	—	—	±50	nA
Gate 2 Leakage Current	I _{G2SS}	V _{DS} =0, V _{G1S} =0, V _{G2S} =±6V	—	—	±50	nA
Drain-Source Voltage	V (BR) DSX	V _{G1S} =-1V, V _{G2S} =-1V I _D =100μA	13.5	—	—	V
Drain Current	I _{DSS}	V _{DS} =6V, V _{G1S} =0, V _{G2S} =4.5V	0	—	0.1	mA
Gate 1-Source Cut-off Voltage	V _{G1S} (OFF)	V _{DS} =6V, V _{G2S} =4.5V, I _D =100μA	0	—	1.0	V
Gate 2-Source Cut-off Voltage	V _{G2S} (OFF)	V _{DS} =6V, V _{G1S} =4V, I _D =100μA	0.5	1.0	1.5	V
Forward Transfer Admittance	Y _{fs}	V _{DS} =6V, V _{G2S} =4.5V I _D =10mA, f=1kHz	—	21	—	mS
Input Capacitance	C _{iss}	V _{DS} =6V, V _{G2S} =4.5V I _D =10mA, f=1MHz	—	3.4	4.4	pF
Reverse Transfer Capacitance	C _{rss}		—	0.020	0.05	
Power Gain	G _{ps}	V _{DS} =6V, V _{G2S} =4.5V	19	22	—	dB
Noise Figure	NF	I _D =10mA, f=800MHz	—	2.0	3.5	

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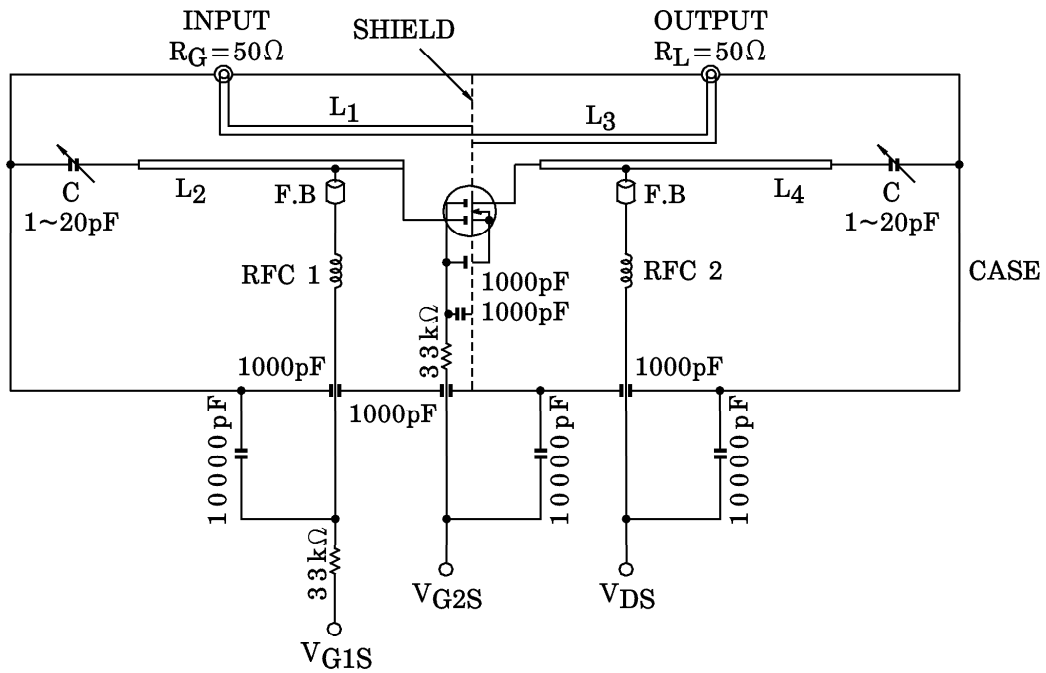
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Unit in mm



Weight : 0.006g

Fig.1 G_{ps} , NF Test Circuit



- $L_1 \sim L_4$: $\phi 0.8\text{mm}$ SILVER PLATED COPPER WIRE
- C : AIR TRIMMER TTA25A200A (MURATA MFG. Co., Ltd.)
- RFC 1 : $\phi 0.35\text{mm}$ COPPER WIRE 3mm ID, 7T
- RFC 2 : $\phi 0.35\text{mm}$ COPPER WIRE 3mm ID, 10T

