

TOSHIBA FIELD EFFECT TRANSISTOR GaAs N-CHANNEL DUAL GATE MES TYPE

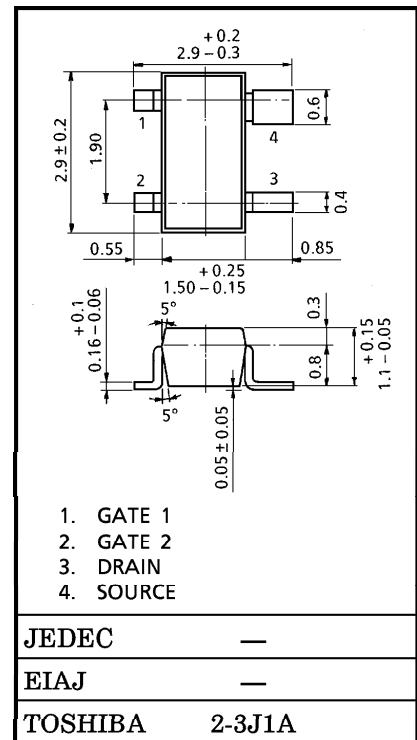
# 3SK283

TV TUNER, UHF RF AMPLIFIER APPLICATIONS

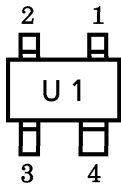
Unit in mm

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate 1-Drain Voltage	V <sub>G1DO</sub>	-6	V
Gate 2-Drain Voltage	V <sub>G2DO</sub>	-6	V
Gate 1-Source Voltage	V <sub>G1S</sub>	-4	V
Gate 2-Source Voltage	V <sub>G2S</sub>	-4	V
Gate 1 Current	I <sub>G1</sub>	1	mA
Gate 2 Current	I <sub>G2</sub>	1	mA
Power Dissipation	P <sub>D</sub>	150	mW
Channel Temperature	T <sub>ch</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C



Marking



ELECTRICAL CHARACTERISTICS (Ta = 25°C)

Weight : 0.013g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate 1 Leakage Current	I <sub>G1SS</sub>	V <sub>DS</sub> = 0, V <sub>G1S</sub> = -3V, V <sub>G2S</sub> = 0	—	—	-4	μA
Gate 2 Leakage Current	I <sub>G2SS</sub>	V <sub>DS</sub> = 0, V <sub>G1S</sub> = 0, V <sub>G2S</sub> = -3V	—	—	-4	μA
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = 2V, V <sub>G1S</sub> = 0, V <sub>G2S</sub> = 0	4	—	16	mA
Gate 1-Source Cut-off Voltage	V <sub>G1S (OFF)</sub>	V <sub>DS</sub> = 2V, V <sub>G2S</sub> = 0, I <sub>D</sub> = 100 μA	-0.5	—	-1.5	V
Gate 2-Source Cut-off Voltage	V <sub>G2S (OFF)</sub>	V <sub>DS</sub> = 2V, V <sub>G1S</sub> = 0, I <sub>D</sub> = 100 μA	-0.5	—	-1.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> = 2V, V <sub>G2S</sub> = 0.5V, I <sub>D</sub> = 2mA, f = 1kHz	—	12	—	mS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = 2V, V <sub>G2S</sub> = 0.5V, I <sub>D</sub> = 2mA, f = 1MHz	—	0.65	1.3	pF
Reverse Transfer Capacitance	C <sub>rss</sub>		—	0.015	0.03	
Power Gain	G <sub>ps</sub>	V <sub>DS</sub> = 2V, V <sub>G2S</sub> = 0.5V, I <sub>D</sub> = 2mA, f = 800MHz (Fig.1)	15	18.5	—	dB
Noise Figure	NF		—	1.3	2.5	

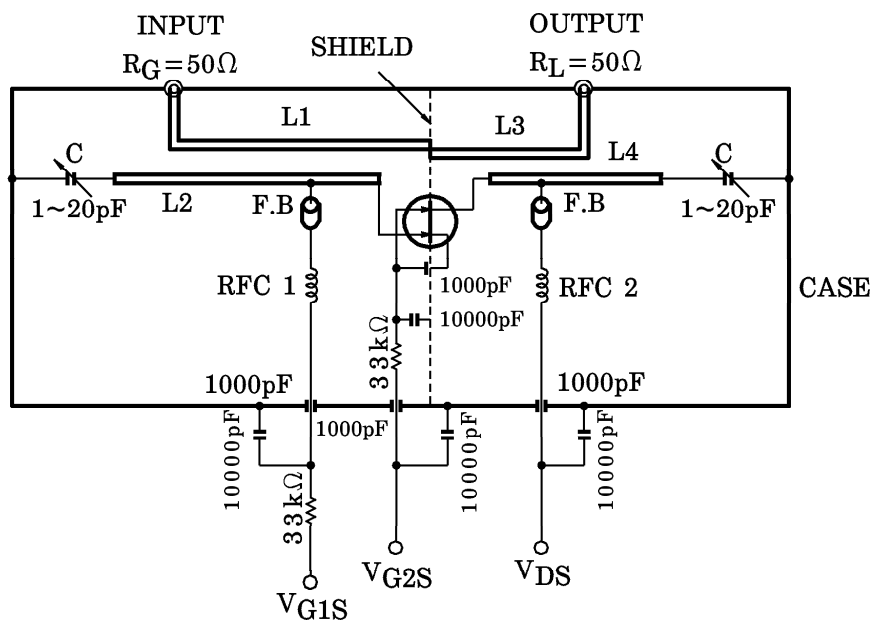
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Fig.1 800MHz  $G_{ps}$ , NF TEST CIRCUIT



- L1~L4 :  $\phi$ 1.0mm SILVER PLATED COPPER WIRE
- C : AIR TRIMMER TTA25A200A (MURATA MFG. Co., LTD.)
- RFC 1 :  $\phi$ 0.35mm COPPER WIRE 3mm ID, 7T
- RFC 2 :  $\phi$ 0.35mm COPPER WIRE 3mm ID, 10T

