

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

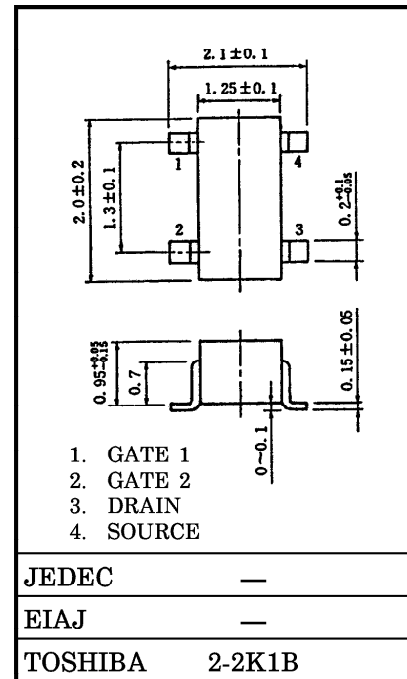
# 3SK284

TV TUNER, UHF RF AMPLIFIER APPLICATIONS.

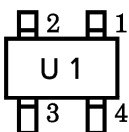
Unit in mm

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>	100	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 : 0.006g

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> =100μA	-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> =100μA	-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	

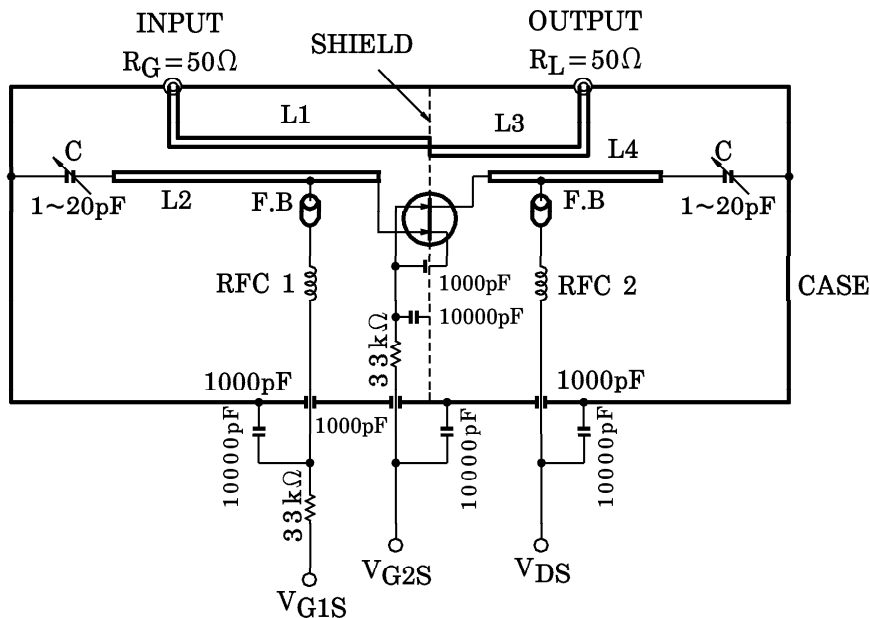
**CAUTION**

GaAs (Gallium Arsenide) is used in this product. The dust or vapor can be dangerous to humans. Do not break, cut, crush or dissolve chemically. Dispose of this product properly according to law. Do not intermingle with normal industrial or domestic waste.

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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

961001EAC2'

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