

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL DUAL GATE MOS TYPE

# 3SK257

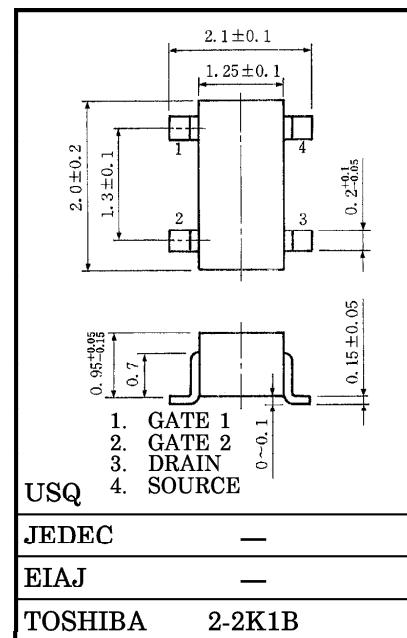
TV TUNER, VHF RF AMPLIFIER APPLICATIONS.  
 FM TUNER APPLICATIONS.  
 TV TUNER, UHF RF AMPLIFIER APPLICATIONS.

Unit in mm

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

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V <sub>DS</sub>	13.5	V
Gate 1-Source Voltage	V <sub>G1S</sub>	±8	V
Gate 2-Source Voltage	V <sub>G2S</sub>	±8	V
Drain Current	I <sub>D</sub>	30	mA
Drain Power Dissipation	P <sub>D</sub>	100	mW
Chanel Temperature	T <sub>ch</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C

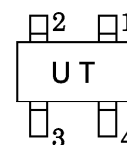


Weight : 0.006g

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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> =±6V, V <sub>G2S</sub> =0	—	—	±50	nA
Gate 2 Leakage Current	I <sub>G2SS</sub>	V <sub>DS</sub> =0, V <sub>G1S</sub> =0, V <sub>G2S</sub> =±6V	—	—	±50	nA
Drain-Source Voltage	V (BR) DSX	V <sub>G1S</sub> =-1V, V <sub>G2S</sub> =-1V I <sub>D</sub> =100μA	13.5	—	—	V
Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =6V, V <sub>G1S</sub> =0, V <sub>G2S</sub> =4.5V	0	—	0.1	mA
Gate 1-Source Cut-off Voltage	V <sub>G1S</sub> (OFF)	V <sub>DS</sub> =6V, V <sub>G2S</sub> =4.5V, I <sub>D</sub> =100μA	0	—	1.0	V
Gate 2-Source Cut-off Voltage	V <sub>G2S</sub> (OFF)	V <sub>DS</sub> =6V, V <sub>G1S</sub> =4V, I <sub>D</sub> =100μA	0.5	1.0	1.5	V
Forward Transfer Admittance	Y <sub>fs</sub>	V <sub>DS</sub> =6V, V <sub>G2S</sub> =4.5V I <sub>D</sub> =10mA, f=1kHz	—	21	—	mS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =6V, V <sub>G2S</sub> =4.5V	—	3.4	4.4	pF
Reverse Transfer Capacitance	C <sub>rss</sub>	I <sub>D</sub> =10mA, f=1MHz	—	0.020	0.05	pF
Power Gain	G <sub>ps</sub>	V <sub>DS</sub> =6V, V <sub>G2S</sub> =4.5V	19	22	—	dB
Noise Figure	NF	I <sub>D</sub> =10mA, f=500MHz (Fig.1)	—	2.0	3.5	dB

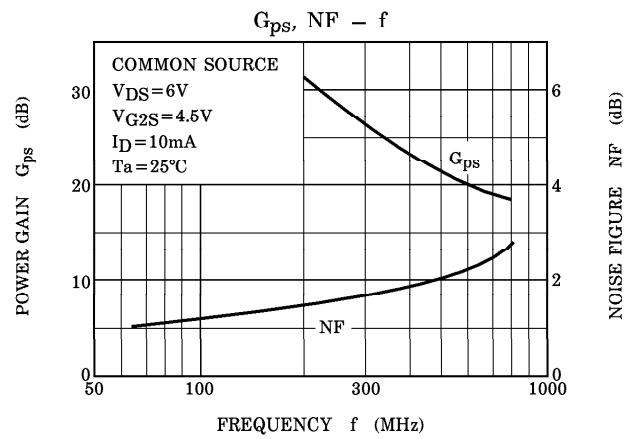
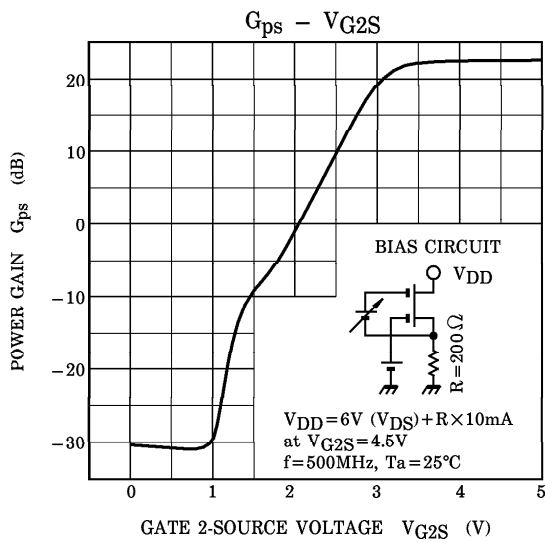
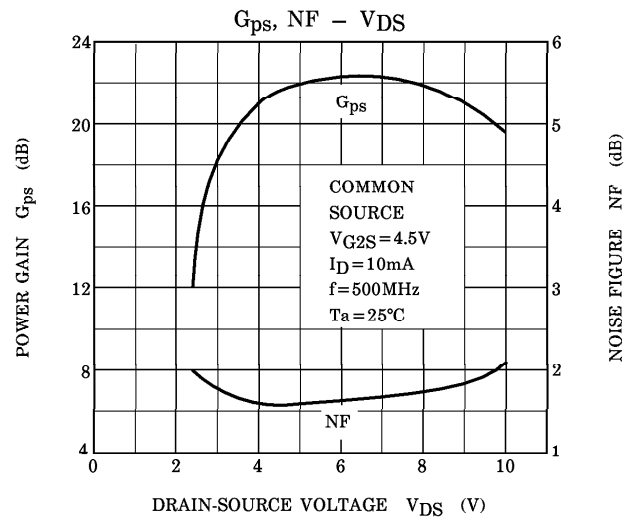
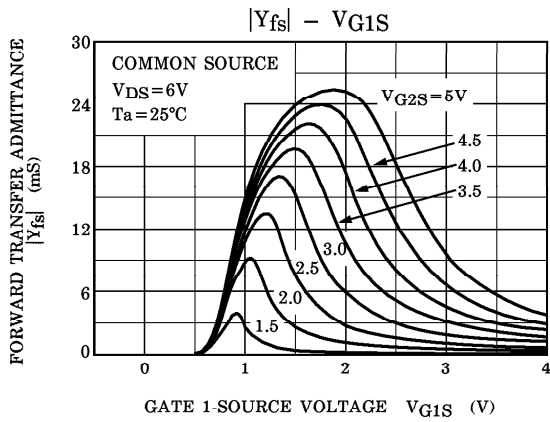
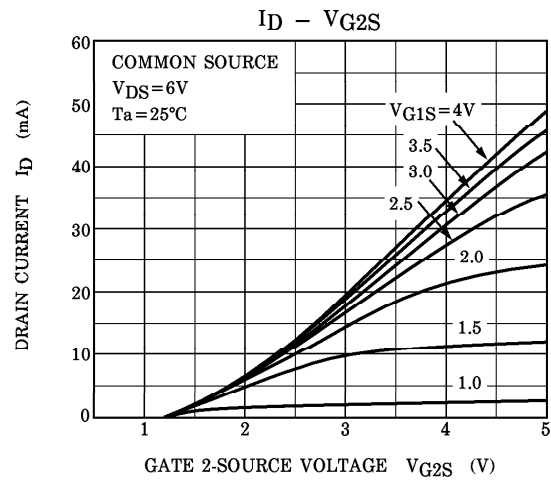
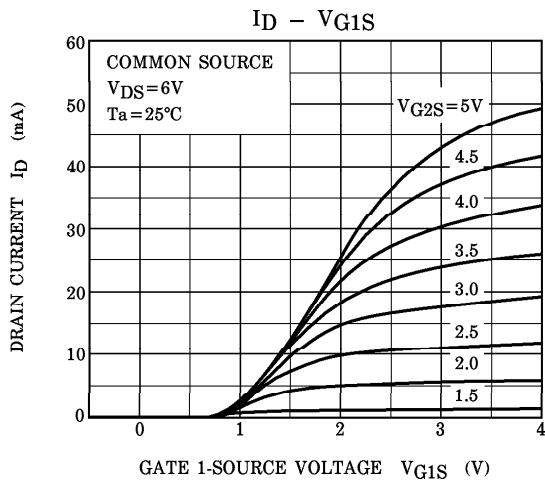
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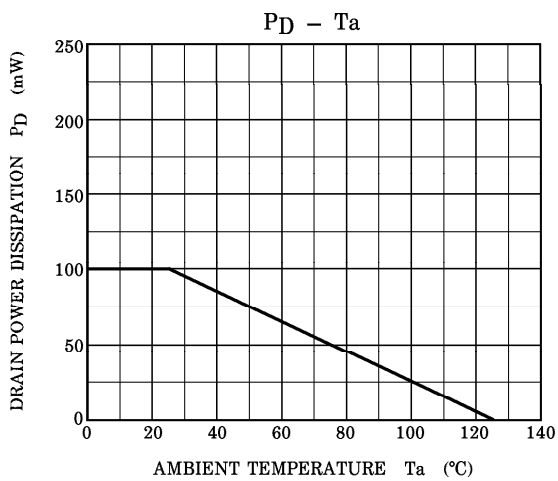
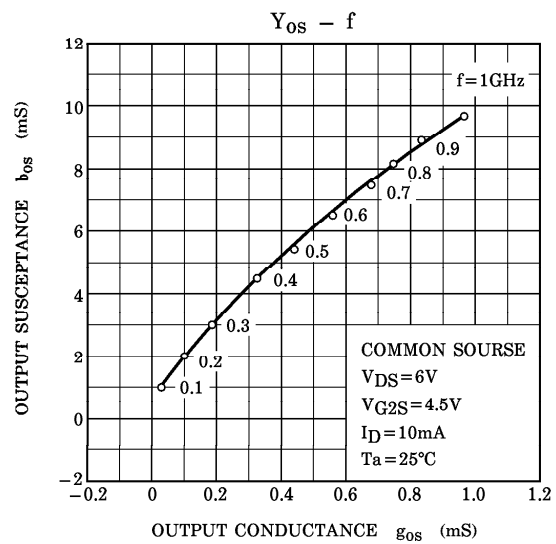
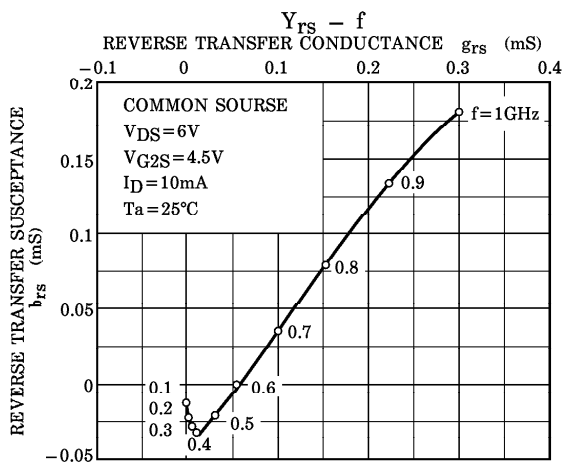
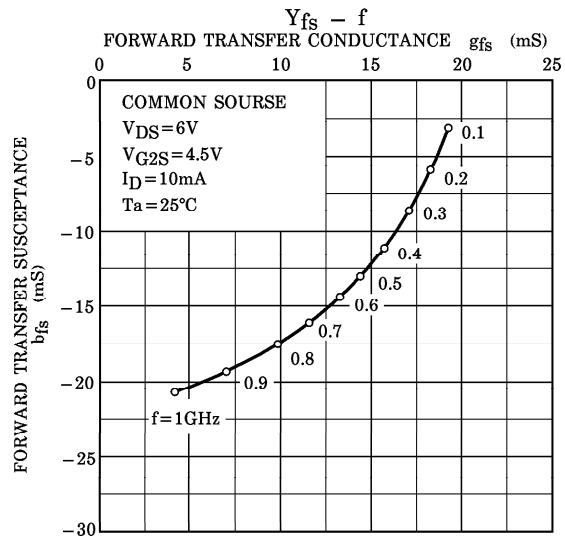
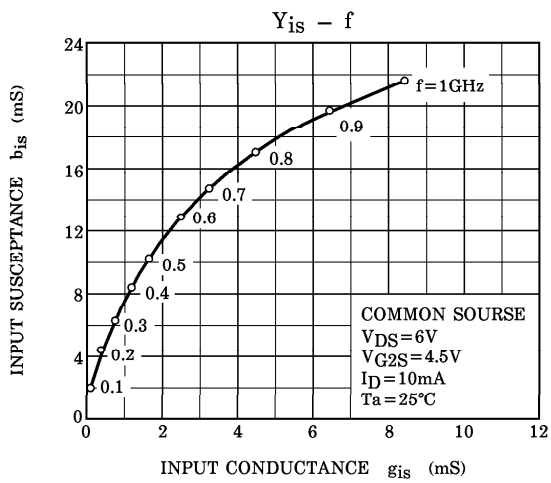


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