

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK211

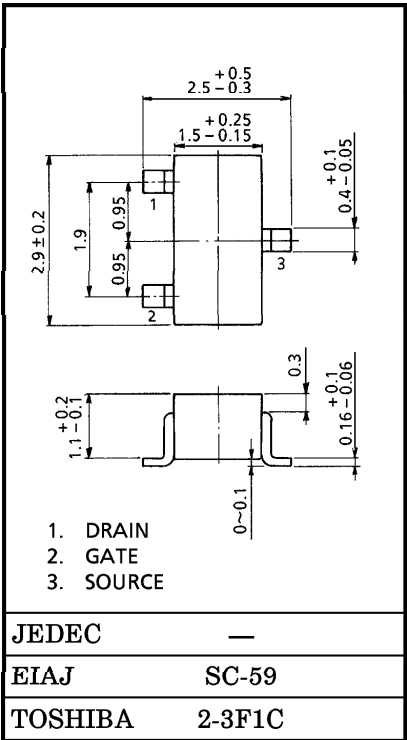
FM TUNER APPLICATIONS

VHF BAND AMPLIFIER APPLICATIONS

- Low Noise Figure : $NF=2.5dB$ (Typ.) ($f=100MHz$)
- High Forward Transfer Admittance : $|Y_{fs}|=9mS$ (Typ.)
- Extremely Low Reverse Transfer Capacitance : $C_{rss}=0.1pF$ (Typ.)

MAXIMUM RATINGS ($T_a=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V_{GDO}	-18	V
Gate Current	I_G	10	mA
Drain Power Dissipation	P_D	150	mW
Junction Temperature	T_j	125	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55~125	$^{\circ}C$



Weight : 0.012g

ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	$V_{GS}=-0.5V, V_{DS}=0V$	—	—	-10	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G=-100\mu A$	-18	—	—	V
Drain Current	I_{DSS} (Note)	$V_{GS}=0V, V_{DS}=10V$	1.0	—	10	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS}=10V, I_D=1\mu A$	-0.4	—	-4.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{GS}=0V, V_{DS}=10V, f=1kHz$	—	9	—	mS
Input Capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	—	6.0	—	pF
Reverse Transfer Capacitance	C_{rss}	$V_{GD}=-10V, f=1MHz$	—	0.10	0.15	pF
Power Gain	G_{PS}	$V_{DD}=10V, f=100MHz$ (Fig.)	—	18	—	dB
Noise Figure	NF	$V_{DD}=10V, f=100MHz$ (Fig.)	—	2.5	3.5	dB

Note : I_{DSS} Classification : O : 1.0~3.0mA Y : 2.5~6.0mA GR(G) : 5.0~10.0mA

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Marking

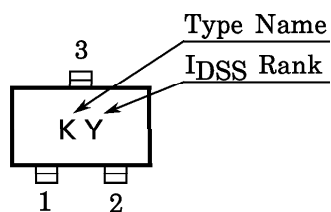
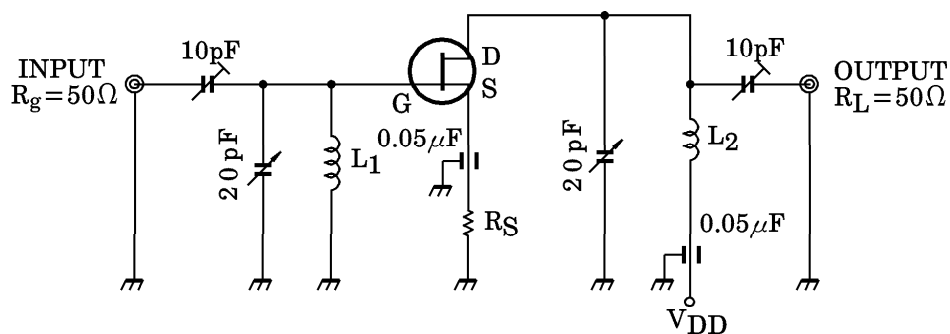


Fig. 100MHz G_{ps} , NF TEST CIRCUIT



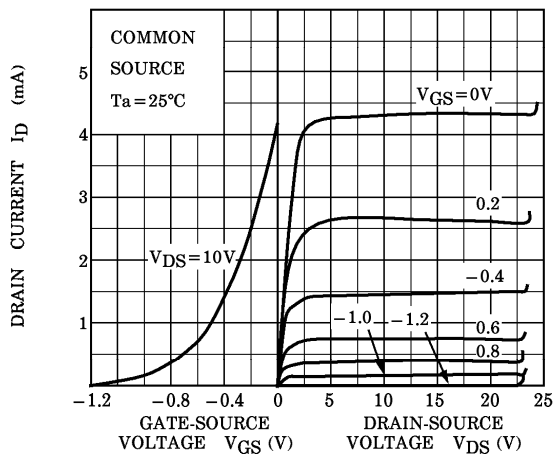
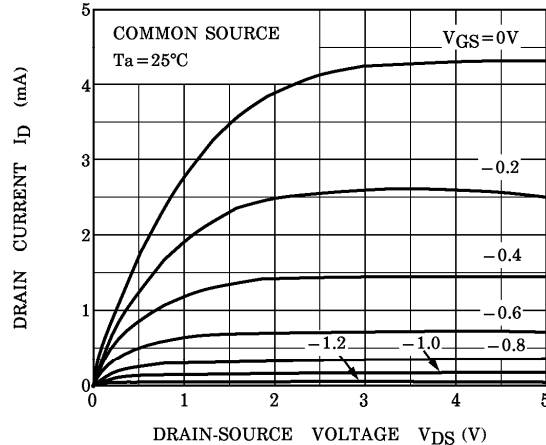
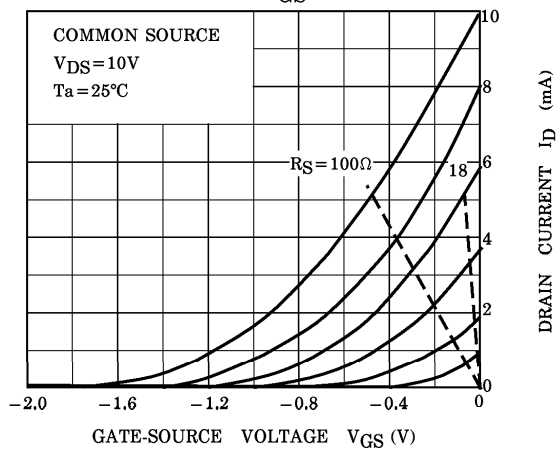
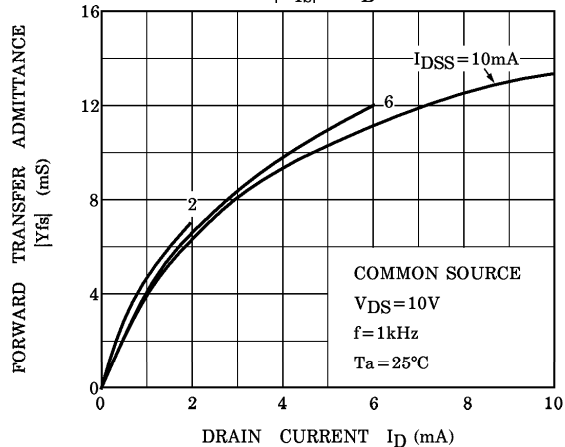
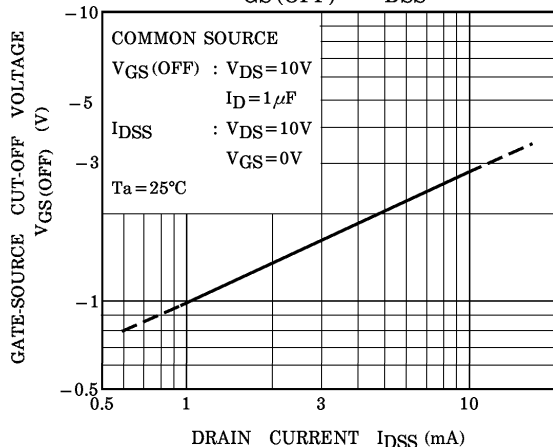
L_1 : 0.8mm ϕ Ag PLATED Cu WIRE 3 TURNS, 10mm ID, 10mm LENGTH

L_2 : 0.8mm ϕ Ag PLATED Cu WIRE 3.5 TURNS, 10mm ID, 10mm LENGTH

2SK211 is measured at each group by changing R_S .

GROUP	R_S (Ω)
2SK211-O	0
2SK211-Y	$18\Omega \pm 5\%$
2SK211-GR	$100\Omega \pm 5\%$

STATIC CHARACTERISTICS

 $I_D - V_{DS}$ (LOW VOLTAGE REGION) $I_D - V_{GS}$  $|Y_{fs}| - I_D$  $V_{GS(OFF)} - I_{DSS}$  $|Y_{fs}| - I_{DSS}$ 