

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

2SK192A

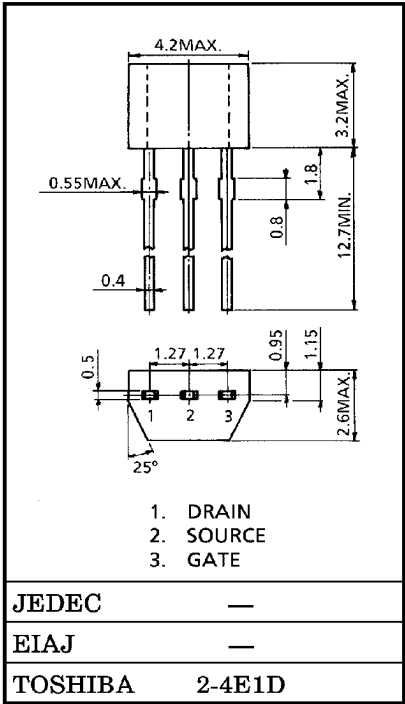
FM TUNER APPLICATIONS

VHF BAND AMPLIFIER APPLICATIONS

- High Power Gain : $G_{PS}=24\text{dB}$ (Typ.) ($f=100\text{MHz}$)
- Low Noise Figure : $NF=1.8\text{dB}$ (Typ.) ($f=100\text{MHz}$)
- High Forward Transfer Admittance
: $|y_{fs}|=7\text{mS}$ (Typ.) ($f=1\text{kHz}$)

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V_{GDO}	-18	V
Gate Current	I_G	10	mA
Drain Power Dissipation	P_D	200	mW
Junction Temperature	T_j	125	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^{\circ}\text{C}$



Weight : 0.13g

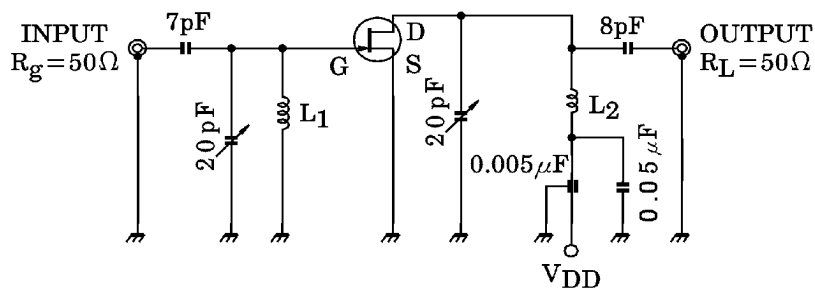
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_{GSS}	$V_{GS}=-1.0\text{V}$, $V_{DS}=0$	—	—	-10	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDO}$	$I_G=-100\mu\text{A}$	-18	—	—	V
Drain Current	I_{DSS} (Note)	$V_{GS}=0$, $V_{DS}=10\text{V}$	3	—	24	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS}=10\text{V}$, $I_D=1\mu\text{A}$	-1.2	-3	—	V
Forward Transfer Admittance	$ y_{fs} $	$V_{GS}=0$, $V_{DS}=10\text{V}$, $f=1\text{kHz}$	—	7	—	mS
Input Capacitance	C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0$, $f=1\text{MHz}$	—	3.5	—	pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$	—	—	0.65	pF
Power Gain	G_{PS}	$V_{DD}=10\text{V}$, $f=100\text{MHz}$ (Fig.1)	—	24	—	dB
Noise Figure	NF	$V_{DD}=10\text{V}$, $f=100\text{MHz}$ (Fig.1)	—	1.8	3.5	dB

Note : I_{DSS} Classification Y : 3.0~7.0, GR : 6.0~14.0, BL : 12.0~24.0

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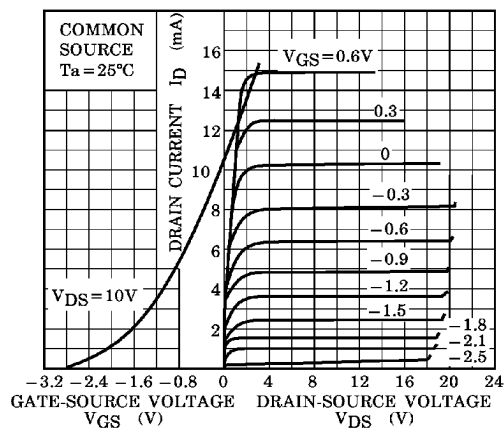
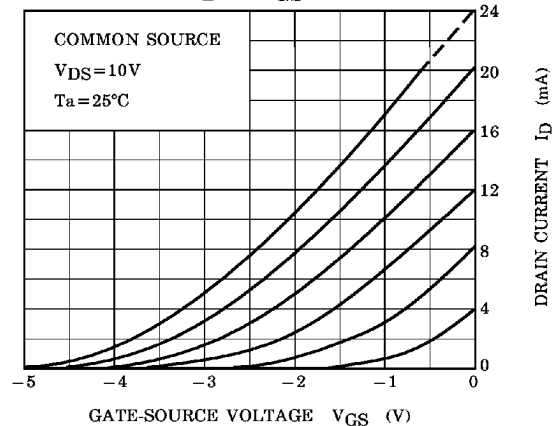
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L_1 : 0.8mm ϕ Ag PLATED Cu
WIRE 3 TURNS, 10mm I_D ,
10mm LENGTH
 L_2 : 0.8mm ϕ Ag PLATED Cu
WIRE 3.5 TURNS, 10mm
 I_D , 10mm LENGTH

Fig.1 100MHz G_{ps} , NF TEST CIRCUIT

STATIC CHARACTERISTICS

 $I_D - V_{GS}$  $I_D - V_{DS}$ (LOW VOLTAGE REGION)