

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

# 2SK192A

FM TUNER APPLICATIONS

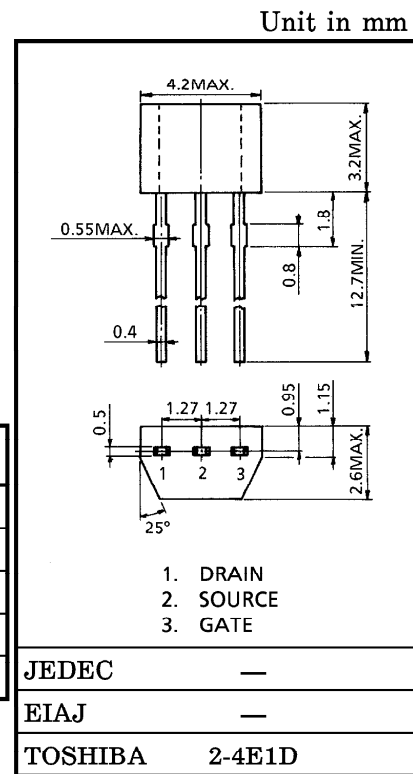
VHF BAND AMPLIFIER APPLICATIONS

- 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  
:  $|y_{fs}| = 7\text{mS (Typ.) (}f = 1\text{kHz)}$

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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

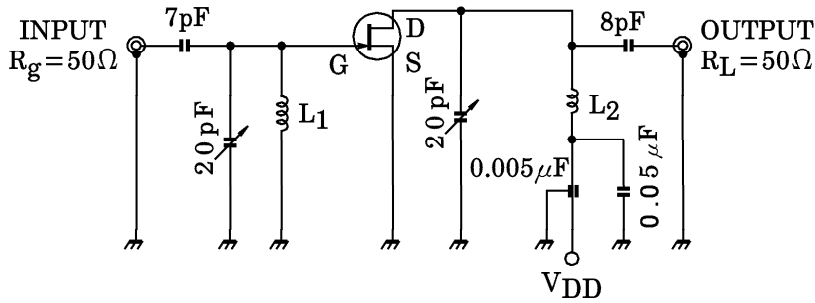
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

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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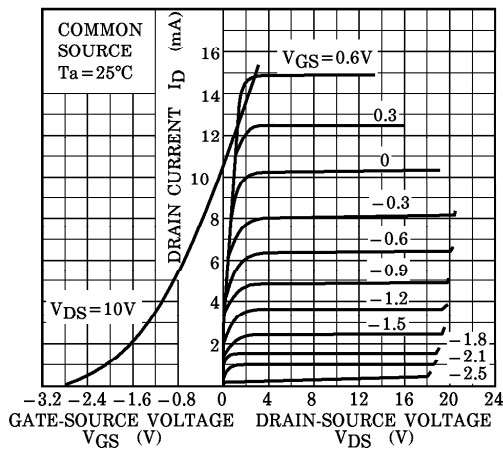
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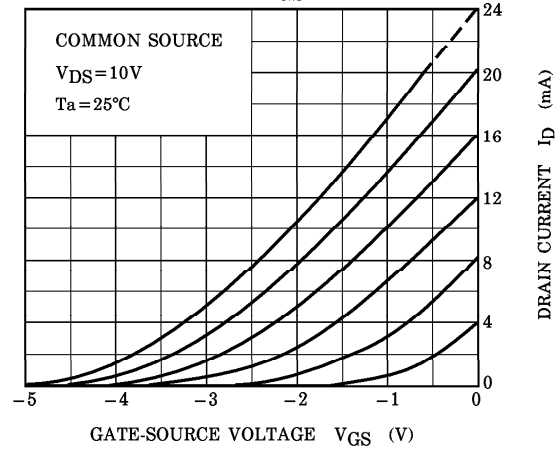
L<sub>1</sub> : 0.8mmϕ Ag PLATED Cu WIRE 3 TURNS, 10mm I<sub>D</sub>, 10mm LENGTH  
 L<sub>2</sub> : 0.8mmϕ Ag PLATED Cu WIRE 3.5 TURNS, 10mm I<sub>D</sub>, 10mm LENGTH

Fig.1 100MHz G<sub>ps</sub>, NF TEST CIRCUIT

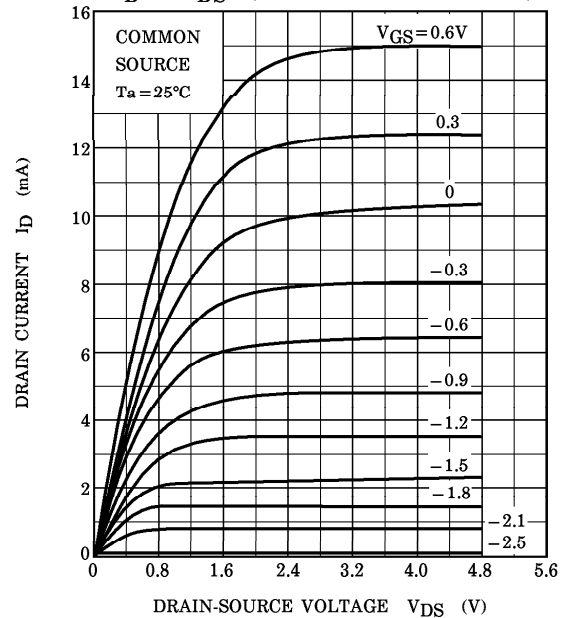
STATIC CHARACTERISTICS



I<sub>D</sub> - V<sub>GS</sub>



I<sub>D</sub> - V<sub>DS</sub> (LOW VOLTAGE REGION)



|Y<sub>fs</sub>| - I<sub>D</sub>

