

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

# 2SK709

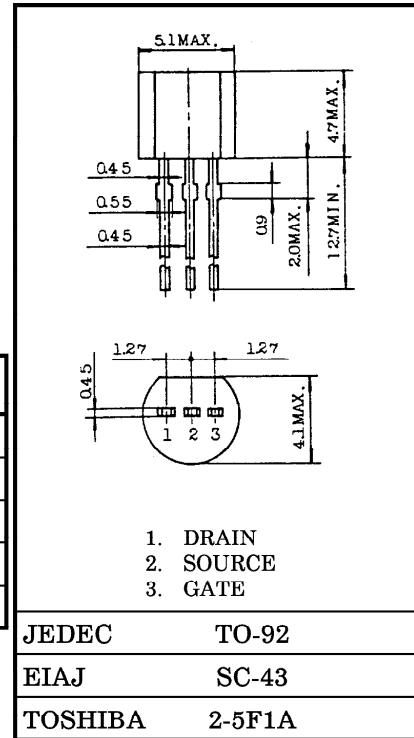
HIGH FREQUENCY AMPLIFIER APPLICATIONS.  
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 AUDIO FREQUENCY AMPLIFIER APPLICATIONS.

Unit in mm

- High  $|Y_{fs}|$  :  $|Y_{fs}|=25\text{mS}$  (Typ.)
- Low  $C_{iss}$  :  $C_{iss}=7.5\text{pF}$  (Typ.)
- Low Noise

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	$V_{GDS}$	-20	V
Gate Current	$I_G$	10	mA
Drain Power Dissipation	$P_D$	300	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ\text{C}$



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

Weight : 0.21g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	$I_{GSS}$	$V_{GS} = -15\text{V}, V_{DS} = 0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V(BR)_{GDS}$	$V_{DS} = 0, I_G = -100\mu\text{A}$	-20	—	—	V
Drain Current	$I_{DSS}$ (Note)	$V_{DS} = 5\text{V}, V_{GS} = 0$	6	—	32	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS} = 5\text{V}, I_D = 1\mu\text{A}$	—	—	-2.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 5\text{V}, V_{GS} = 0, f = 1\text{kHz}$	15	25	—	mS
Input Capacitance	$C_{iss}$	$V_{DS} = 5\text{V}, V_{GS} = 0, f = 1\text{MHz}$	—	7.5	10	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DG} = 5\text{V}, I_D = 0, f = 1\text{MHz}$	—	2	3	pF
Noise Figure	NF	$V_{DS} = 5\text{V}, I_D = 1\text{mA}$ $R_g = 1\text{k}\Omega, f = 1\text{kHz}$	—	0.5	3	dB

(Note) :  $I_{DSS}$  Classification GR : 6~12mA, BL : 10~20mA, V : 16~32mA

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