

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

# 2SK370

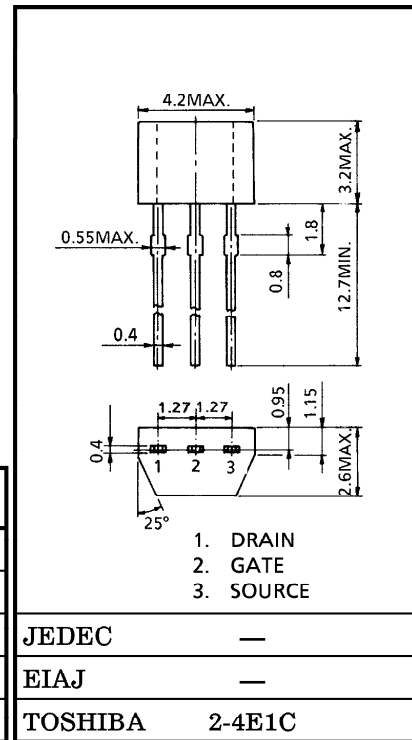
FOR LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- Suitable for Use as First Stage for Equalizer and MC Head Amplifiers.
- High  $|Y_{fs}|$  :  $|Y_{fs}|=22\text{ms (Typ.)}$  ( $V_{DS}=10\text{V}$ ,  $V_{GS}=0$ ,  $I_{DSS}=3\text{mA}$ )
- High Breakdown Voltage :  $V_{GDS}=-40\text{V}$
- High Input Impedance :  $I_{GSS}=-1\text{nA (Max.)}$  ( $V_{GS}=-30\text{V}$ )
- Complementary to 2SJ108
- Small Package

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	$V_{GDS}$	-40	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 ( $T_a = 25^\circ\text{C}$ )**

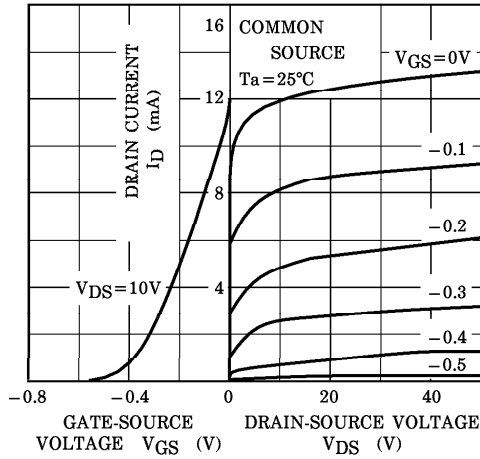
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	$I_{GSS}$	$V_{GS} = -30\text{V}$ , $V_{DS} = 0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V(\text{BR})_{GDS}$	$V_{DS} = 0$ , $I_G = -100\mu\text{A}$	-40	—	—	V
Drain Current	$I_{DSS}$ (Note)	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$	2.6	—	20	mA
Gate-Source Cut-off Voltage	$V_{GS}(\text{OFF})$	$V_{DS} = 10\text{V}$ , $I_D = 0.1\mu\text{A}$	-0.2	—	-1.5	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{kHz}$ , $I_{DSS} = 3\text{mA}$	8	22	—	mS
Input Capacitance	$C_{iss}$	$V_{DS} = 10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{MHz}$	—	30	—	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DG} = 10\text{V}$ , $I_D = 0$ , $f = 1\text{MHz}$	—	6	—	pF
Noise Figure	NF (1)	$V_{DS} = 10\text{V}$ , $I_D = 1.0\text{mA}$ , $R_G = 1\text{k}\Omega$ , $f = 10\text{Hz}$	—	1.0	10	dB
	NF (2)	$V_{DS} = 10\text{V}$ , $I_D = 1.0\text{mA}$ , $R_G = 1\text{k}\Omega$ , $f = 1\text{kHz}$	—	0.5	2	

Note :  $I_{DSS}$  Classification GR : 2.6~6.5mA, BL : 6.0~12mA, V : 10~20mA

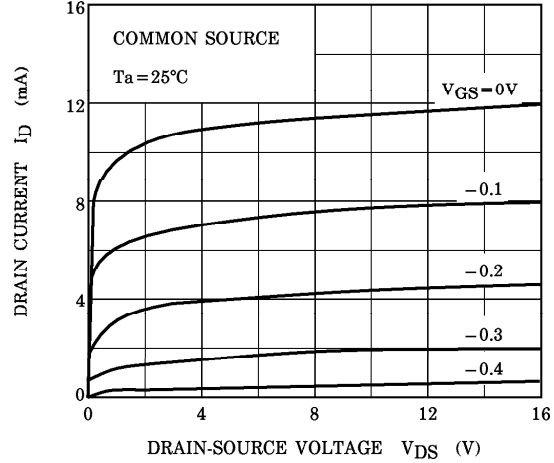
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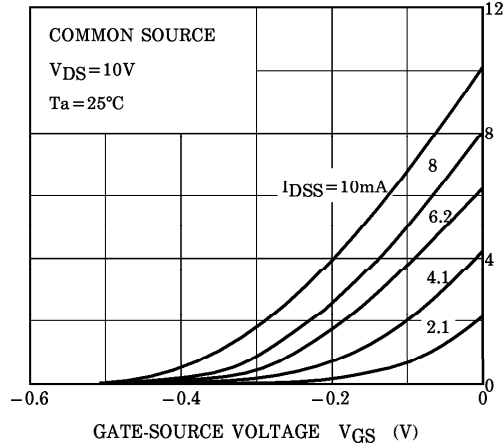
STATIC CHARACTERISTICS



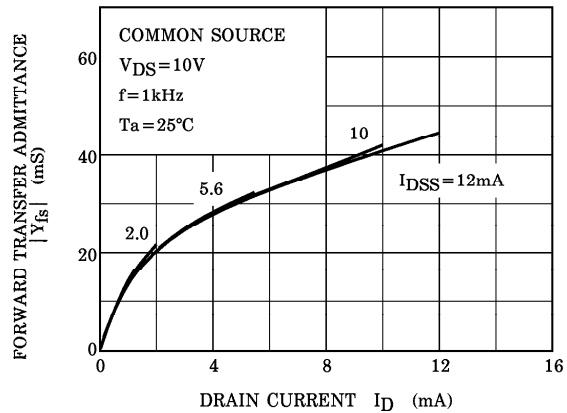
ID - VDS (LOW VOLTAGE REGION)



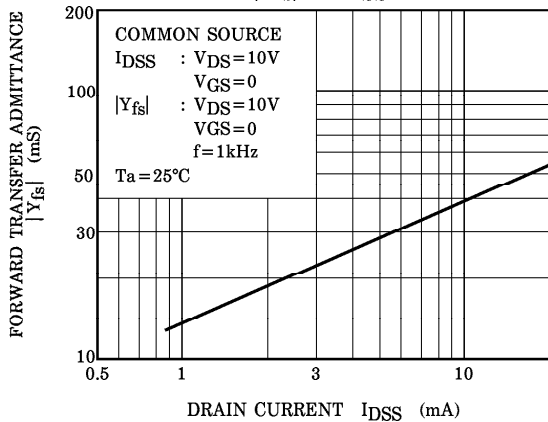
ID - VGS



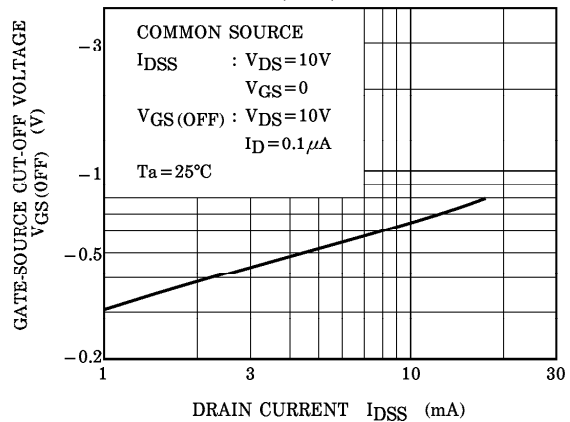
|Yfs| - ID



|Yfs| - IDSS



VGS(OFF) - IDSS



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