

TOSHIBA FIELD EFFECT TRANSISTOR SILICON P CHANNEL JUNCTION TYPE

# 2SJ108

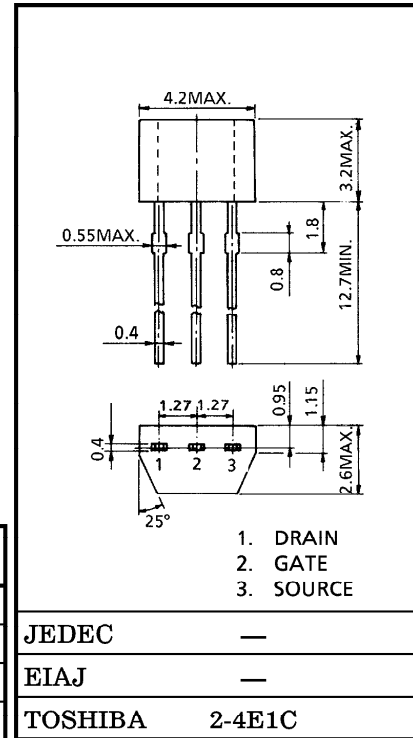
LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- Recommended for First Stages of EQ Amplifiers and MC Head Amplifiers.
- High  $|Y_{fs}|$   
:  $|Y_{fs}| = 22\text{mS (Typ.)}$  ( $V_{DS} = -10\text{V}$ ,  $V_{GS} = 0$ ,  $I_{DSS} = -3\text{mA}$ )
- Low Noise  
:  $E_n = 0.95\text{nV} / \sqrt{\text{Hz}}$  (Typ.) ( $V_{DS} = -10\text{V}$ ,  $I_D = -1\text{mA}$ ,  $f = 1\text{kHz}$ )
- High Input Impedance :  $I_{GSS} = 1.0\text{nA (Max.)}$  ( $V_{GS} = 25\text{V}$ )
- Complementary to 2SK370
- Small Package

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	$V_{GDS}$	25	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 (Typ.)

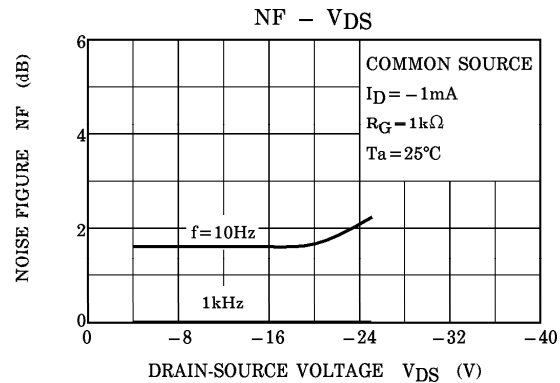
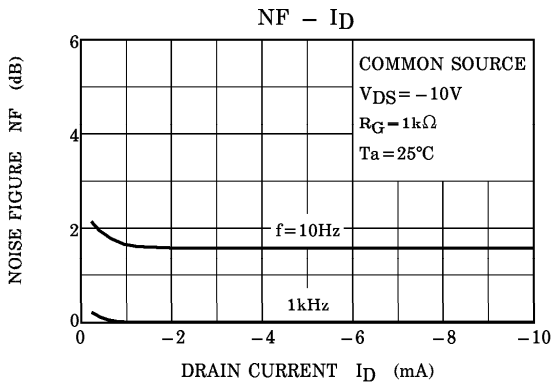
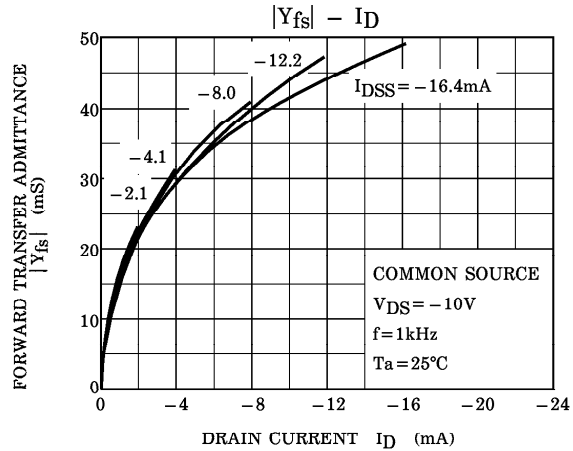
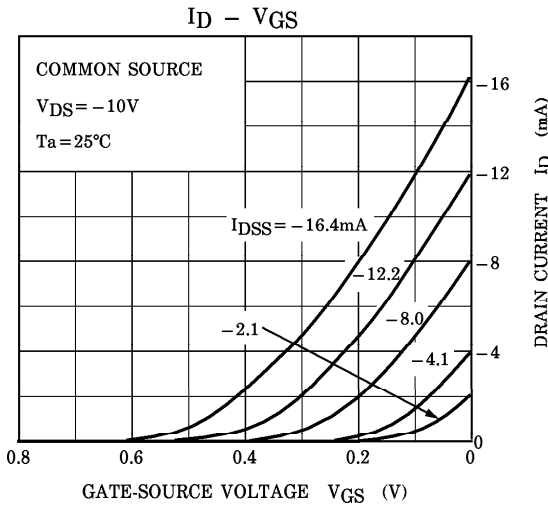
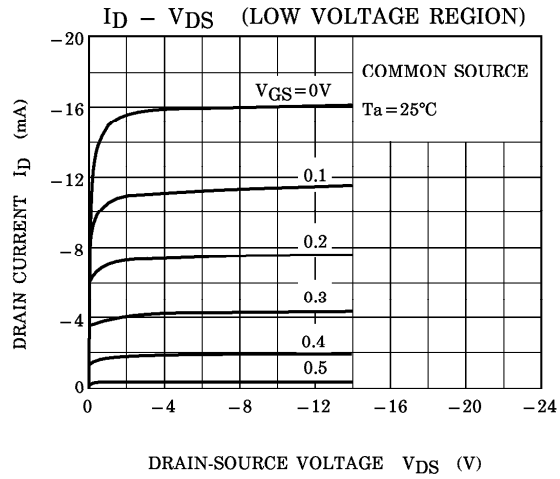
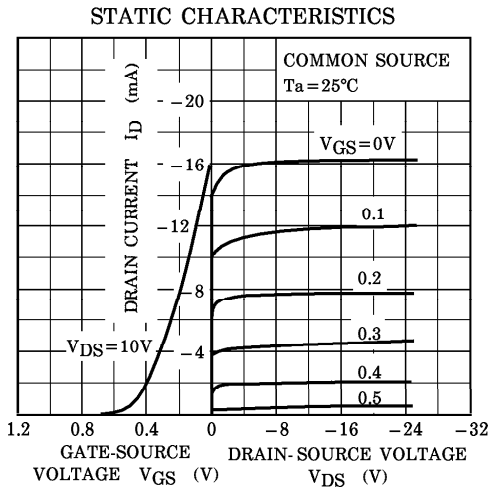
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	$I_{GSS}$	$V_{GS} = 25\text{V}$ , $V_{DS} = 0$	—	—	1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS} = 0$ , $I_G = 100\mu\text{A}$	25	—	—	V
Drain Current	$I_{DSS}$ (Note)	$V_{DS} = -10\text{V}$ , $V_{GS} = 0$	-2.6	—	-20	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS} = -10\text{V}$ , $I_D = -0.1\mu\text{A}$	0.15	—	2.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = -10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{kHz}$	8	22	—	mS
Input Capacitance	$C_{iss}$	$V_{DS} = -10\text{V}$ , $V_{GS} = 0$ , $f = 1\text{MHz}$	—	105	—	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{GD} = 10\text{V}$ , $I_D = 0$ , $f = 1\text{MHz}$	—	32	—	pF
Noise Figure	NF (1)	$V_{DS} = -10\text{V}$ , $I_D = -1\text{mA}$ , $R_G = 1\text{k}\Omega$ , $f = 10\text{Hz}$	—	1.0	10	dB
	NF (2)	$V_{DS} = -10\text{V}$ , $I_D = -1\text{mA}$ , $R_G = 1\text{k}\Omega$ , $f = 1\text{kHz}$	—	0.5	2	

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

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