

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	$^\circ\text{C}$

JEDEC	—
EIAJ	—
TOSHIBA	2-4E1C

Weight : 0.13g (Typ.)

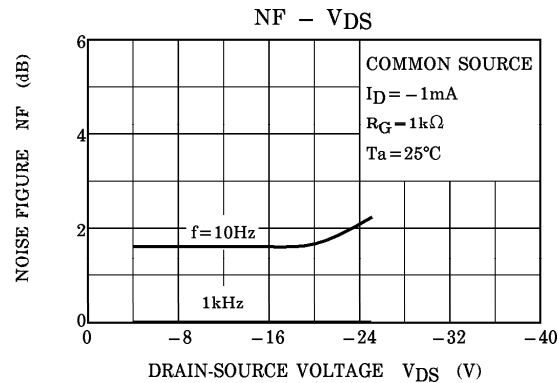
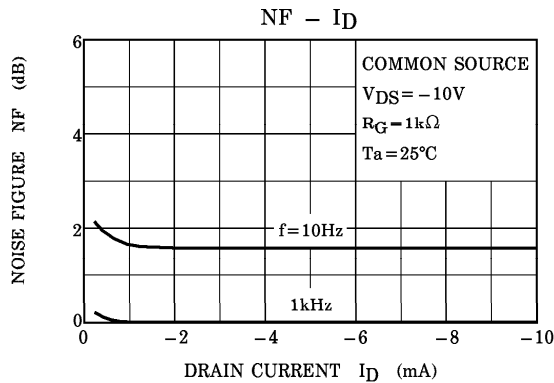
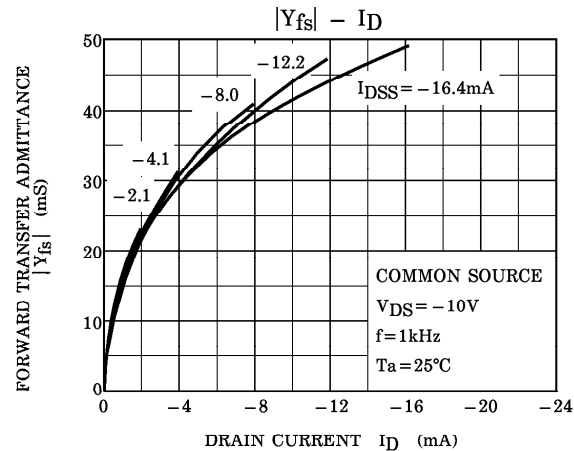
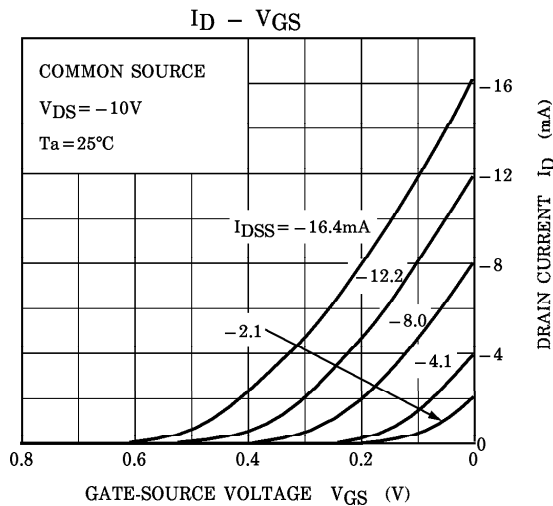
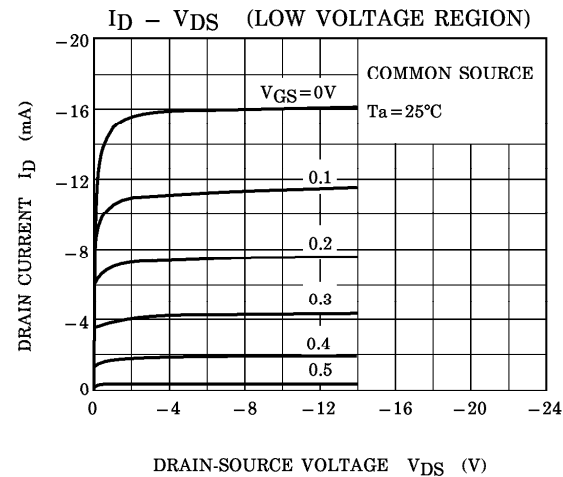
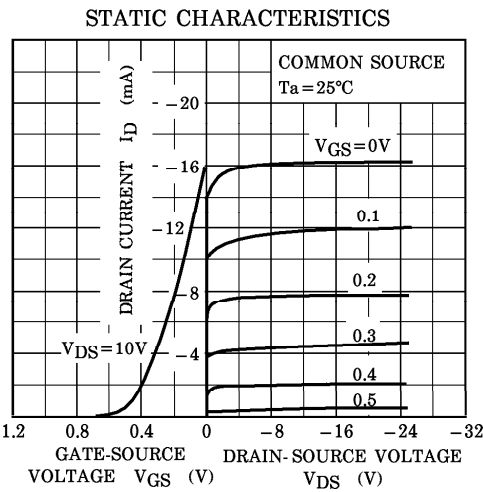
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

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	$V_{GS}(\text{OFF})$	$V_{DS} = -10\text{V}$, $I_D = -0.1\mu\text{A}$	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} ClassificationGR : -2.6~-6.5mA, BL : -6.0~-12mA,
V : -10~-20mA

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