

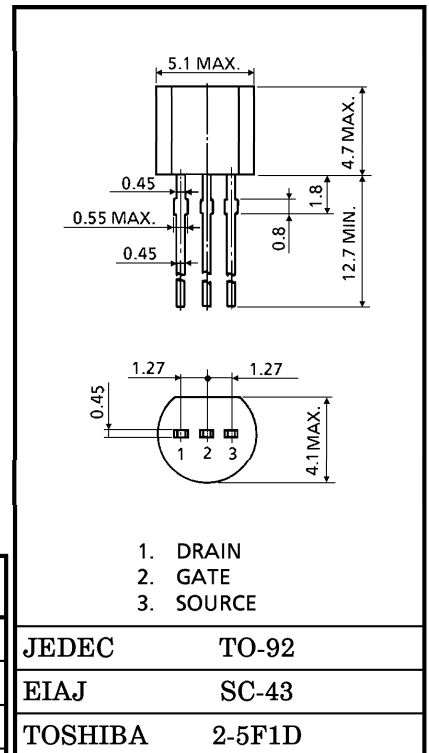
TOSHIBA FIELD EFFECT TRANSISTOR SILICON P CHANNEL JUNCTION TYPE

2SJ74

LOW NOISE AUDIO AMPLIFIER APPLICATIONS

Unit in mm

- Recommended for first stages of EQ Amplifiers and M.C. 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 : $I_{GSS} = 1.0\text{nA (Max.)}$ ($V_{GS} = 25\text{V}$)
- Complimentary to 2SK170



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	400	mW
Junction Temperature	T_j	125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~125	$^\circ\text{C}$

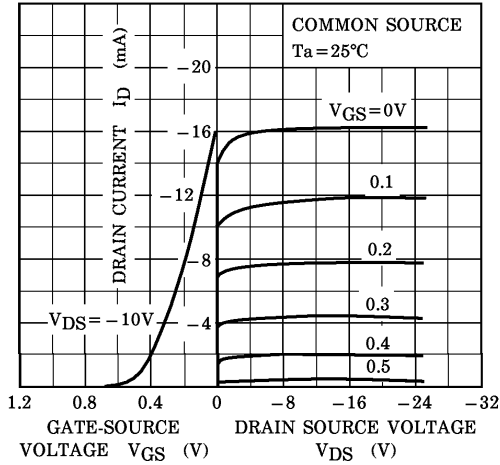
Weight : 0.21g

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

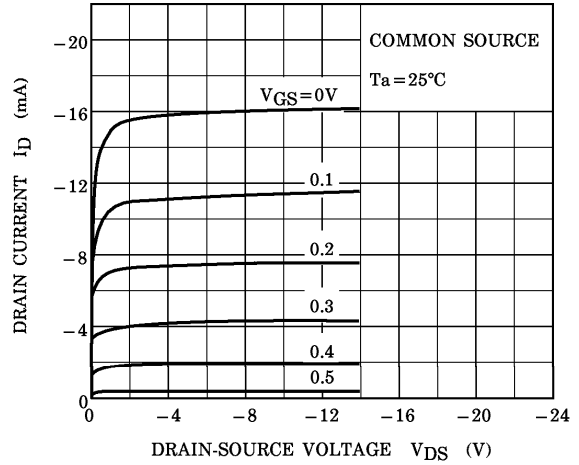
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	I_{GSS}	$V_{GS} = 25\text{V}$, $V_{DS} = 0$	—	—	1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS} = 0$, $I_G = 100\mu\text{A}$	25	—	—	V
Drain Current	I_{DSS} (Note)	$V_{DS} = -10\text{V}$, $V_{GS} = 0$	-2.6	—	-20	mA
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}	$V_{DG} = -10\text{V}$, $I_D = 0$, $f = 1\text{MHz}$	—	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
	NG (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

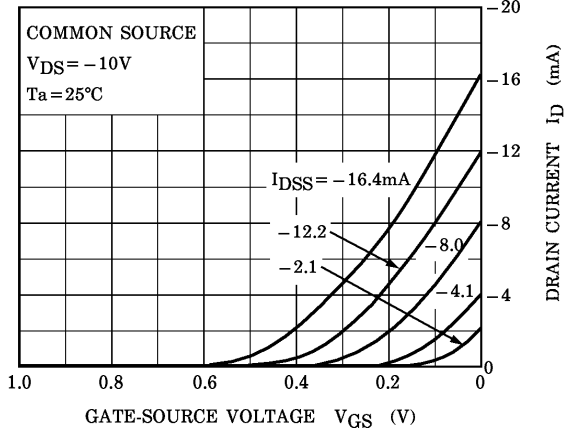
STATIC CHARACTERISTICS



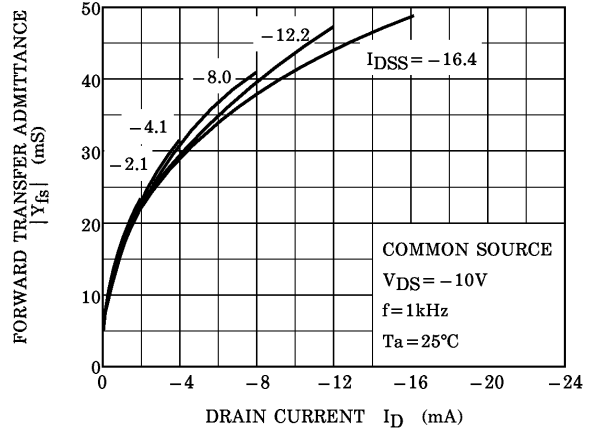
$I_D - V_{DS}$ (LOW VOLTAGE REGION)



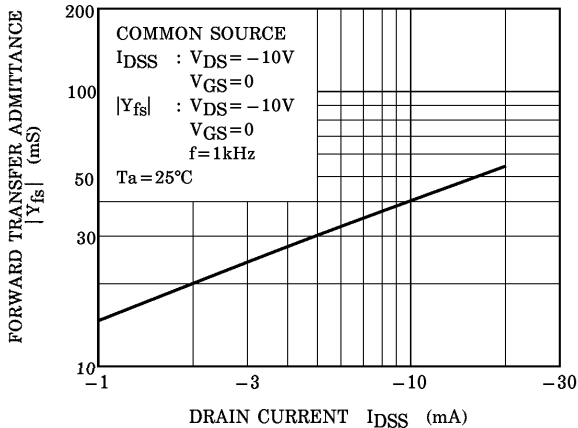
$I_D - V_{GS}$



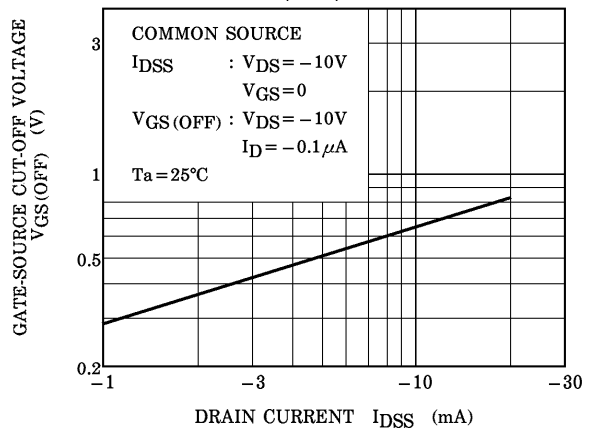
$|Y_{fs}| - I_D$

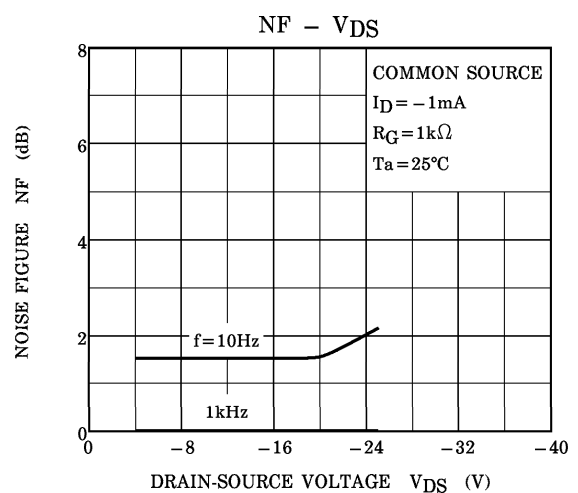
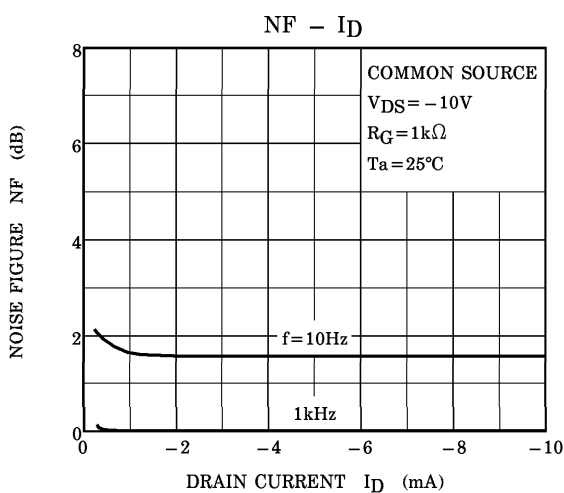
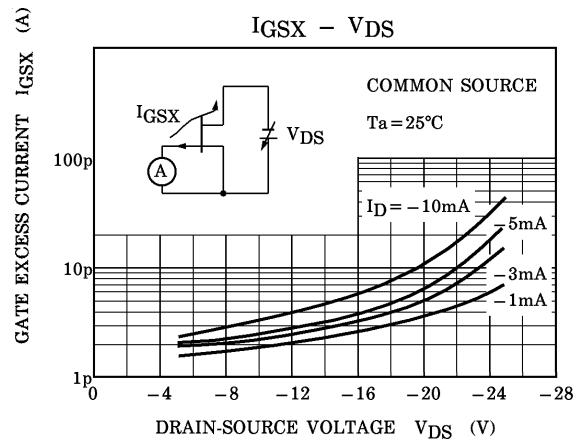
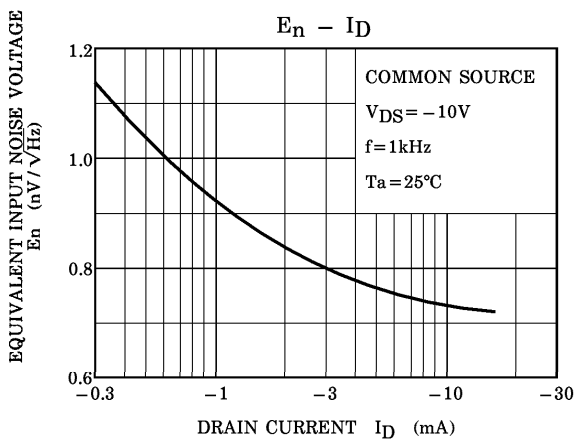
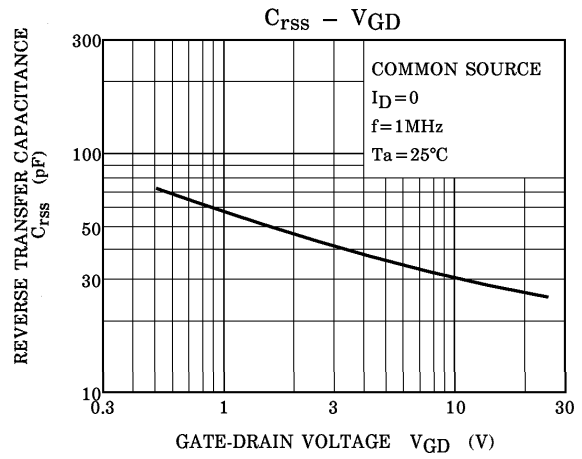
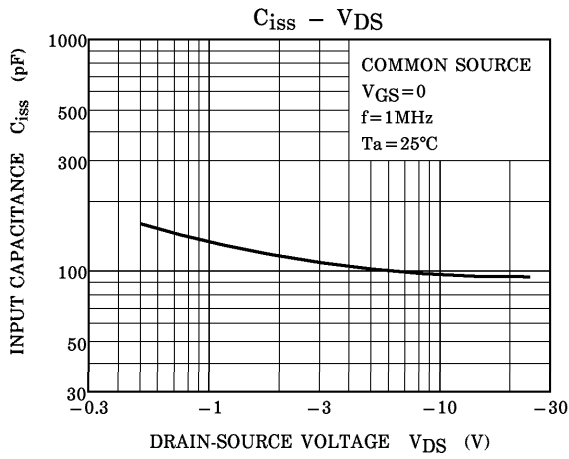


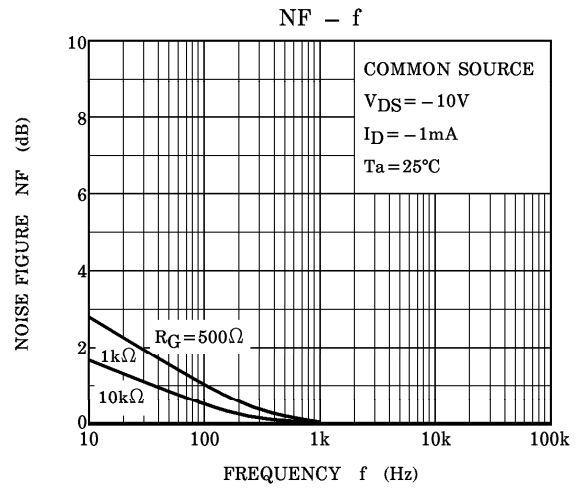
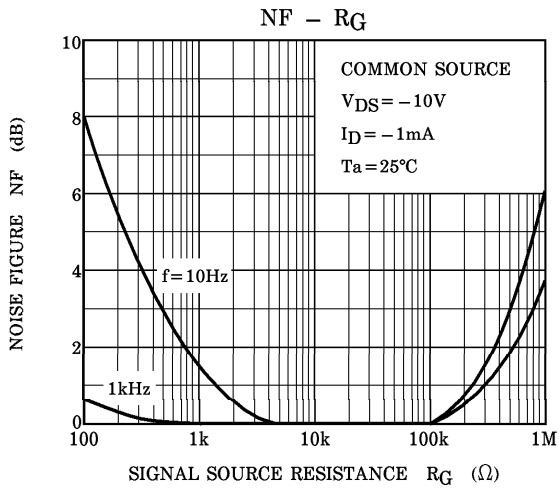
$|Y_{fs}| - I_{DSS}$



VGS(OFF) - IDSS







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