

# 2SK30ATM

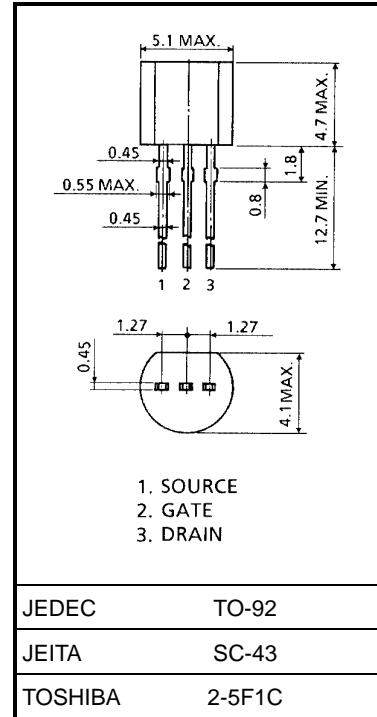
Low Noise Pre-Amplifier, Tone Control Amplifier and DC-AC High Input Impedance Amplifier Circuit Applications

Unit: mm

- High breakdown voltage:  $V_{GDS} = -50\text{ V}$
- High input impedance:  $I_{GSS} = -1\text{ nA (max)}$  ( $V_{GS} = -30\text{ V}$ )
- Low noise:  $NF = 0.5\text{ dB (typ.)}$   
( $V_{DS} = 15\text{ V}$ ,  $V_{GS} = 0$ ,  $R_G = 100\text{ k}\Omega$ ,  $f = 120\text{ Hz}$ )

### Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics	Symbol	Rating	Unit
Gate-drain voltage	$V_{GDS}$	-50	V
Gate current	$I_G$	10	mA
Drain power dissipation	$P_D$	100	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55~125	$^\circ\text{C}$

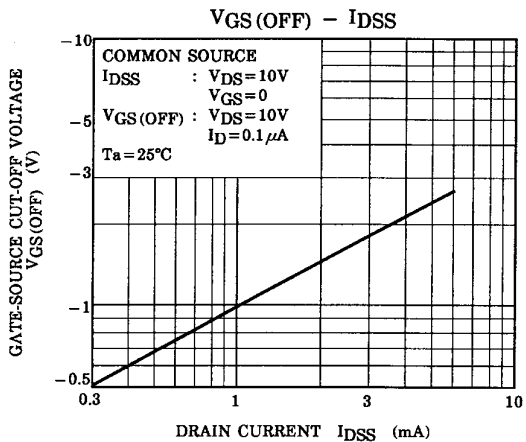
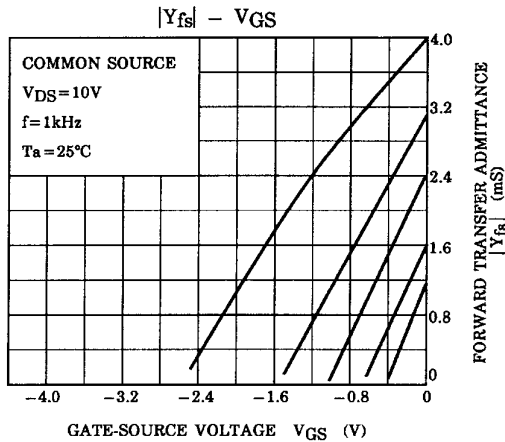
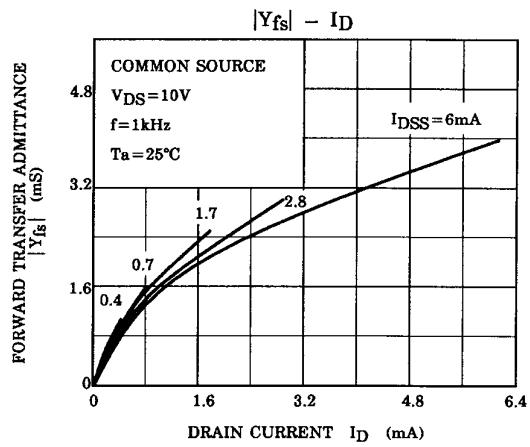
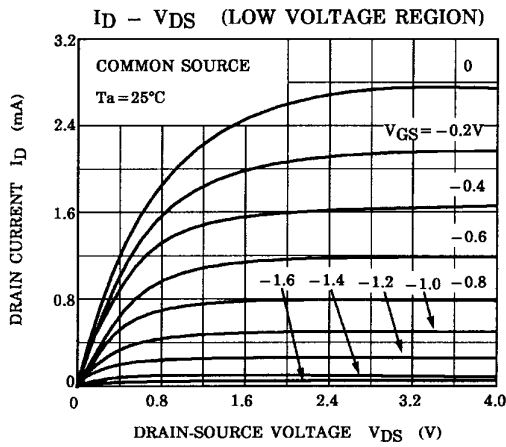
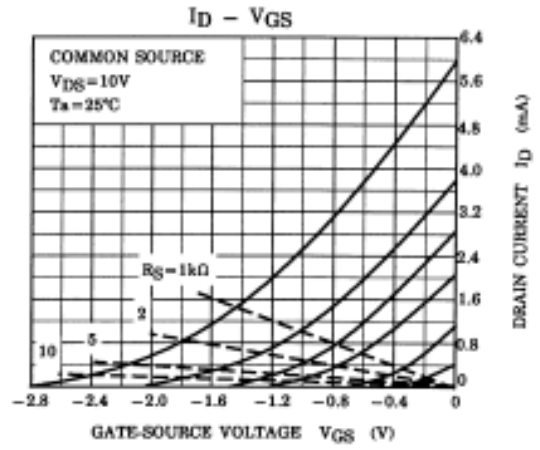
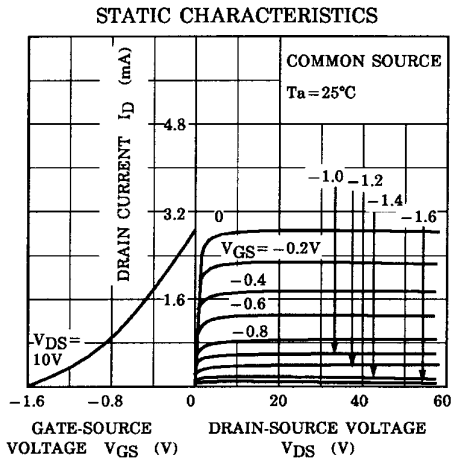


Weight: 0.21 g (typ.)

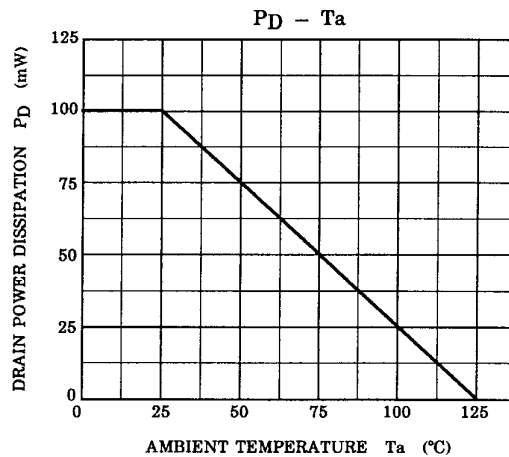
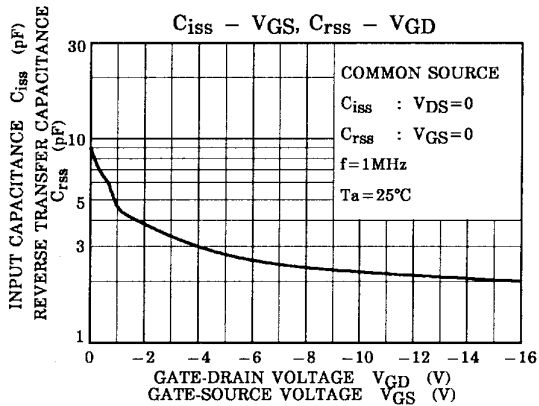
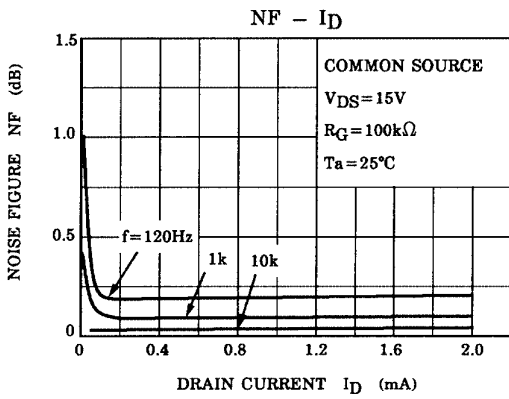
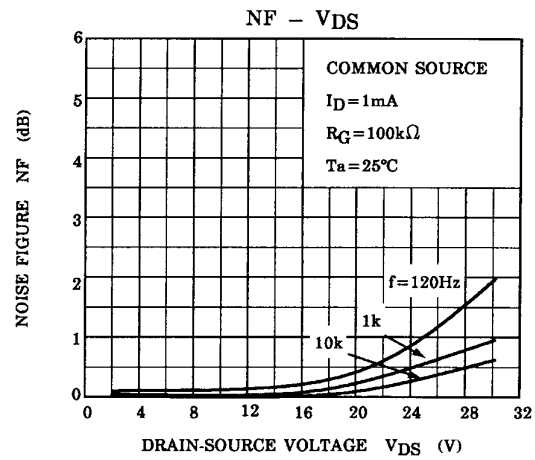
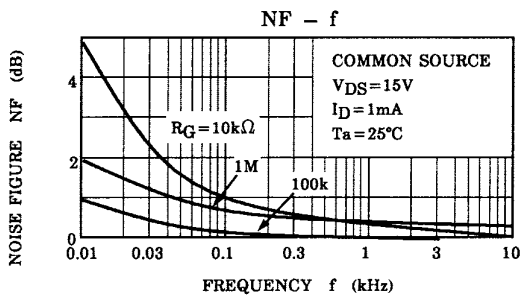
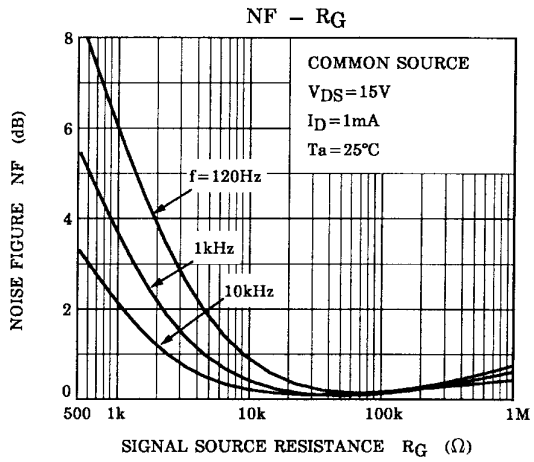
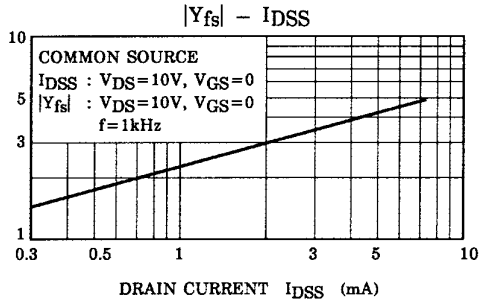
### Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Characteristics	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	$V_{(BR)GDS}$	$V_{DS} = 0$ , $I_G = -100\text{ }\mu\text{A}$	-50	—	—	V
Drain current	$I_{DSS}$ (Note)	$V_{DS} = 10\text{ V}$ , $V_{GS} = 0$	0.3	—	6.5	mA
Gate-source cut-off voltage	$V_{GS(OFF)}$	$V_{DS} = 10\text{ V}$ , $I_D = 0.1\text{ }\mu\text{A}$	-0.4	—	-5.0	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{ V}$ , $V_{GS} = 0$ , $f = 1\text{ kHz}$	1.2	—	—	mS
Input capacitance	$C_{iss}$	$V_{GS} = 0$ , $V_{DS} = 0$ , $f = 1\text{ MHz}$	—	8.2	—	pF
Reverse transfer capacitance	$C_{rss}$	$V_{GD} = -10\text{ V}$ , $V_{DS} = 0$ , $f = 1\text{ MHz}$	—	2.6	—	pF
Noise figure	NF	$V_{DS} = 15\text{ V}$ , $V_{GS} = 0$ $R_G = 100\text{ k}\Omega$ , $f = 120\text{ Hz}$	—	0.5	5.0	dB

Note:  $I_{DSS}$  classification R: 0.30~0.75, O: 0.60~1.40, Y: 1.20~3.00, GR: 2.60~6.50



FORWARD TRANSFER ADMITTANCE  
 $|Y_{fs}|$  (mS)



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