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# 2SK435

Silicon N-Channel Junction FET

# HITACHI

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## Application

Low frequency / High frequency amplifier

## Outline

TO-92 (2)



1. Drain
2. Source
3. Gate

## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Drain to source voltage	$V_{DS}$	22	V
Gate to source voltage	$V_{GSO}$	-22	V
Drain current	$I_D$	100	mA
Gate current	$I_G$	10	mA
Channel power dissipation	Pch	300	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

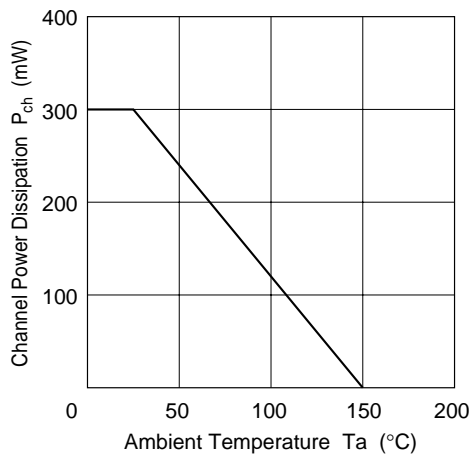
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Gate to source breakdown voltage	$V_{(BR)GSS}$	-22	—	—	V	$I_G = -10 \mu A, V_{DS} = 0$
Gate cutoff current	$I_{GSS}$	—	—	-10	nA	$V_{GS} = -15 V, V_{DS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	—	—	-2.5	V	$V_{DS} = 5 V, I_D = 10 \mu A$
Drain current	$I_{DSS}^{*1}$	6	—	40	mA	$V_{DS} = 5 V, V_{GS} = 0, \text{Pulse test}$
Forward transfer admittance	$ y_{fs} $	20	—	—	mS	$V_{DS} = 5 V, I_D = 10 \text{ mA}, f = 1 \text{ kHz}$
Input capacitance	Ciss	—	9.0	11.0	pF	$V_{DS} = 5 V, V_{GS} = 0, f = 1 \text{ MHz}$
Reverse transfer capacitance	Crss	—	2.8	4.0	pF	$V_{DS} = 5 V, V_{GS} = 0, f = 1 \text{ MHz}$
Noise figure	NF	—	0.5	3.0	dB	$V_{DS} = 5 V, I_D = 1 \text{ mA}, f = 1 \text{ kHz}, R_G = 1 \text{ k}\Omega$

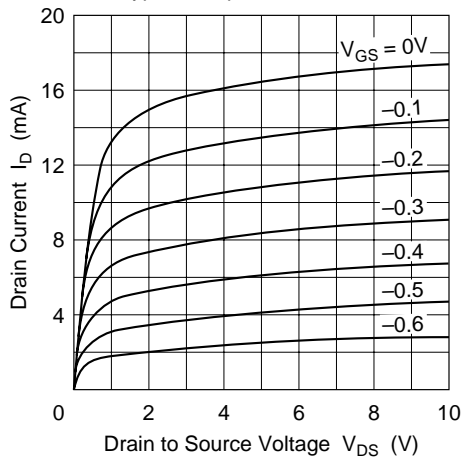
Note: 1. The 2SK435 is grouped by  $I_{DSS}$  as follows.

Grade	B	C	D	E
$I_{DSS}$	6 to 14	12 to 22	18 to 30	26 to 40

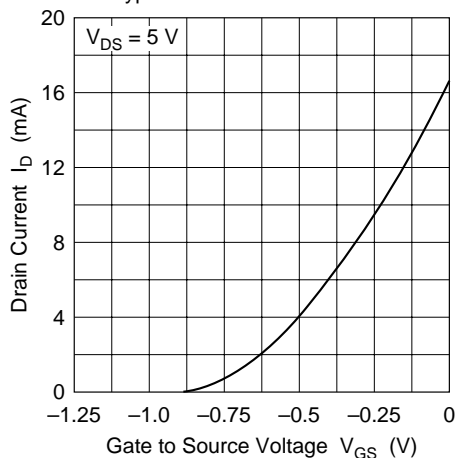
Maximum Channel Dissipation Curve



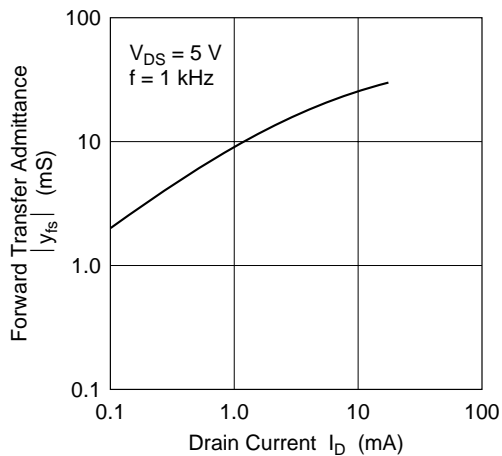
Typical Output Characteristics

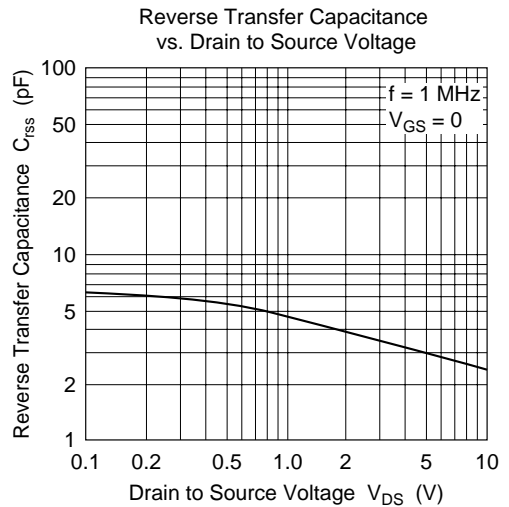
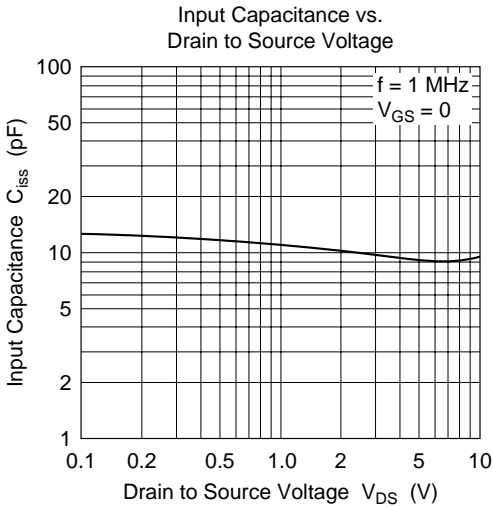
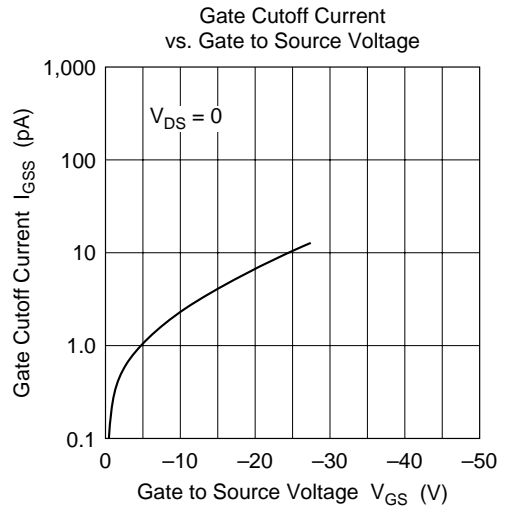
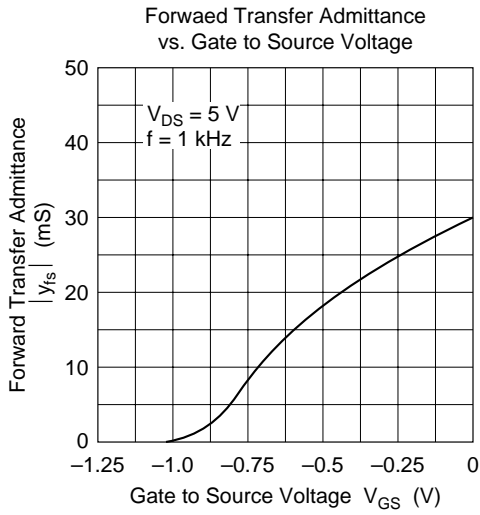


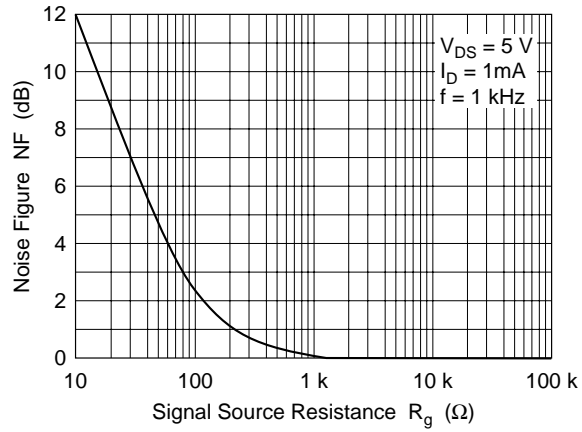
Typical Transfer Characteristics



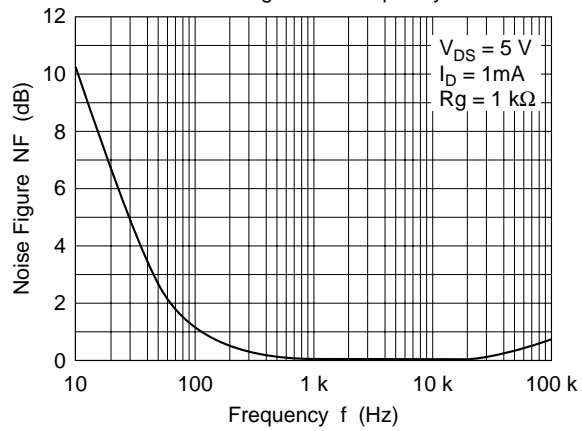
Forward Transfer Admittance vs. Drain Current

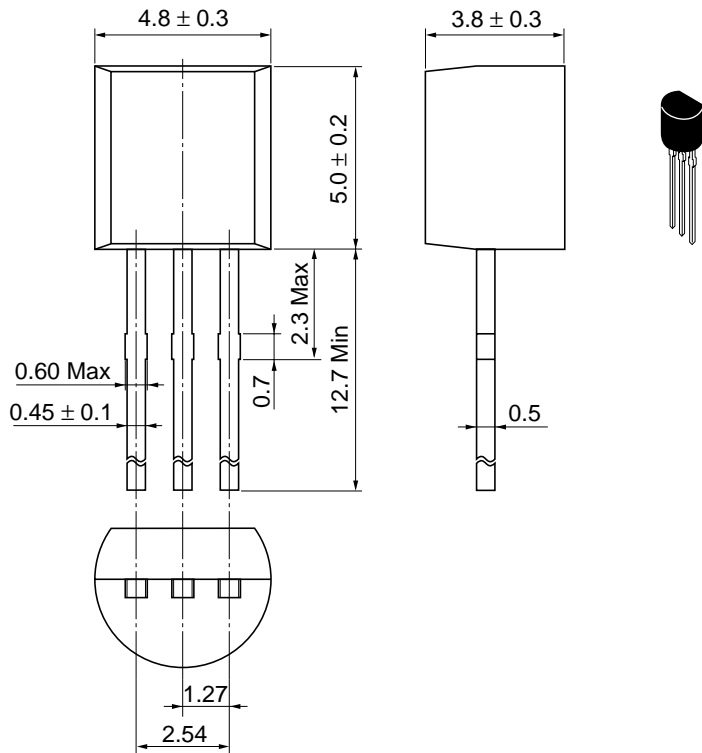




Noise Figure vs.  
Signal Source Resistance

Noise Figure vs. Frequency





Hitachi Code	TO-92 (2)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 g

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