To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

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Keep safety first in your circuit designs!

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   Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SK435

Silicon N-Channel Junction FET

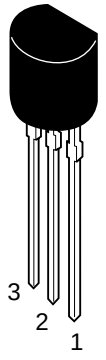
ADE-208-1171 (Z)
1st. Edition
Mar. 2001

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

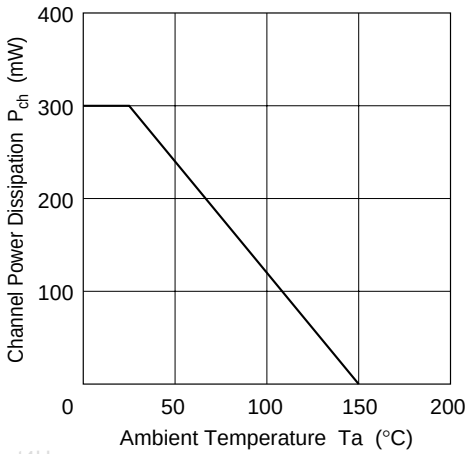
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Gate to source breakdown voltage	$V_{(BR)GSS}$	–22	—	—	V	I_G = –10 µA, 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 µA
Drain current	I_{DSS}*[1]	6	—	40	mA	V_{DS} = 5 V, V_{GS} = 0, Pulse test
Forward transfer admittance	$\|y_{fs}\|$	20	—	—	mS	V_{DS} = 5 V, I_D = 10 mA, f = 1kHz
Input capacitance	Ciss	—	9.0	11.0	pF	V_{DS} = 5 V, V_{GS} = 0, f = 1MHz
Reverse transfer capacitance	Crss	—	2.8	4.0	pF	V_{DS} = 5 V, V_{GS} = 0, f = 1MHz
Noise figure	NF	—	0.5	3.0	dB	V_{DS} = 5 V, I_D = 1 mA, f = 1kHz, Rg = 1kΩ

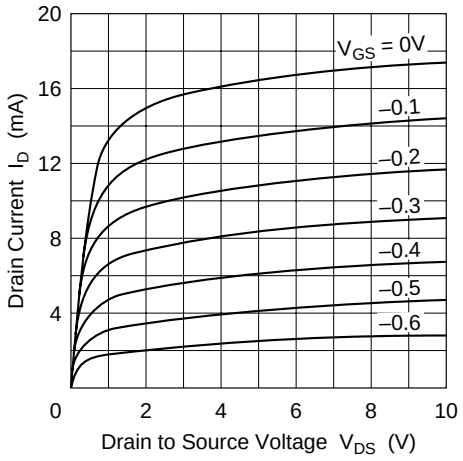
Note: 1. The 2SK435 is grouped by I_{DSS} as follows.

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

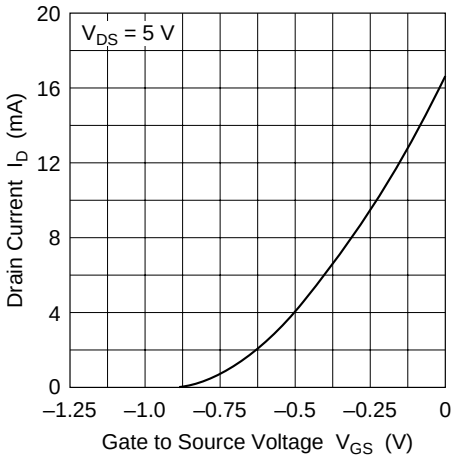
Maximum Channel Dissipation Curve



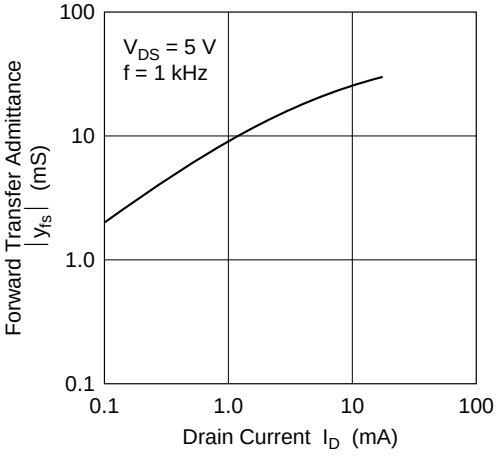
Typical Output Characteristics



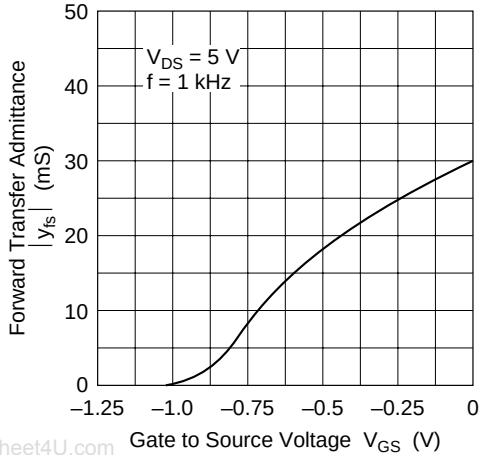
Typical Transfer Characteristics



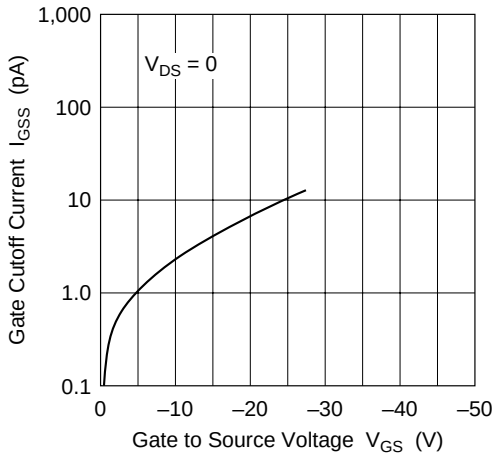
Forward Transfer Admittance vs. Drain Current



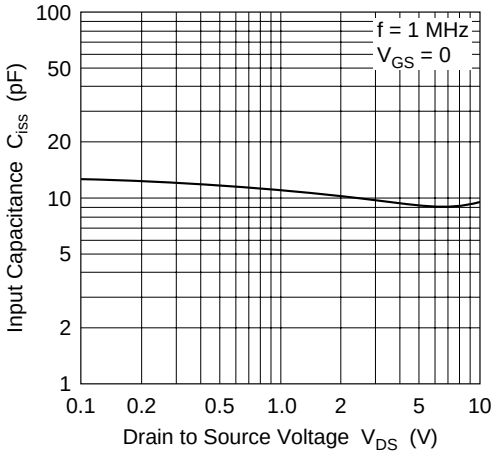
Forwaed Transfer Admittance vs. Gate to Source Voltage



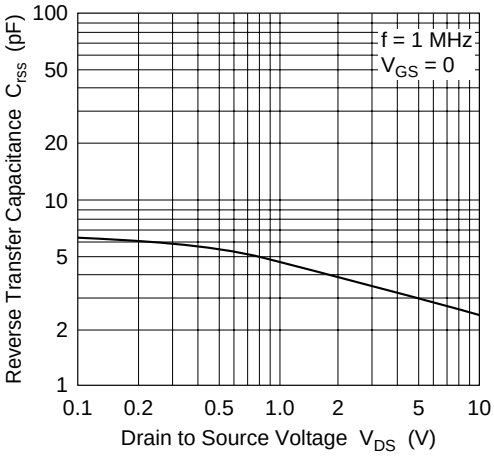
Gate Cutoff Current vs. Gate to Source Voltage



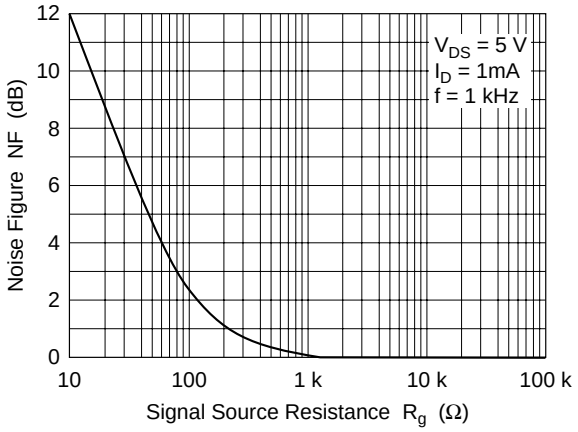
Input Capacitance vs. Drain to Source Voltage



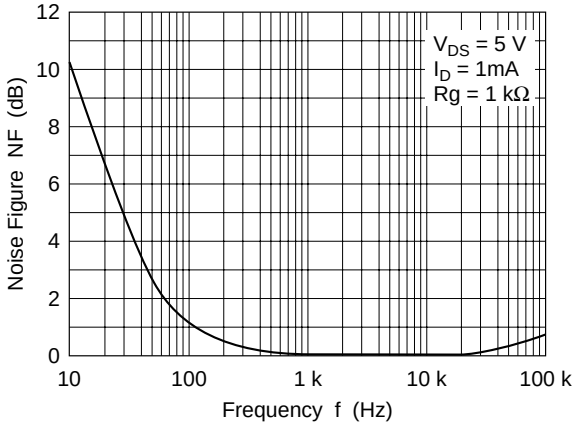
Reverse Transfer Capacitance vs. Drain to Source Voltage



Noise Figure vs.
Signal Source Resistance



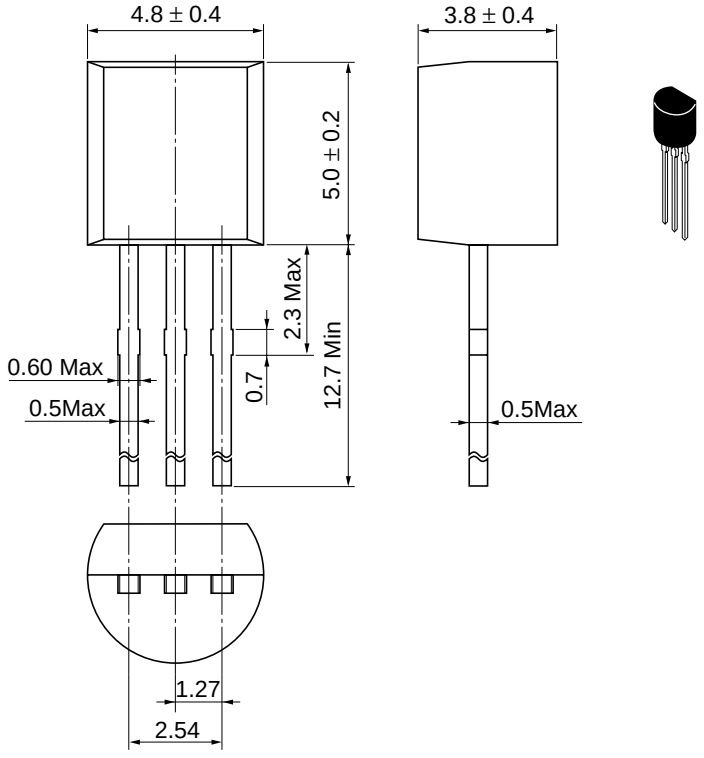
Noise Figure vs. Frequency



Package Dimensions

As of January, 2001

Unit: mm



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

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