Ordering number: EN836G

SANYO

No.836G

2SK222

N-Channel Junction Silicon FET

Low-Frequency, Low-Noise Amp Applications

Features

- Ultralow noise figure.
- Large $|y_{fs}|$.
- Low gate leakage current.

Absolute Maximum Ratings at Ta = 25°C

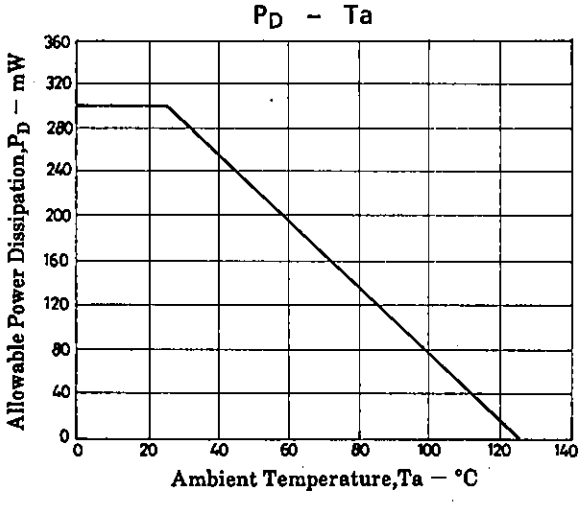
			unit
Drain-to-Source Voltage	V_{DSS}	40	V
Gate-to-Drain Voltage	V_{GDS}	−40	V
Gate Current	I_G	10	mA
Allowable Power Dissipation	P_D	300	mW
Junction Temperature	Tj	125	°C
Storage Temperature	Tstg	−40 to +125	°C

Electrical Characteristics at Ta = 25°C

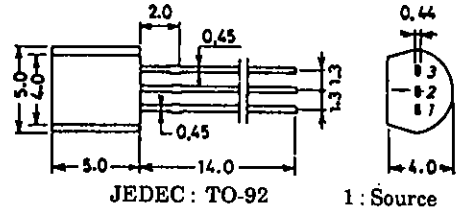
			min	typ	max	unit
G-D Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -100\mu A$	−40			V
Gate Cutoff Current	I_{GSS}	$V_{GS} = -20V$			−1.0	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 10\mu A$		0.5		V
Drain Current	I_{DSS}	$V_{DS} = 10V, V_{GS} = 0$	0.6※		12.0※	mA
Forward Transfer Admittance	$\|y_{fs}\|$	$V_{DS} = 10V, V_{GS} = 0, f = 1kHz$		17		mS
Input Capacitance	Ciss	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$		14		pF
Reverse Transfer Capacitance	Crss	$V_{DS} = 10V, V_{GS} = 0, f = 1MHz$		3.5		pF
Noise Figure	NF(1)	$V_{DS} = 10V, V_{GS} = 0, Rg = 1k\Omega, f = 100Hz$		1.0	3.0	dB
	NF(2)	$V_{DS} = 10V, V_{GS} = 0, Rg = 1k\Omega, f = 1kHz$		0.6	1.5	dB
Equivqlent Input Noise Voltage	V_{NI}	$V_{DS} = 10V, V_{GS} = 0, Rg = 1k\Omega, f = 1kHz$		2		$nV/\sqrt{Hz}$

※ : The 2SK222 is classified by I_{DSS} as follows : (unit : mA)

0.6 C 1.5	1.2 D 3.0	2.5 E 6.0	5.0 F 12.0



Package Dimensions 2019B
(unit : mm)

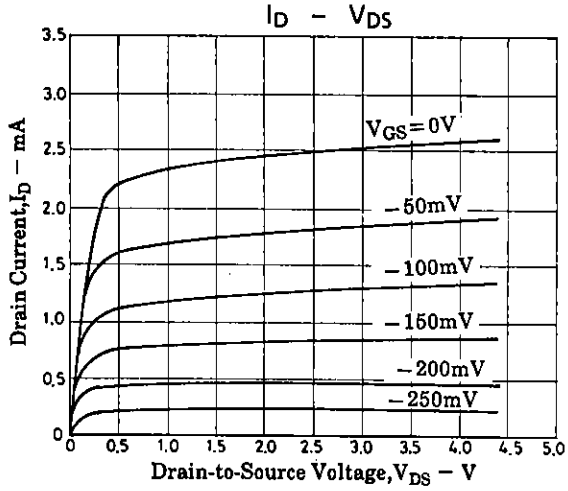


JEDEC : TO-92
EIAJ : SC-43
SANYO : NP

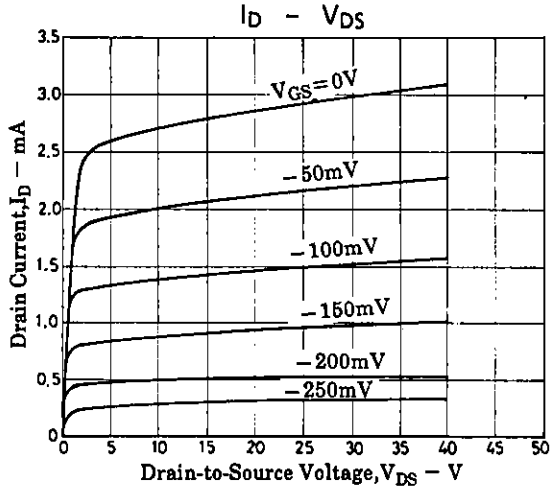
1 : Source
2 : Gate
3 : Drain

SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

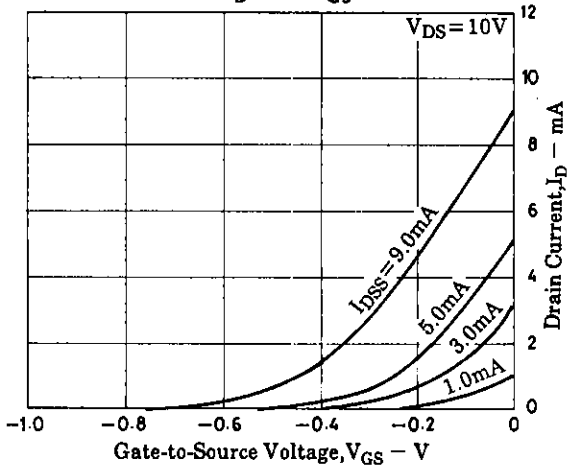
I_D – V_{DS}



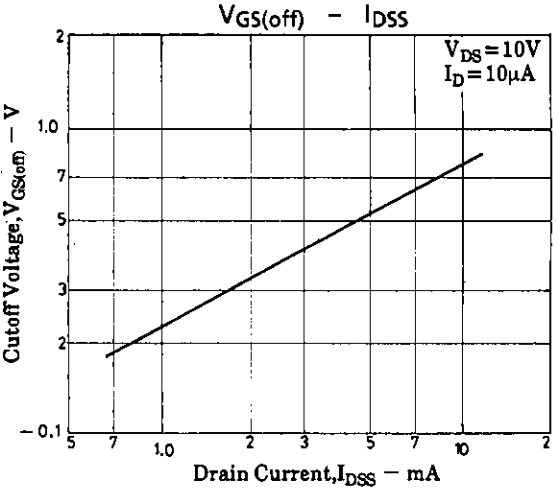
I_D – V_{DS}



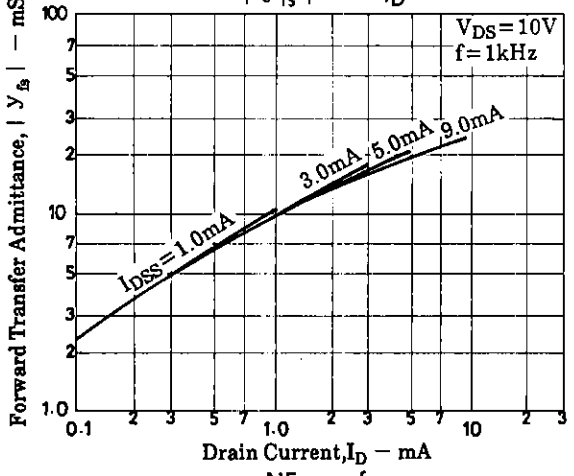
I_D – V_{GS}



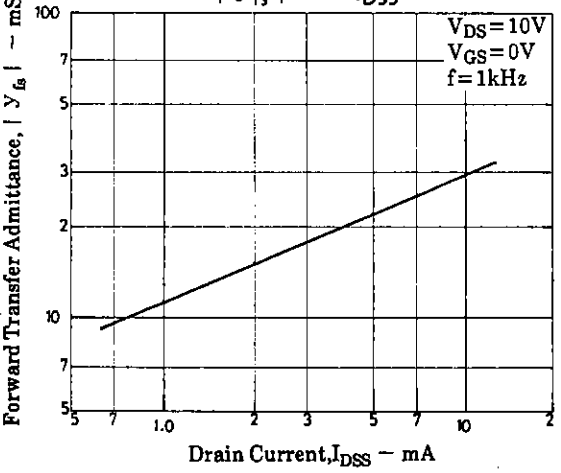
$V_{GS(off)}$ – I_{DSS}



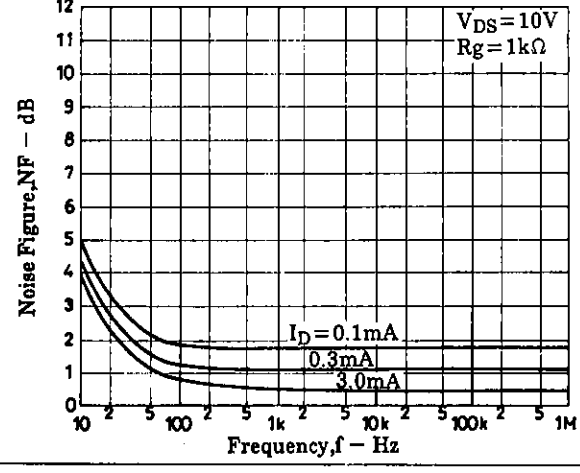
$|y_{fs}|$ – I_D



$|y_{fs}|$ – I_{DSS}



NF – f



NF – f