

## 2SK222

# Low-Frequency, Low Noise Amplifier Applications

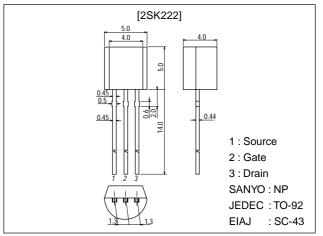
#### **Features**

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

## **Package Dimensions**

unit:mm

2019B



## **Specifications**

### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		40	V
Gate-to-Drain Voltage	V <sub>GDS</sub>		-40	V
Gate Current	IG		10	mA
Allowable Power Dissipation	P <sub>D</sub>		300	mW
Junction Temperature	Tj		125	°C
Storage Temperature	Tstg		-40 to +125	°C

#### Electrical Characteristics at Ta = 25°C

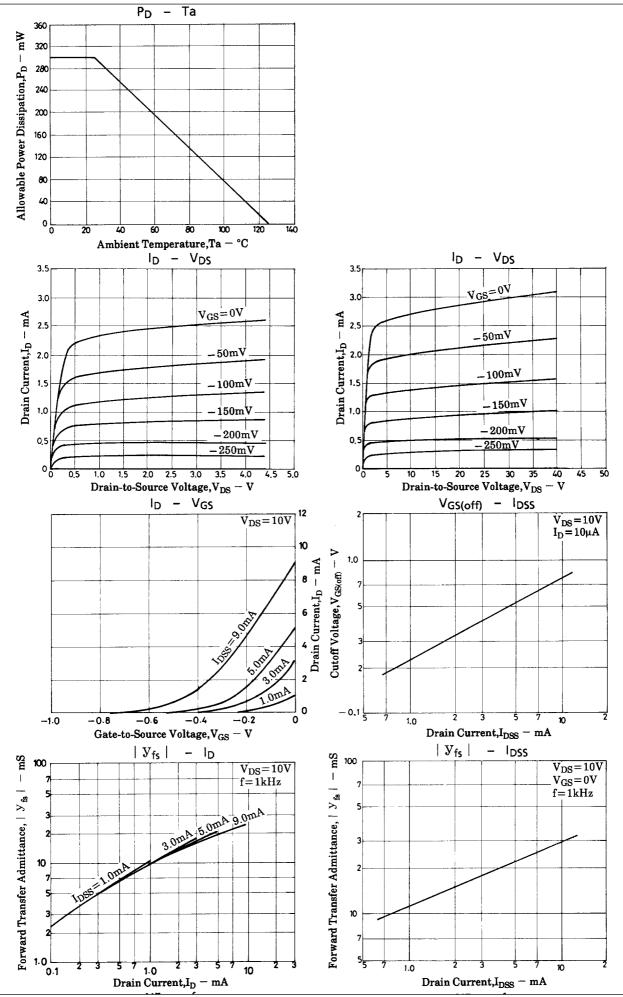
herein.

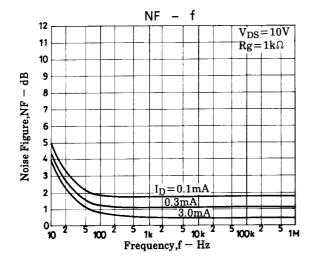
Parameter	Symbol	Conditions	Unit
Farameter		min typ max	
Gate-to-Drain Breakdown Voltage	V(BR)GDS	I <sub>G</sub> =-100μA -40	V
Gate-to-Source Leakage Current	IGSS	V <sub>GS</sub> =-20V -1.0	nA
Zero-Gate Voltage Drain Current	I <sub>DSS</sub> *	$V_{DS}=10V, V_{GS}=0$ 0.6* 12.0*	mA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =10μA 0.5	V
Forward Transfer Admittance	yfs	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1kHz	mS
Input Capacitance	Ciss	$V_{DS}$ =10V, $V_{GS}$ =0, f=1MHz	pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	pF
Noise Figure	NF1	$V_{DS}=10V, V_{GS}=0, Rg=1k\Omega, f=100Hz$ 1.0 3.0	dB
Noise i iguie	NF2	$V_{DS}=10V$ , $V_{GS}=0$ , $Rg=1k\Omega$ , $f=1kHz$ 0.6 1.5	dB
Equivqlent Input Noise Voltage	V <sub>NI</sub>	$V_{DS}$ =10V, $V_{GS}$ =0, Rg=1k $\Omega$ , f=1kHz 2	nV/√Hz
* : The 2SK222 is classified by I <sub>DSS</sub> as follows : (unit : mA).		0.6 C 1.5 1.2 D 3.0 2.5 E 6.0 5.0 F 12.0	

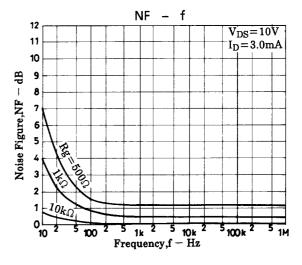
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