

# 2SK2593

## Silicon N-Channel Junction FET

For low-frequency amplification

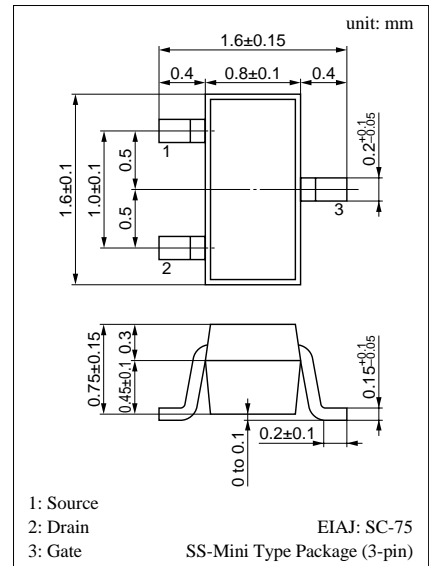
For switching

### ■ Features

- Low noises, high gain
- High gate to drain voltage  $V_{GDO}$
- Mini-type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

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

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DSX}$	55	V
Gate to Drain voltage	$V_{GDO}$	-55	V
Gate to Source voltage	$V_{GSO}$	-55	V
Drain current	$I_D$	$\pm 30$	mA
Gate current	$I_G$	10	mA
Allowable power dissipation	$P_D$	125	mW
Junction temperature	$T_j$	125	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$



Marking Symbol (Example): 2B

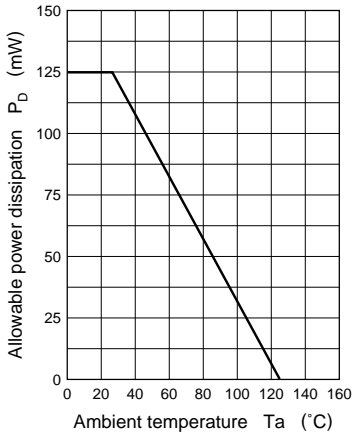
### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}^*$	$V_{DS} = 10\text{V}, V_{GS} = 0$	1		20	mA
Gate to Source leakage current	$I_{GSS}$	$V_{GS} = -30\text{V}, V_{DS} = 0$			10	nA
Gate to Drain voltage	$V_{GDS}$	$I_G = -100\mu\text{A}, V_{DS} = 0$	55	80		V
Gate to Source cut-off voltage	$V_{GSC}$	$V_{DS} = 10\text{V}, I_D = 10\mu\text{A}$			-5	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{V}, I_D = 5\text{mA}, f = 1\text{kHz}$	2.5	7.5		mS
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		6.5		pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			1.9		pF
Noise figure	NF	$V_{DS} = 10\text{V}, V_{GS} = 0, R_g = 100\text{k}\Omega$ $f = 100\text{Hz}$		2.5		dB

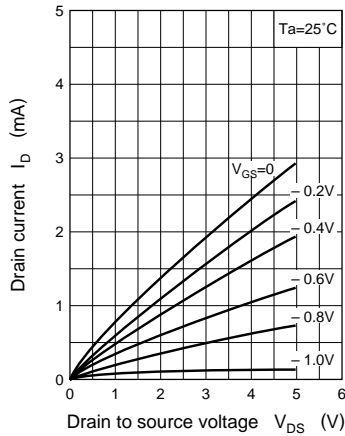
\*  $I_{DSS}$  rank classification

Runk	P	Q	R	S
$I_{DSS}$ (mA)	1 to 3	2 to 6.5	5 to 12	10 to 20
Marking Symbol	2BP	2BQ	2BR	2BS

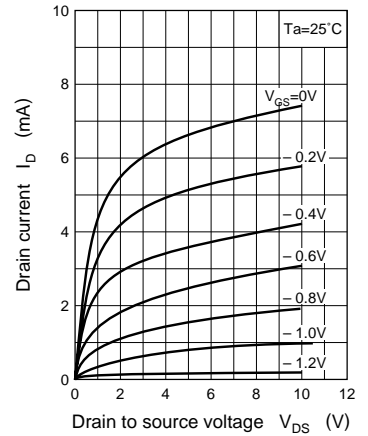
$P_D - T_a$



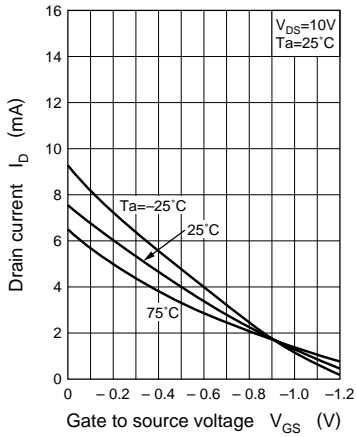
$I_D - V_{DS}$



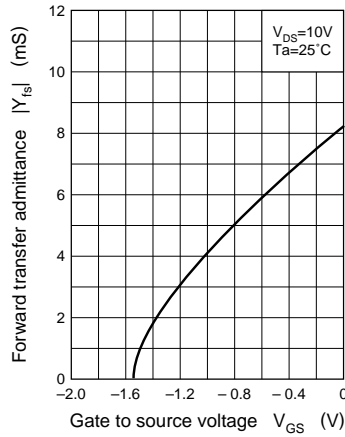
$I_D - V_{DS}$



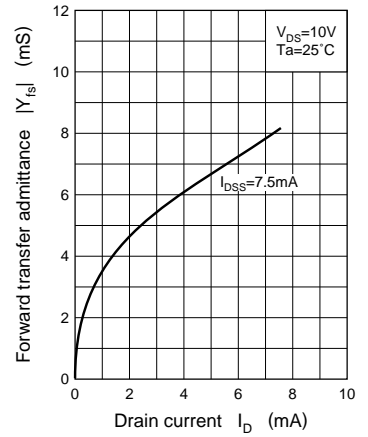
$I_D - V_{GS}$



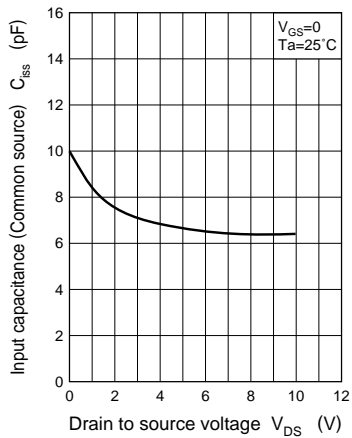
$|Y_{fs}| - V_{GS}$



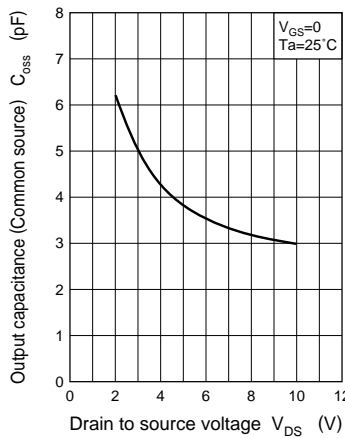
$|Y_{fs}| - I_D$



$C_{iss} - V_{DS}$



$C_{oss} - V_{DS}$



$C_{rss} - V_{DS}$

