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# ON Semiconductor DATA SHEET

## 2SK1069 — N-Channel Junction Silicon FET Low-Frequency General-Purpose Amplifier Applications

### Applications

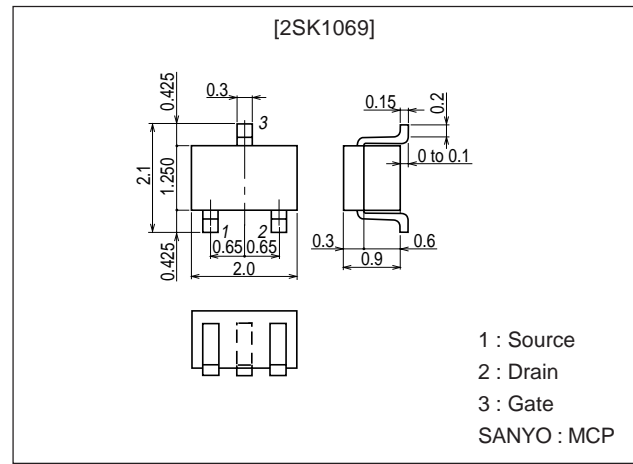
- Low-frequency general-purpose amplifiers.
- Ideal for use in variable resistors, analog switches, low-frequency amplifiers, and constant-current circuits.

### Features

- Adoption of FBET process.
- Ultrasmall-sized package permitting 2SK1069-applied sets to be made smaller and slimmer.

### Package Dimensions

unit:mm  
2058



### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSX}$		40	V
Gate-to-Drain Voltage	$V_{GDS}$		-40	V
Gate Current	$I_G$		10	mA
Drain Current	$I_D$		20	mA
Allowable Power Dissipation	$P_D$		150	mW
Junction Temperature	$T_j$		150	°C
Storage Temperature	$T_{stg}$		-55 to +150	°C

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Gate-to-Drain Breakdown Voltage	$V_{(BR)GDS}$	$I_G = -10\mu A, V_{DS} = 0$	-40			V
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = -20V, V_{DS} = 0$			-1.0	nA
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 10V, V_{GS} = 0$	1.2*		12.0*	mA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10V, I_D = 1\mu A$	-0.3	-0.9	-2.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = 10V, V_{GS} = 0, f = 1kHz$	4.5	9.0		mS

\* : The 2SK1069 is classified by  $I_{DSS}$  as follows (unit : mA) :

1.2	3	3.0	2.5	4	6.0	5.0	5	12.0
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(Note) Marking : FJ

$I_{DSS}$  rank : 3, 4, 5

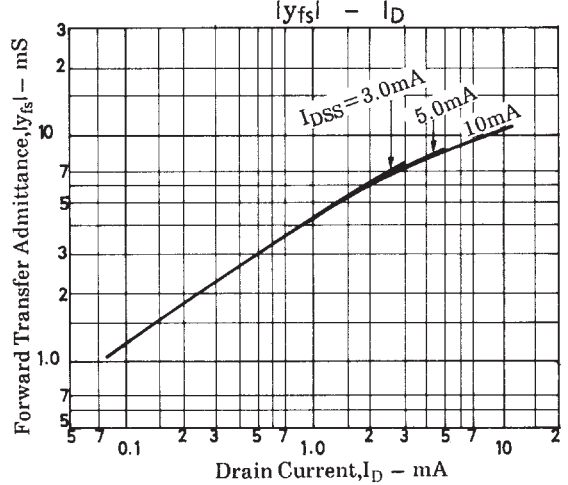
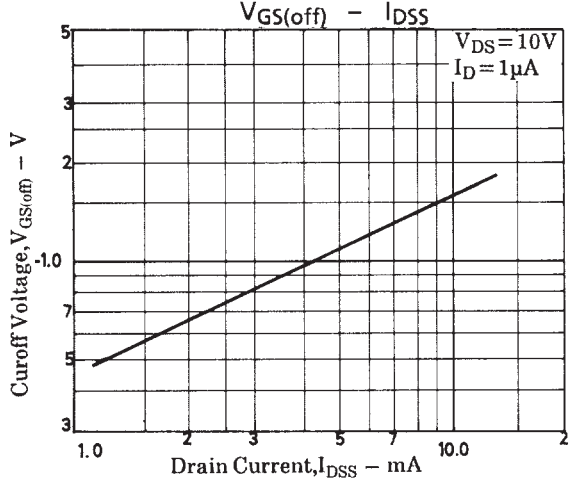
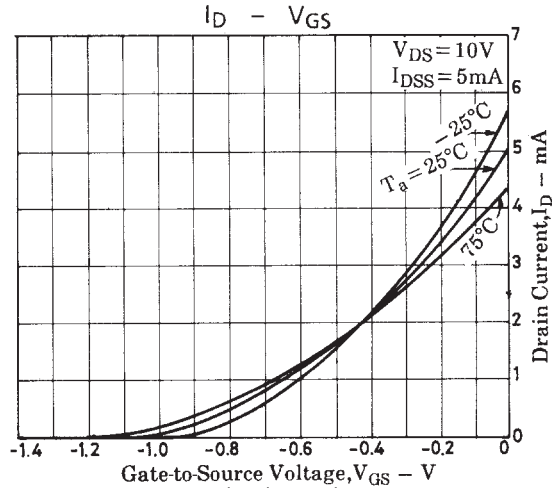
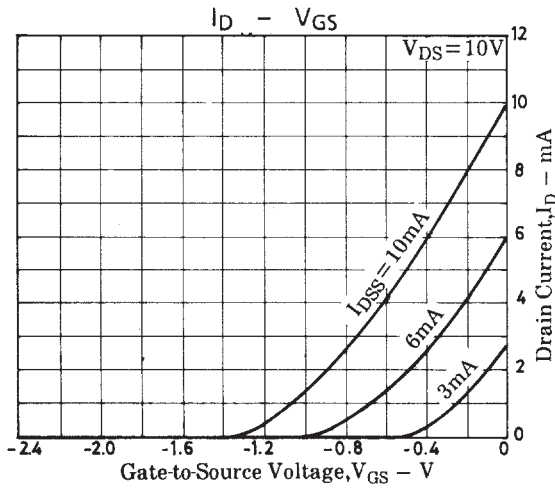
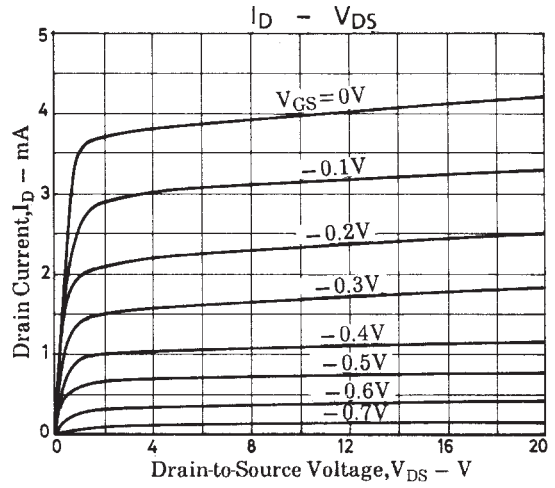
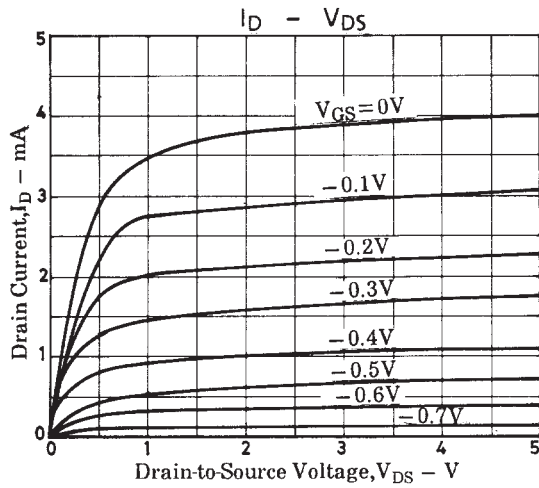
- For CP package version, use the 2SK771.

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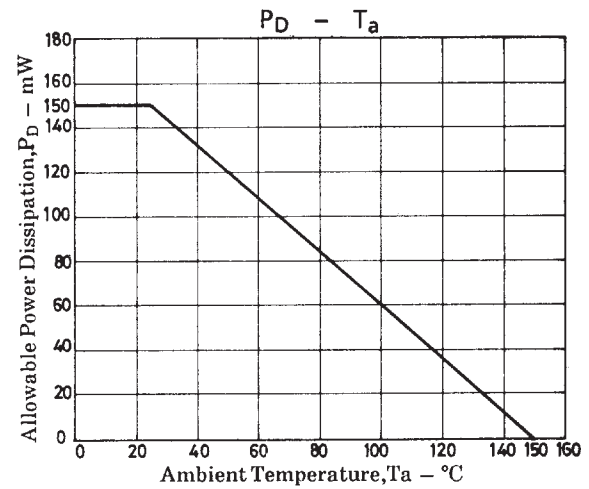
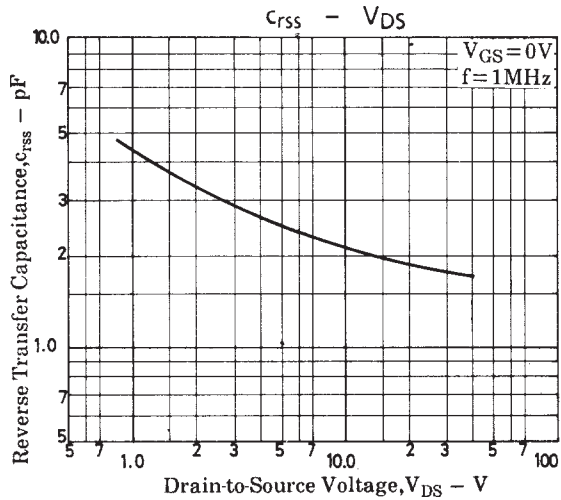
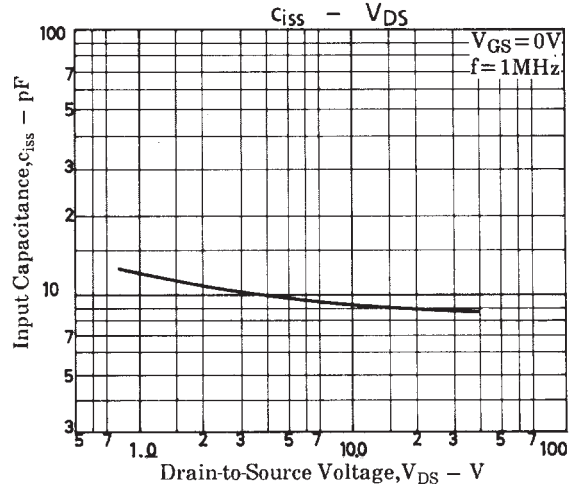
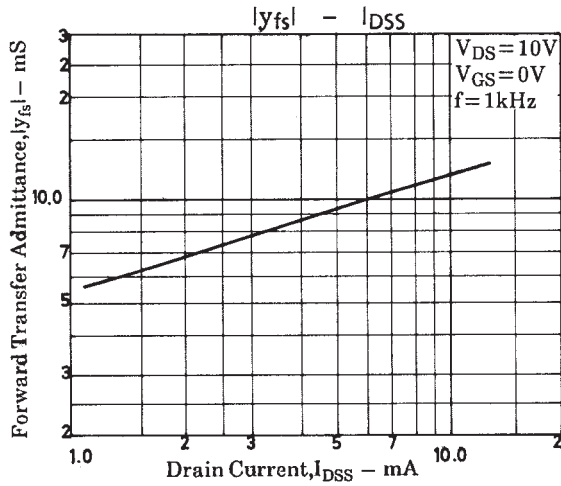
# 2SK1069

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Parameter	Symbol	Conditions	Ratings	Unit
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	9.0	pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	2.1	pF
Noise Figure	NF	V <sub>DS</sub> =10V, R <sub>g</sub> =1kΩ, I <sub>D</sub> =1mA, f=1kHz	1.5	dB



# 2SK1069



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