

**2SK1069**

## 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.

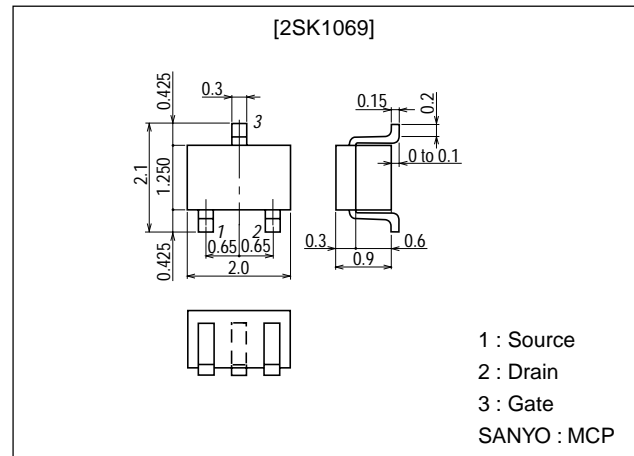
### Features

- 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 |
|-----|---|-----|-----|---|-----|-----|---|------|

(Note) Marking : FJ

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

• For CP package version, use the 2SK771.

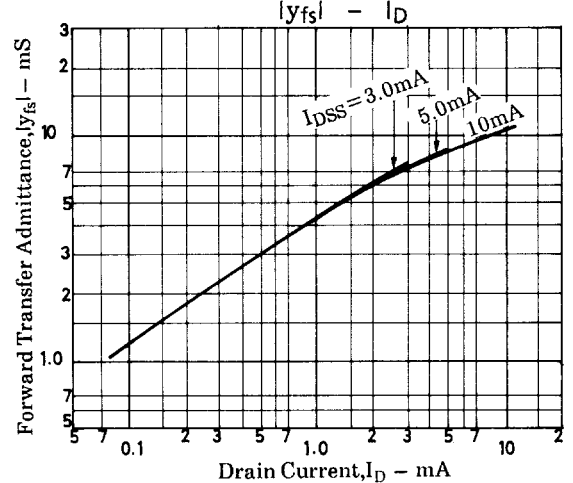
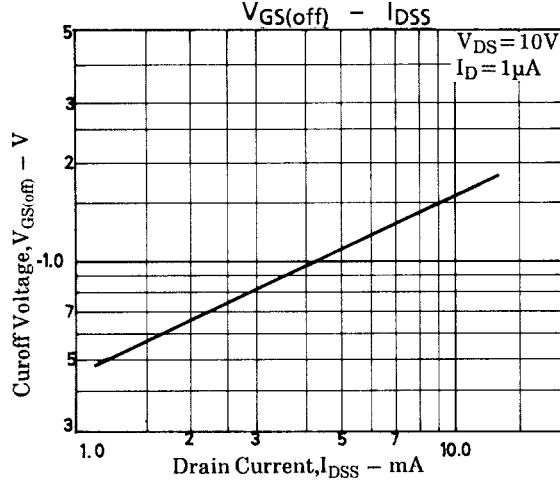
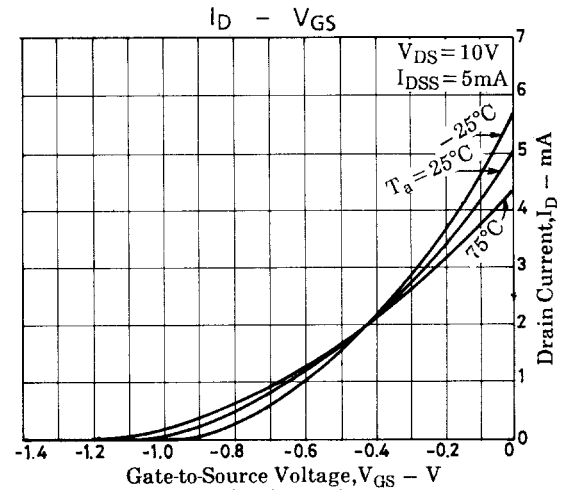
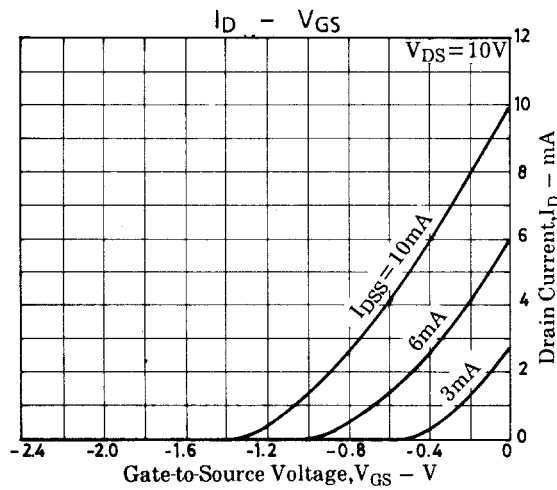
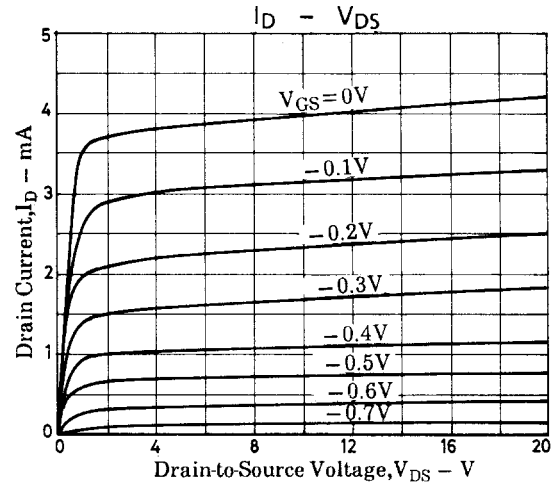
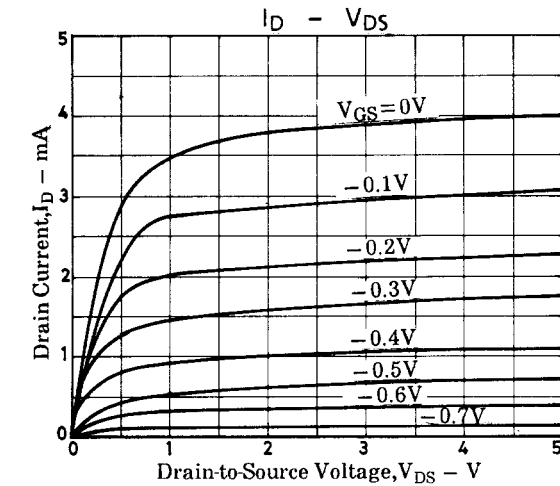
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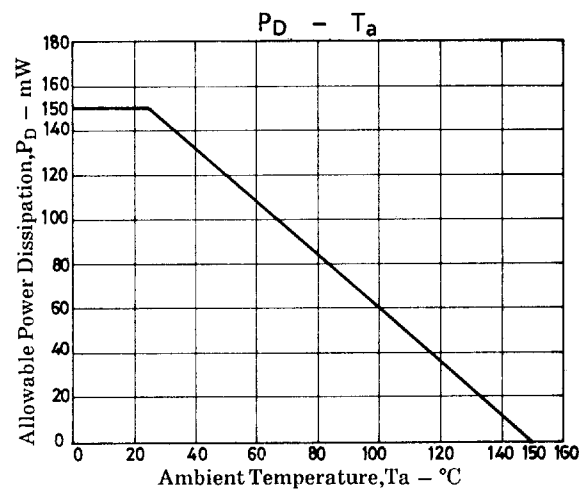
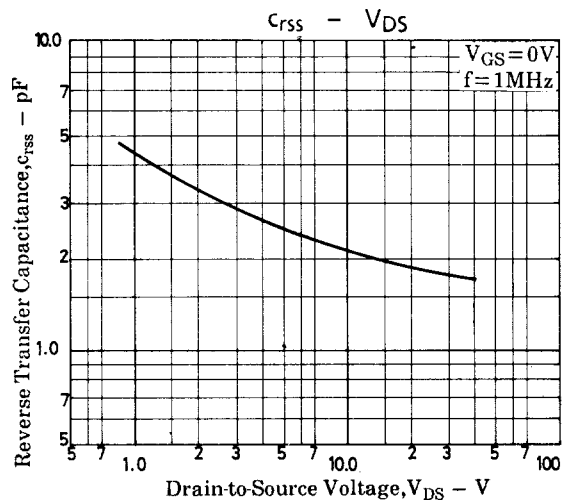
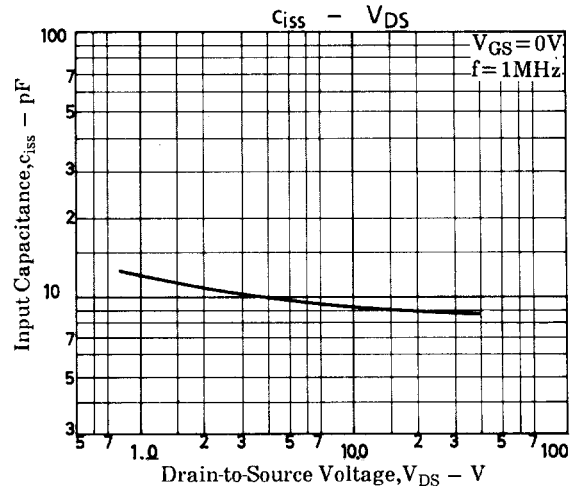
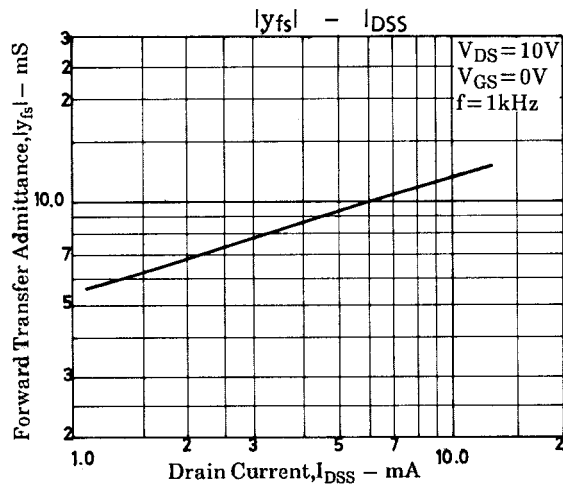
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| Parameter                    | Symbol    | Conditions                                  | Ratings | Unit |
|------------------------------|-----------|---|---------|------|
| Input Capacitance            | $C_{iss}$ | $V_{DS}=10V, V_{GS}=0, f=1MHz$              | 9.0     | pF   |
| Reverse Transfer Capacitance | $C_{rss}$ | $V_{DS}=10V, V_{GS}=0, f=1MHz$              | 2.1     | pF   |
| Noise Figure                 | NF        | $V_{DS}=10V, R_g=1k\Omega, I_D=1mA, f=1kHz$ | 1.5     | dB   |





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