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| SANYO | No.659K | 2SK223 |
| | | N-Channel Silicon Junction FET |

High Voltage Driver Applications

Features

- Ultrahigh withstand voltage ($V_{GDS} \geq -80V$).
- Due to low gate leakage currents even at high voltages, the 2SK223 is suitable for a wide range of applications ($I_{GDL} = 1nA/V_{DS} = 50V, I_D = 1mA$).
- High $|Y_{fs}|$ ($|Y_{fs}| = 20mS/V_{DS} = 30V, f = 1kHz$).

Absolute Maximum Ratings at $T_a = 25^\circ C$

| | | | unit |
|-----------------------------|-----------|-------------|------------|
| Drain-to-Source Voltage | V_{DSS} | 80 | V |
| Gate-to-Drain Voltage | V_{GDS} | -80 | V |
| Gate Current | I_G | 10 | mA |
| Allowable Power Dissipation | P_D | 400 | mW |
| Junction Temperature | T_j | 125 | $^\circ C$ |
| Storage Temperature | T_{stg} | -40 to +125 | $^\circ C$ |

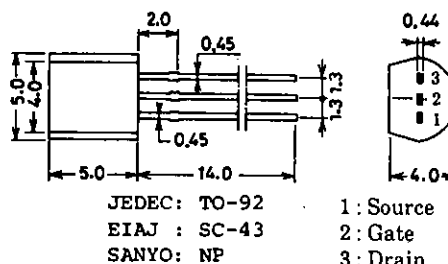
Electrical Characteristics at $T_a = 25^\circ C$

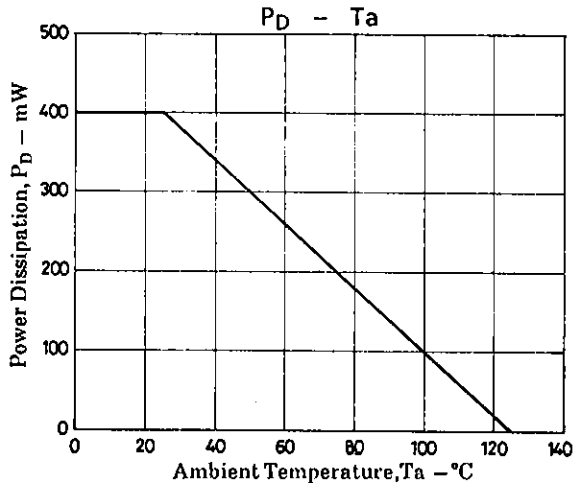
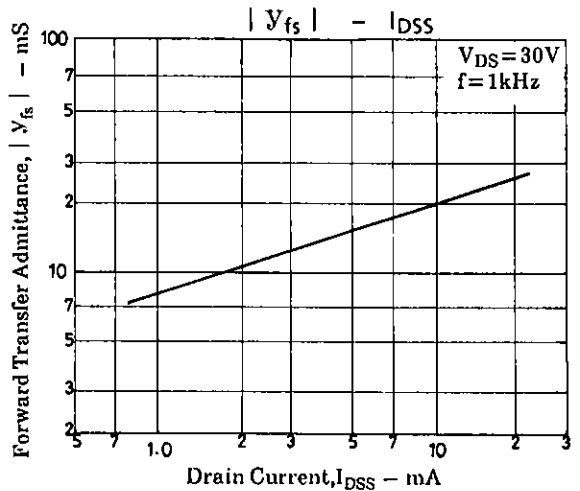
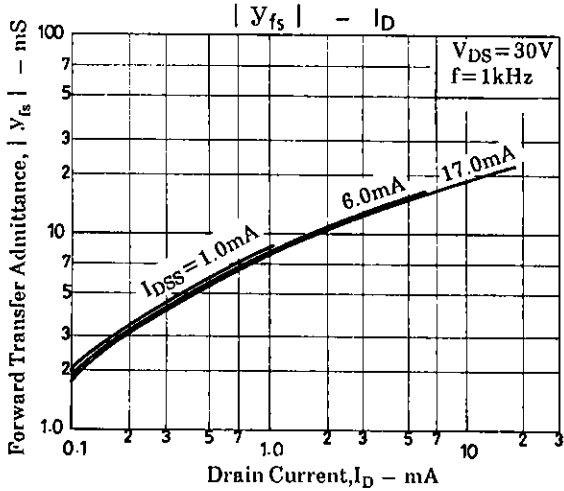
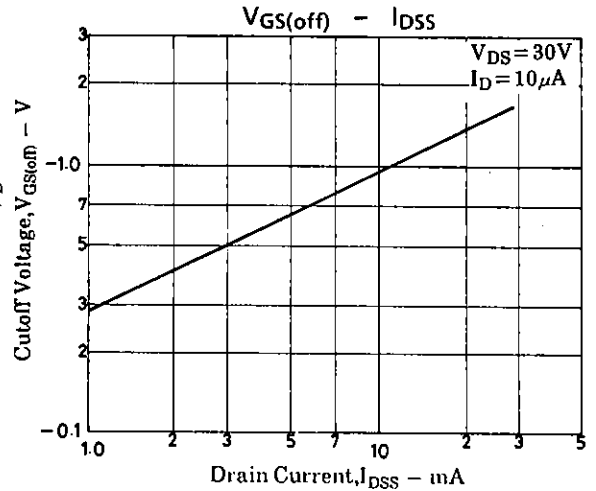
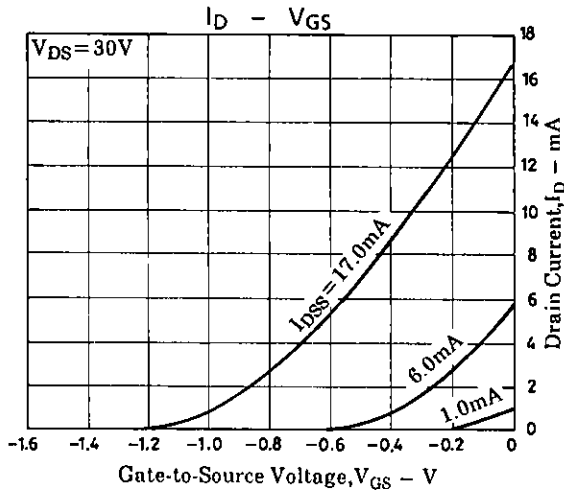
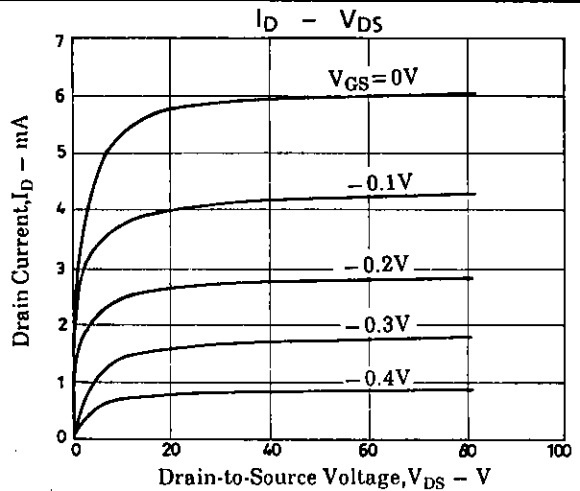
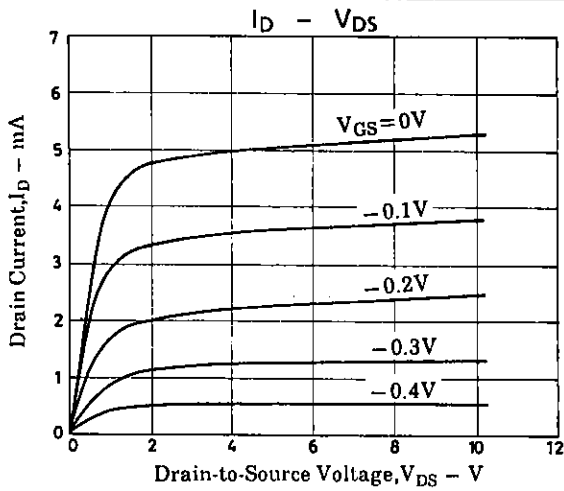
| | | | min | typ | max | unit |
|---------------------------------|---------------|--|-------|-----|------|------|
| Gate-to-Drain Breakdown Voltage | $V_{(BR)GDS}$ | $I_G = -100\mu A$ | -80 | | | V |
| Gate Cutoff Current | I_{GSS} | $V_{GS} = -30V, V_{DS} = 0$ | | | -1.0 | nA |
| Drain Current | I_{DSS} | $V_{DS} = 30V, V_{GS} = 0$ | 1.2* | | 24* | mA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = 30V, I_D = 10\mu A$ | -0.75 | | | V |
| Forward Transfer Admittance | $ Y_{fs} $ | $V_{DS} = 30V, V_{GS} = 0, f = 1kHz$ | | 20 | | mS |
| Input Capacitance | C_{iss} | $V_{DS} = 30V, V_{GS} = 0, f = 1MHz$ | | 12 | | pF |
| Reverse Transfer Capacitance | C_{rss} | $V_{DS} = 30V, V_{GS} = 0, f = 1MHz$ | | 2.5 | | pF |
| Noise Figure | NF | $V_{DS} = 10V, I_D = 3mA, R_g = 10k\Omega, f = 1kHz$ | | 1.5 | | dB |

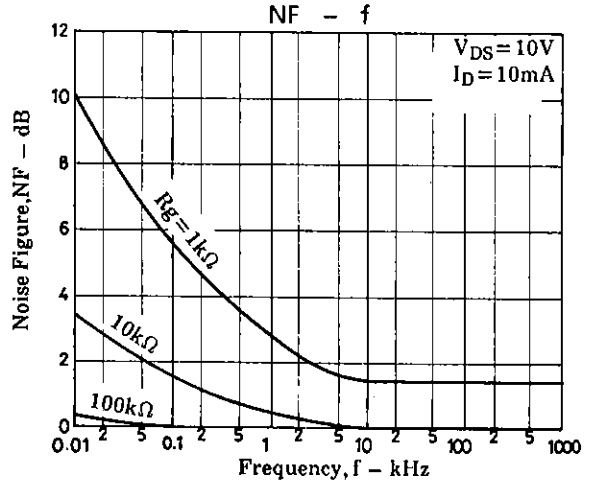
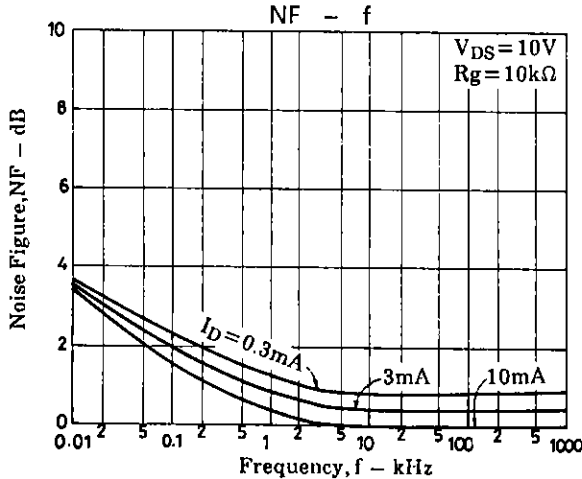
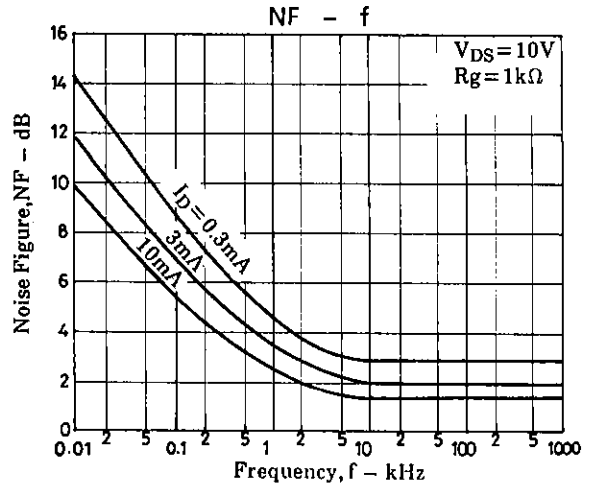
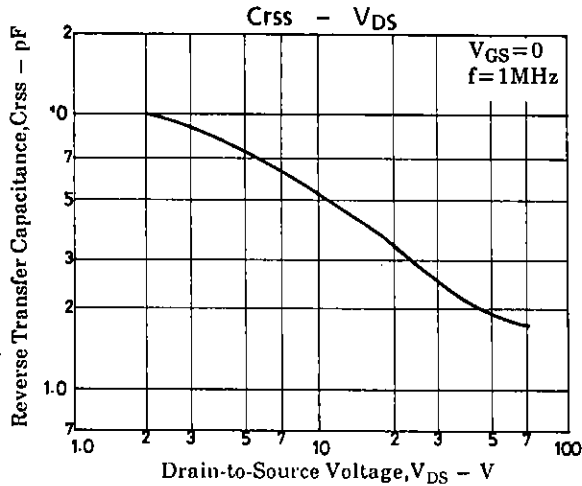
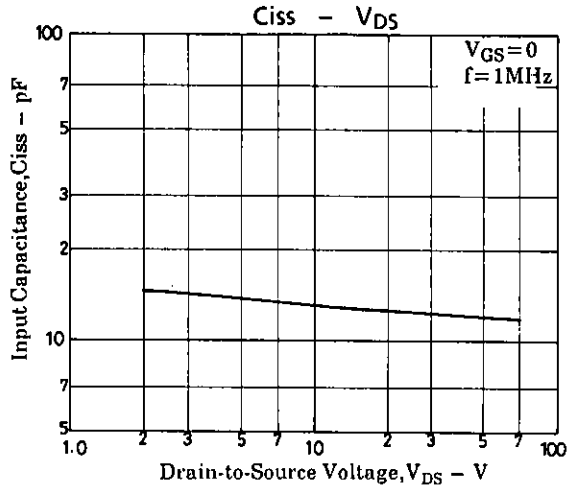
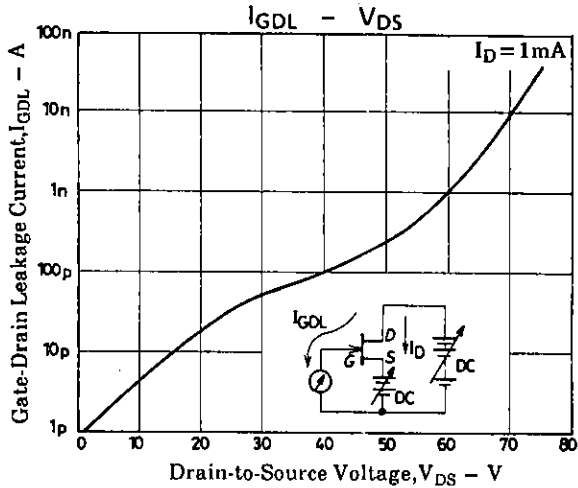
* The 2SK223 is classified by I_{DSS} as follows (unit : mm) :

| | | | |
|-----------|-----------|------------|-------------|
| 1.2 D 3.0 | 2.5 E 6.0 | 5.0 F 12.0 | 10.0 G 24.0 |
|-----------|-----------|------------|-------------|

Package Dimensions 2019B
(unit : mm)







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