



2SK2394

Low-Noise HF Amplifier Applications

An ON Semiconductor Company

Applications

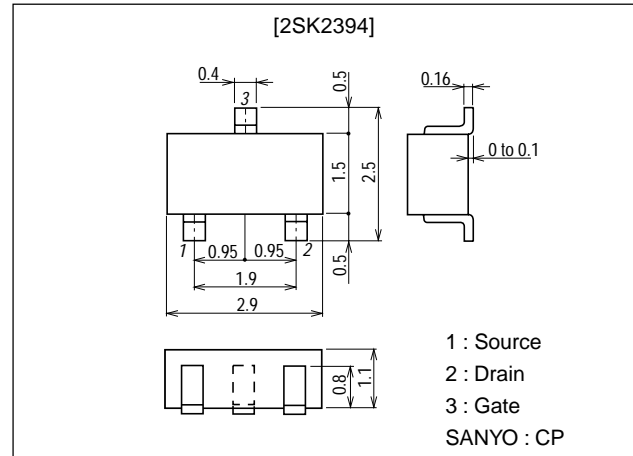
- AM tuner RF amplifier.
- Low-noise amplifier.

Features

- Large $|y_{fs}|$.
- Small Ciss.
- Small-sized package permitting 2SK2394-applied sets to be made small slim.
- Ultralow noise figure.

Package Dimensions

unit:mm
2050A



Specifications

Absolute Maximum Ratings at Ta = 25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|-----------|------------|-------------|------|
| Drain-to-Source Voltage | V_{DSX} | | 15 | V |
| Gate-to-Drain Voltage | V_{GDS} | | -15 | V |
| Gate Current | I_G | | 10 | mA |
| Drain Current | I_D | | 50 | mA |
| Allowable Power Dissipation | P_D | | 200 | 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 | $V_{(BR)GDS}$ | $I_G = -10\mu A, V_{DS} = 0$ | -15 | | | V |
| Gate Cutoff Current | I_{GSS} | $V_{GS} = -10V, V_{DS} = 0$ | | | -1.0 | nA |
| Cutoff Voltage | $V_{GS(off)}$ | $V_{DS} = 5V, I_D = 100\mu A$ | -0.3 | -0.7 | -1.5 | V |
| Drain Current | I_{DSS} | $V_{DS} = 5V, V_{GS} = 0$ | 6.0* | | 32.0* | mA |
| Forward Transfer Admittance | $ y_{fs} $ | $V_{DS} = 5V, V_{GS} = 0, f = 1kHz$ | 20 | 38 | | mS |
| Input Capacitance | Ciss | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$ | | 10.0 | | pF |
| Reverse Transfer Capacitance | Crss | $V_{DS} = 5V, V_{GS} = 0, f = 1MHz$ | | 2.9 | | pF |
| Noise Figure | NF | $V_{DS} = 5V, R_g = 1k\Omega, I_D = 1mA, f = 1kHz$ | | 1.0 | | dB |

* : The 2SK2394 is classified by I_{DSS} as follows : (unit : mA)

| | | | | | | | | |
|-----|---|------|------|---|------|------|---|------|
| 6.0 | 5 | 12.0 | 10.0 | 6 | 20.0 | 16.0 | 7 | 32.0 |
|-----|---|------|------|---|------|------|---|------|

Marking : YJ

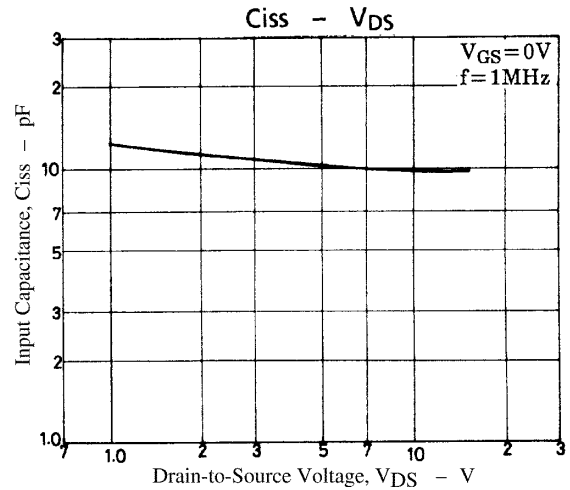
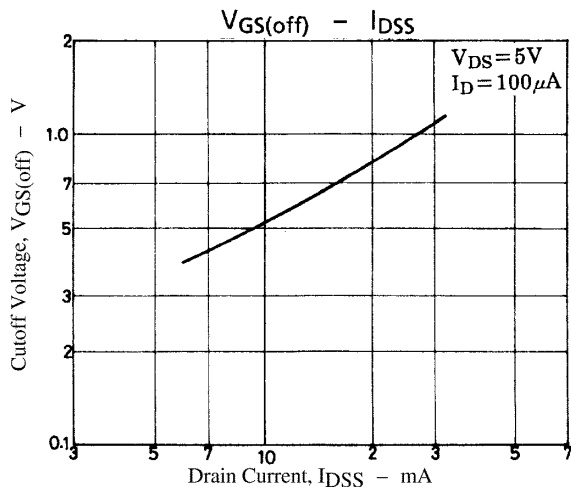
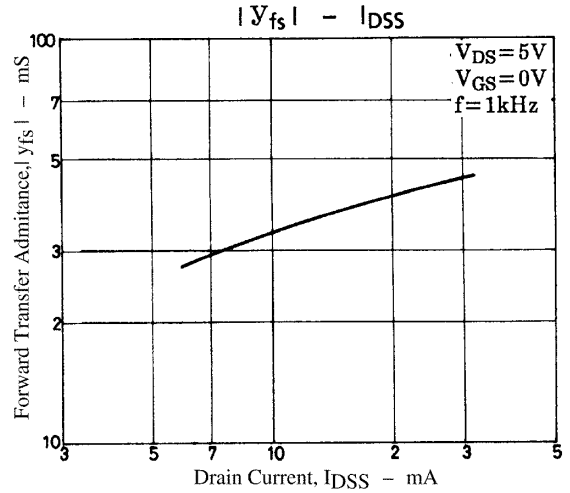
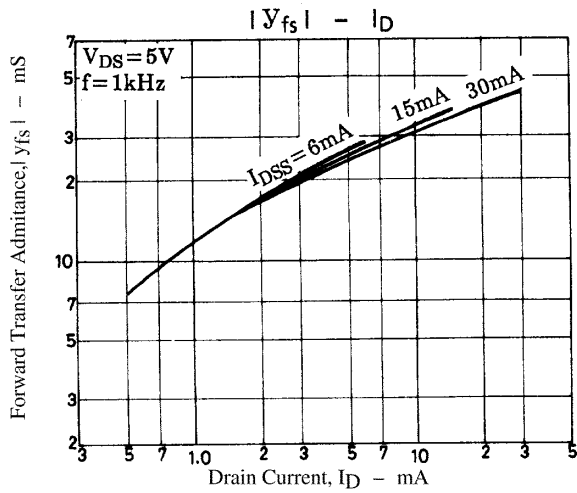
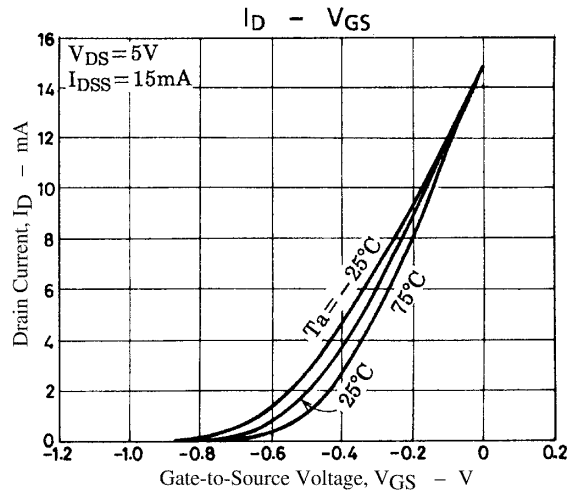
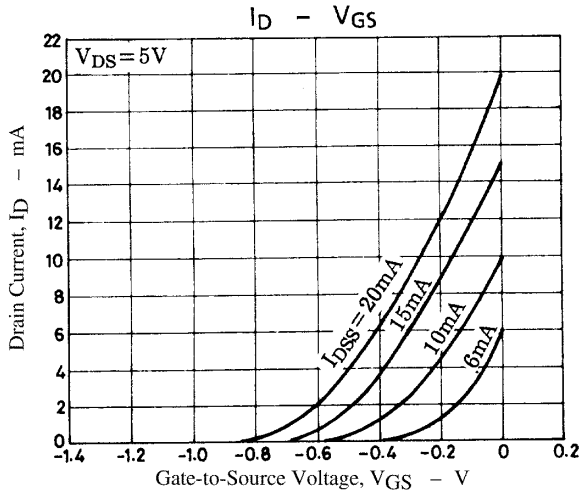
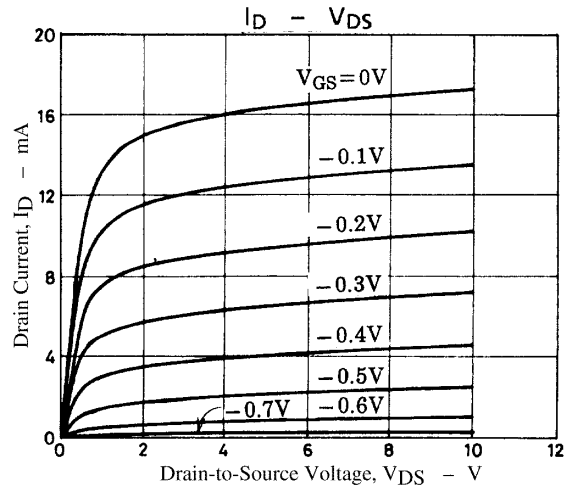
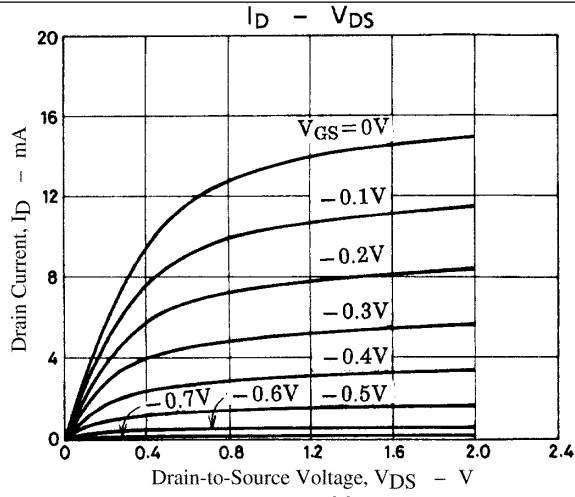
I_{DSS} rank : 5, 6, 7

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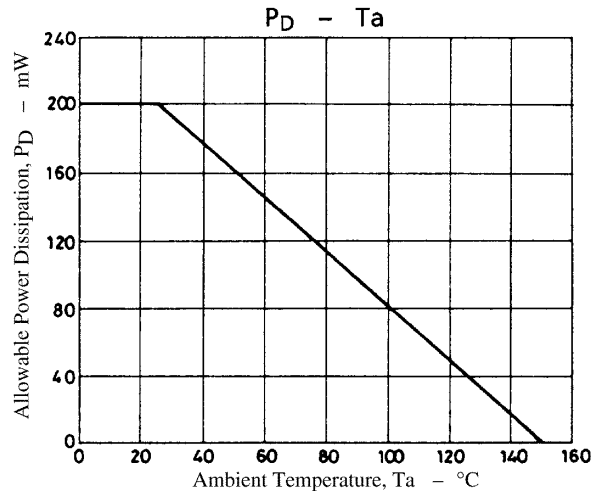
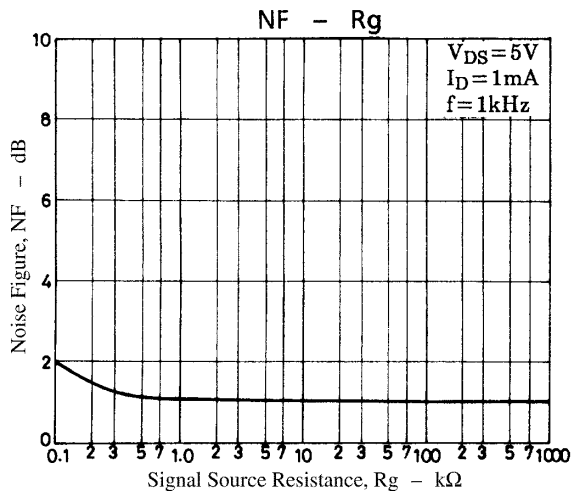
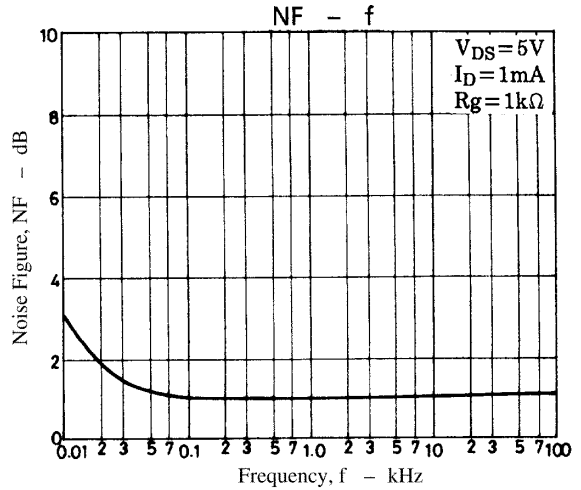
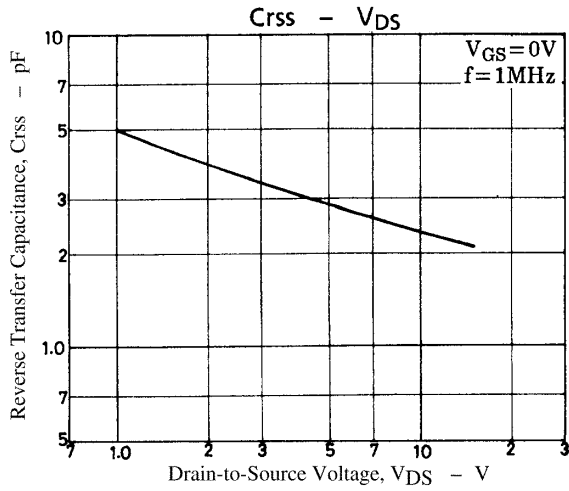
SANYO Electric Co., Ltd. Semiconductor Business Headquarters

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

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2SK2394



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Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.