



# 2SK544

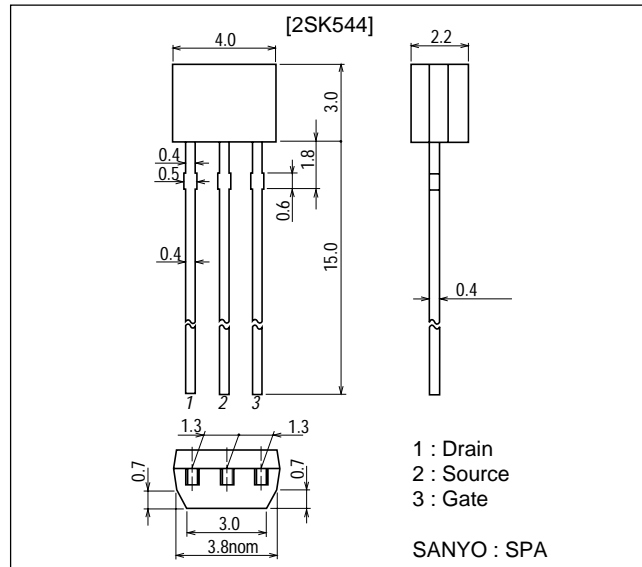
## FM Tuner, VHF Amplifier Applications

### Features

- Low noise : NF=1.8dB typ (f=100MHz).
- High power gain : PG=27dB typ (f=100MHz).
- Small reverse transfer capacitance : Crss=0.035pF (V<sub>DS</sub>=10V, f=1MHz).

### Package Dimensions

unit : mm  
2040A



### Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter                   | Symbol           | Conditions | Ratings     | Unit |
|-----------------------------|------------------|------------|-------------|------|
| Drain-to-Source Voltage     | V <sub>DS</sub>  |            | 20          | V    |
| Gate-to-Source Voltage      | V <sub>GS</sub>  |            | ±5          | V    |
| Drain Current               | I <sub>D</sub>   |            | 30          | mA   |
| Allowable Power Dissipation | P <sub>D</sub>   |            | 300         | mW   |
| Channel Temperature         | T <sub>ch</sub>  |            | 125         | °C   |
| Storage Temperature         | T <sub>stg</sub> |            | -55 to +150 | °C   |

### Electrical Characteristics at Ta=25°C

| Parameter                       | Symbol               | Conditions                                   | Ratings |     |      | Unit |
|---------------------------------|----------------------|--|---------|-----|------|------|
|                                 |                      |  | min     | typ | max  |      |
| Drain-to-Source Voltage         | V <sub>DSX</sub>     | V <sub>GS</sub> = -4V, I <sub>D</sub> =100μA | 20      |     |      | V    |
| Gate-to-Source Leakage Current  | I <sub>GS</sub>      | V <sub>DS</sub> =0, V <sub>GS</sub> =±5V     |         |     | 10   | nA   |
| Zero-Gate Voltage Drain Current | I <sub>DSS</sub> *   | V <sub>DS</sub> =10V, V <sub>GS</sub> =0     | 1.2*    |     | 12*  | mA   |
| Cutoff Voltage                  | V <sub>GS(off)</sub> | V <sub>DS</sub> =10V, I <sub>D</sub> =100μA  |         |     | -2.5 | V    |

\* : The 2SK544 is classified by I<sub>DSS</sub> as follows (unit : mA) :

| Rank             | D          | E          | F         |
|------------------|------------|------------|-----------|
| I <sub>DSS</sub> | 1.2 to 3.0 | 2.5 to 6.0 | 5.0 to 12 |

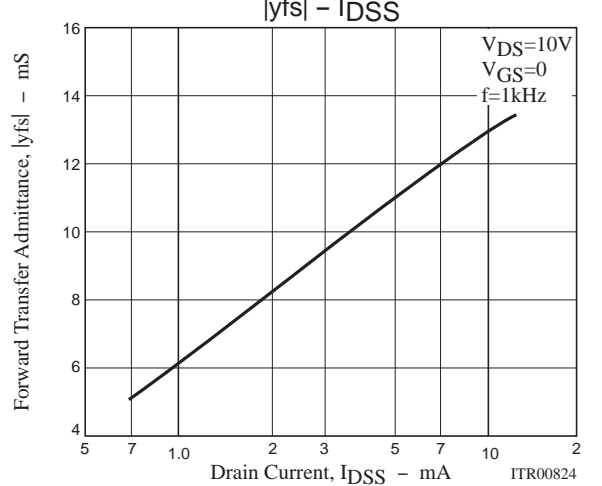
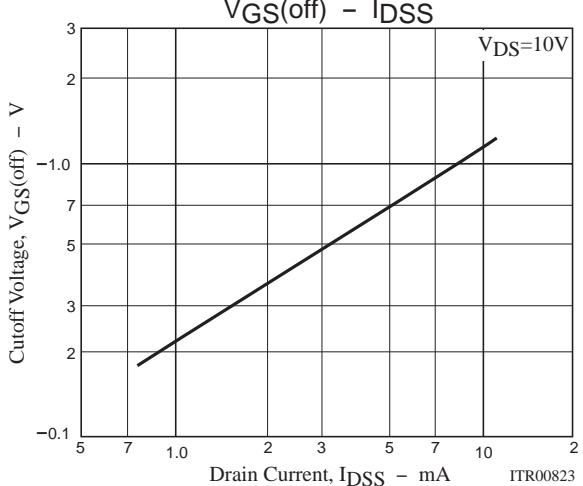
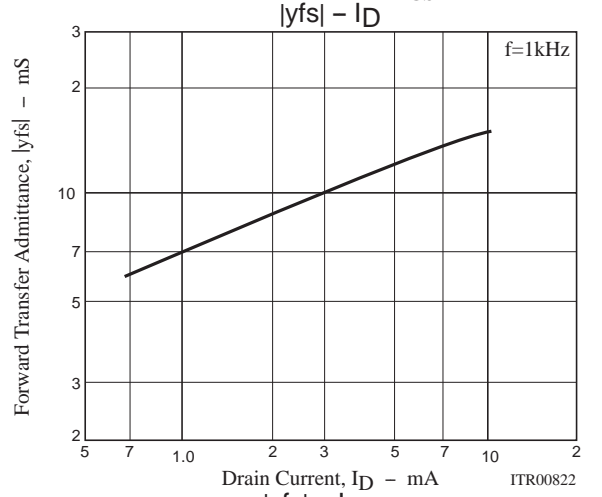
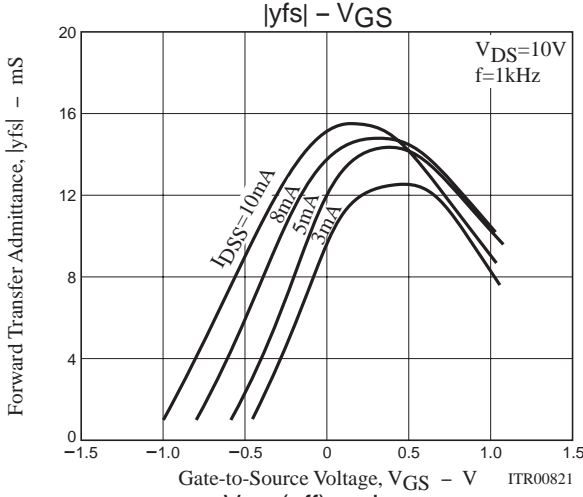
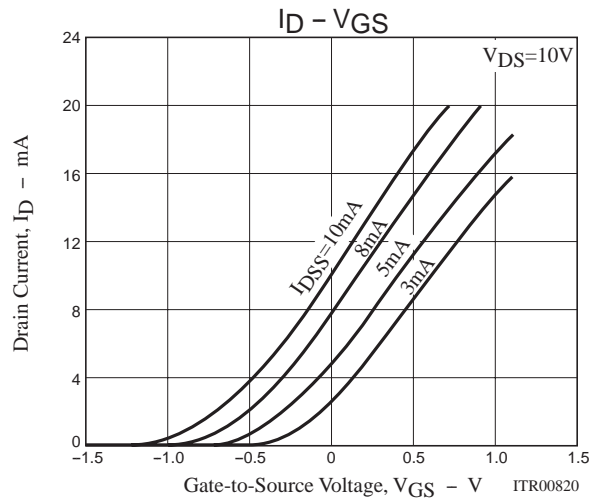
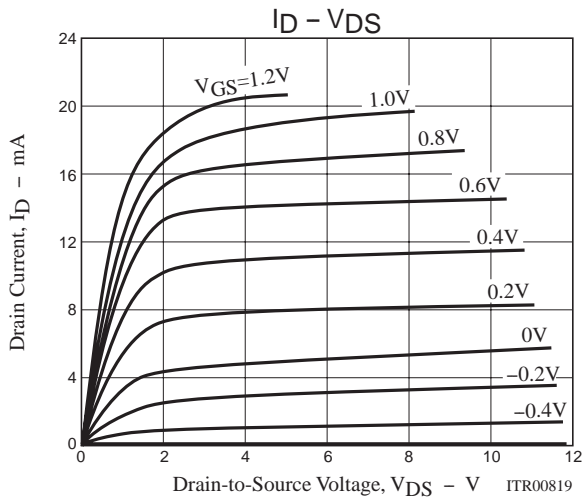
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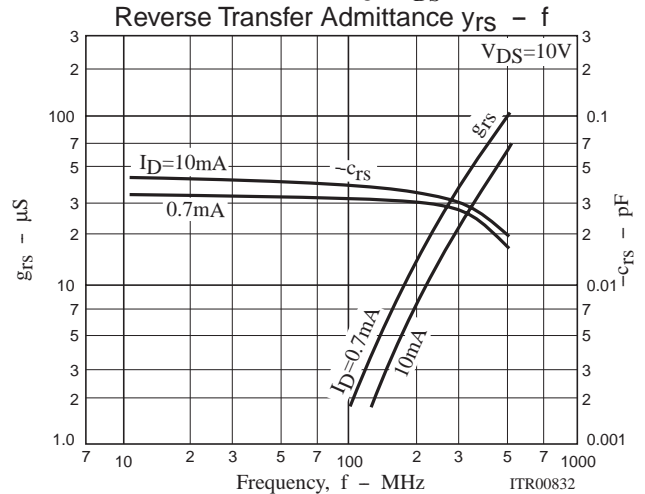
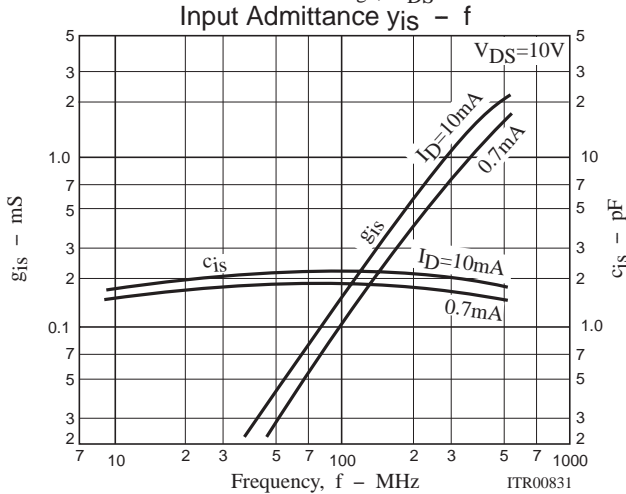
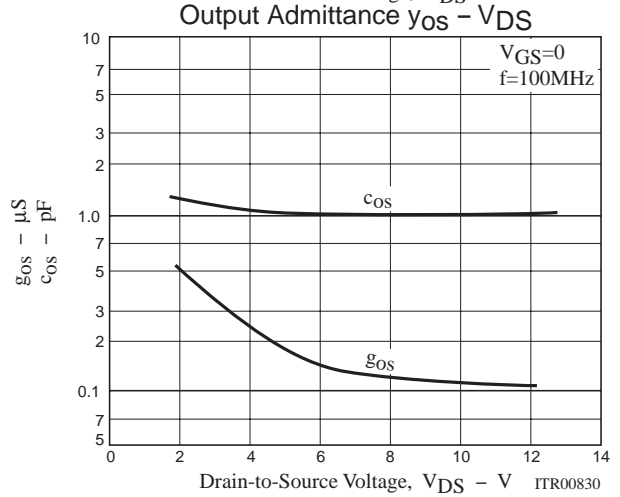
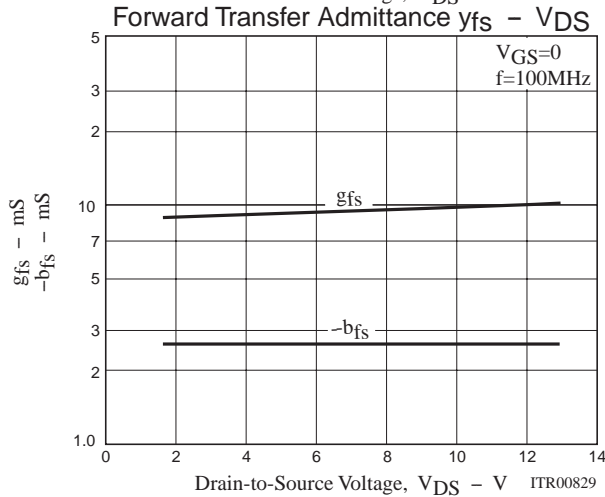
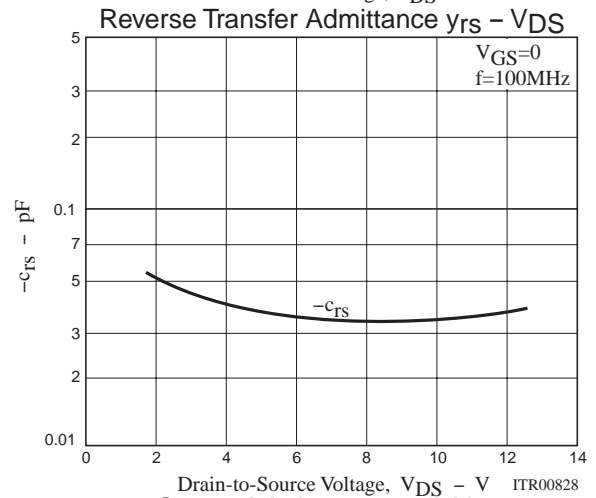
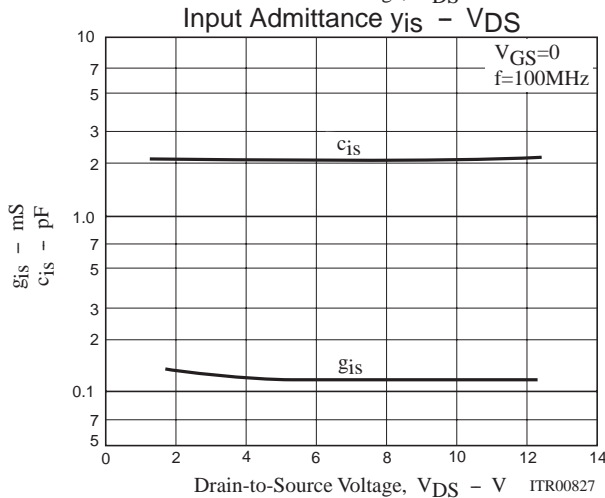
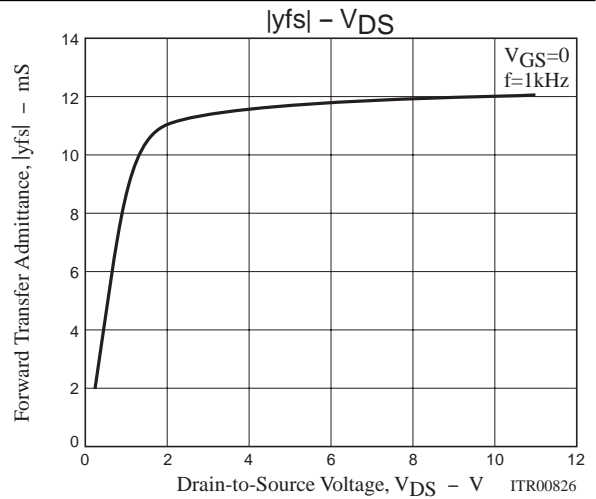
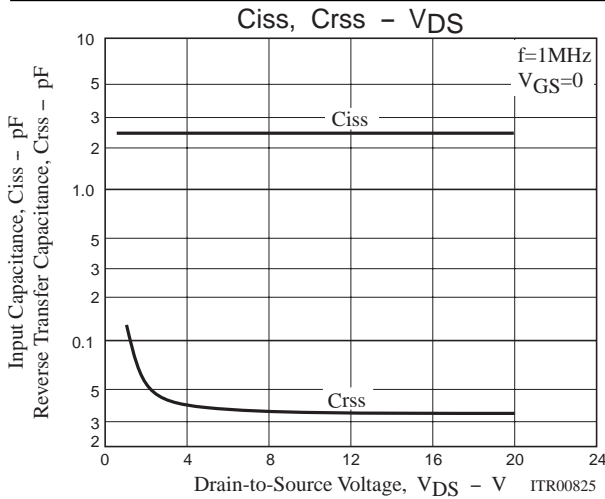
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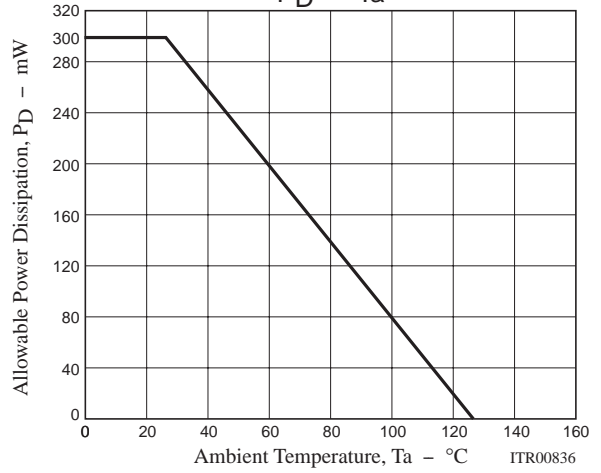
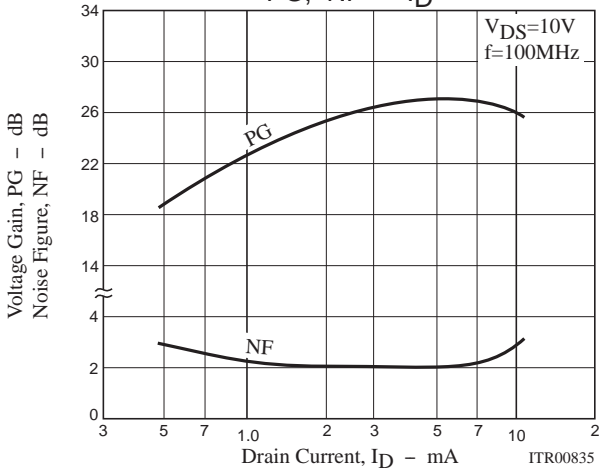
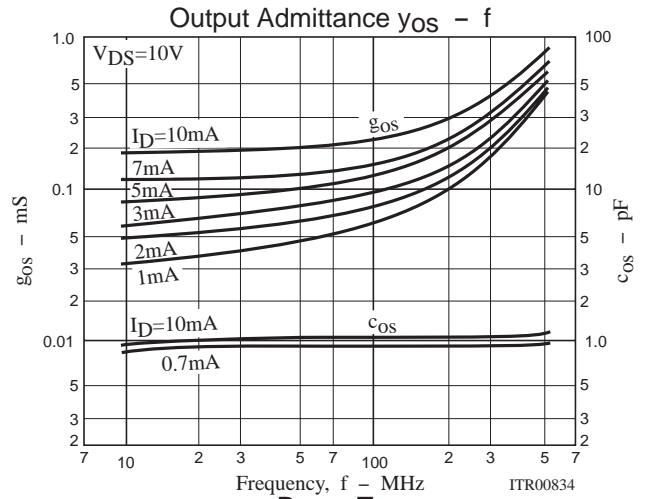
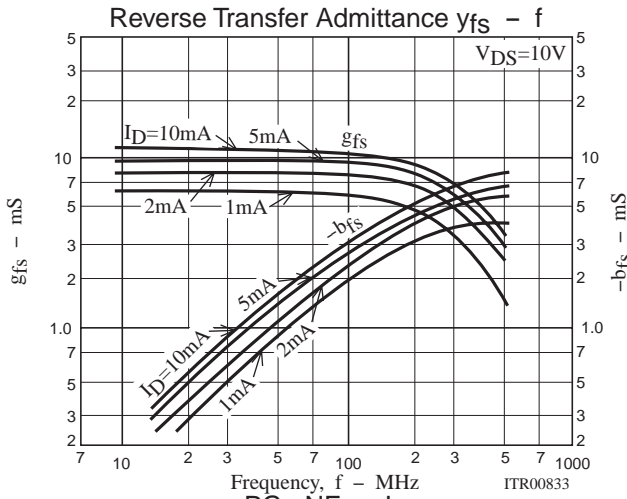
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| Parameter                    | Symbol     | Conditions                       | Ratings |       |     | Unit |
|------------------------------|------------|----------------------------------|---------|-------|-----|------|
|                              |            |                                  | min     | typ   | max |      |
| Forward Transfer Admittance  | $ y_{fs} $ | $V_{DS}=10V, V_{GS}=0, f=1kHz$   |         | 11    |     | mS   |
| Input Capacitance            | $C_{iss}$  | $V_{DS}=10V, V_{GS}=0, f=1MHz$   |         | 2.4   |     | pF   |
| Reverse Transfer Capacitance | $C_{rss}$  | $V_{DS}=10V, V_{GS}=0, f=1MHz$   |         | 0.035 |     | pF   |
| Power Gain                   | PG         | $V_{DS}=10V, V_{GS}=0, f=100MHz$ |         | 27    |     | dB   |
| Noise Figure                 | NF         | See specified Test Circuit.      |         | 1.8   | 3.0 | dB   |

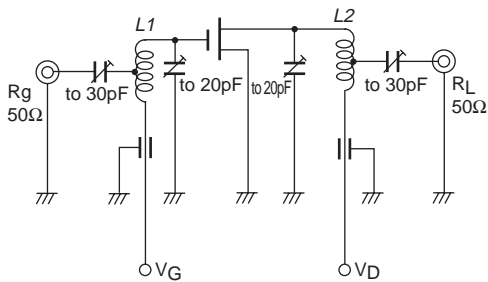


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**PG, NF Specified Test Circuit**



Unit(capacitance : F)  
 L1 : 1.0mmφ plated wire 10mmφ 6T, tap : 3T from H side  
 L2 : 1.0mmφ plated wire 10mmφ 7T, tap : 4T from H side

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