



2SK3856 — N-Channel Silicon MOSFET

FM Tuner, VHF-Band Amplifier

Applications

Features

- Low noise.
- High power gain.
- Small reverse transfer capacitance.

Specifications

Absolute Maximum Ratings at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | Unit |
|-----------------------------|------------------|------------|-------------|------|
| Drain-to-Source Voltage | V _{DS} | | 15 | V |
| Gate-to-Source Voltage | V _{GS} | | ±5 | V |
| Drain Current | I _D | | 30 | mA |
| Allowable Power Dissipation | P _D | | 200 | mW |
| Channel Temperature | T _{ch} | | 150 | °C |
| Storage Temperature | T _{stg} | | -55 to +150 | °C |

Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---------------------------------|----------------------|---|---------|-------|------|------|
| | | | min | typ | max | |
| Drain-to-Source Voltage | V _{DSX} | V _{GS} =-4V, I _D =100μA | 15 | | | V |
| Gate-to-Source Leakage Current | I _{GSS} | V _{DS} =0, V _{GS} =±5V | | | ±10 | nA |
| Zero-Gate Voltage Drain Current | I _{DSS} | V _{DS} =10V, V _{GS} =0 | 6.0* | | 12* | mA |
| Cutoff Voltage | V _{GS(off)} | V _{DS} =10V, I _D =100μA | | | -2.2 | V |
| Forward Transfer Admittance | y _{fs} | V _{DS} =10V, V _{GS} =0, f=1kHz | 11 | 16 | | mS |
| Input Capacitance | C _{iss} | V _{DS} =10V, V _{GS} =0, f=1kHz | | 2.4 | | pF |
| Reverse Transfer Capacitance | C _{rss} | V _{DS} =10V, V _{GS} =0, f=1kHz | | 0.035 | | pF |
| Power Gain | PG | V _{DS} =10V, V _{GS} =0, f=100MHz, See Specified Test Circuit. | | 35 | | dB |
| Noise Figure | NF | V _{DS} =10V, V _{GS} =0, f=100MHz, See Specified Test Circuit. | | 2.0 | | dB |

* : The 2SK3856 is classified by I_{DSS} as follows (unit : mA) :

| Rank | 5 | 6 |
|------------------|---------|---------|
| I _{DSS} | 6 to 10 | 8 to 12 |

Marking : KD

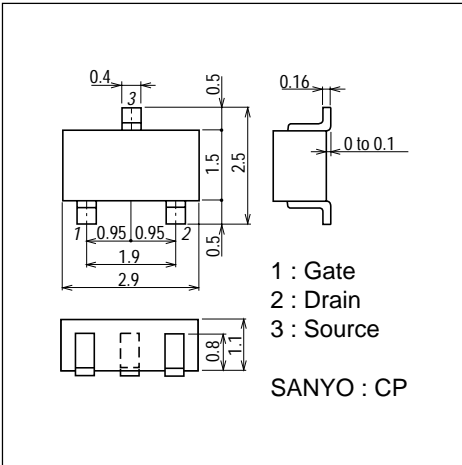
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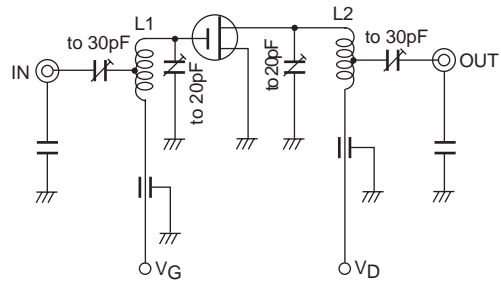
2SK3856

Package Dimensions

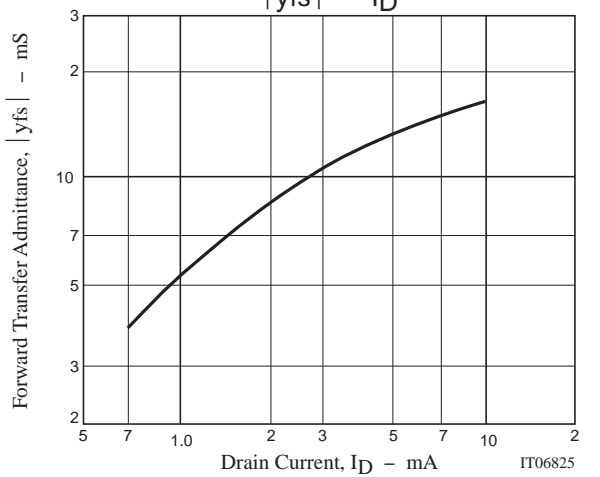
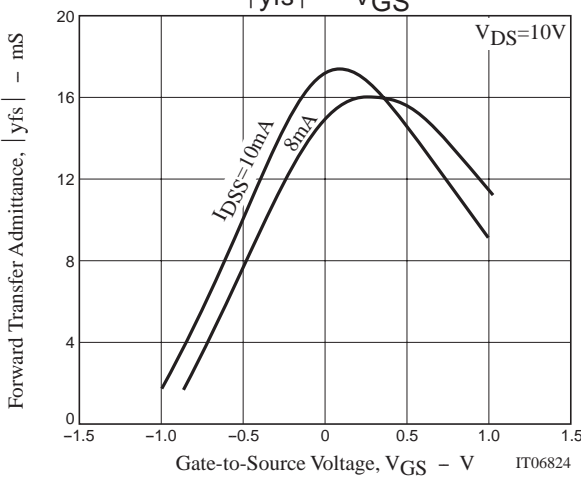
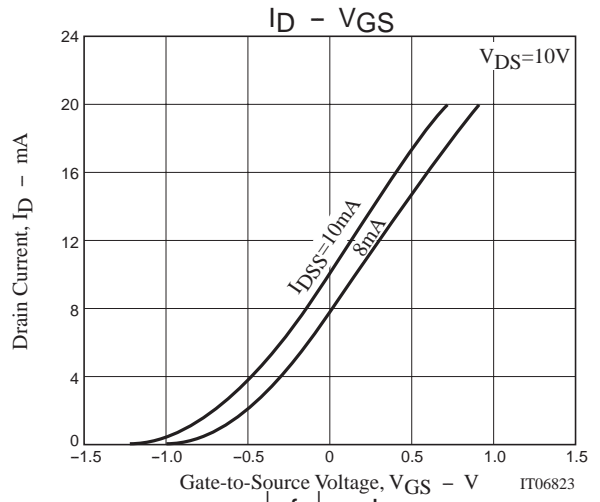
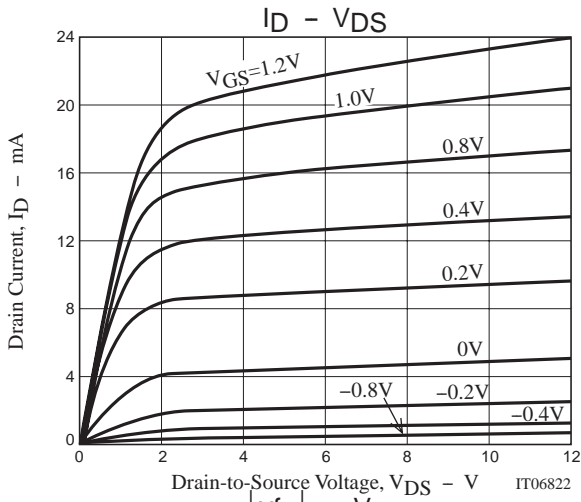
unit : mm
2024B



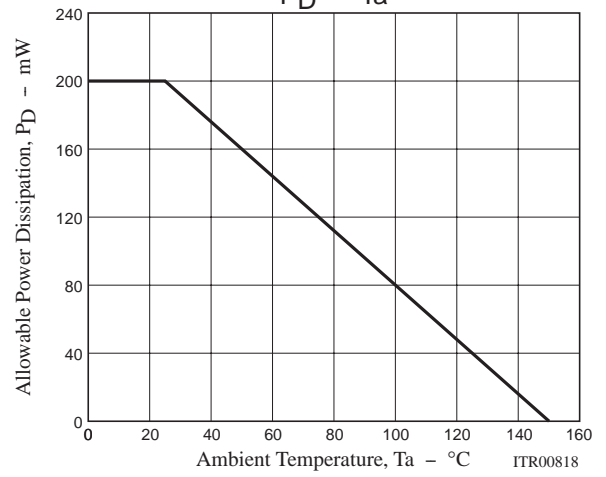
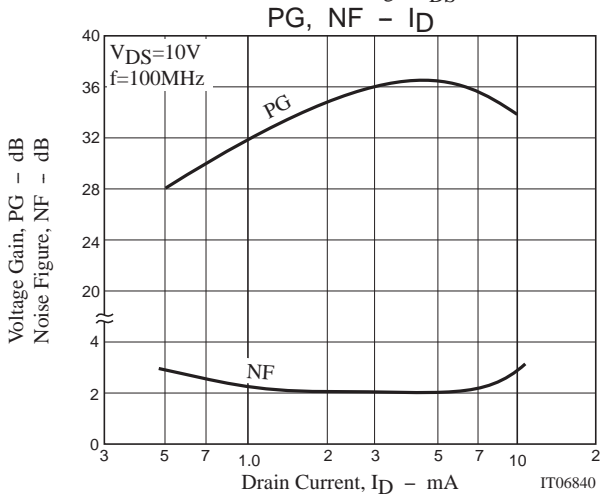
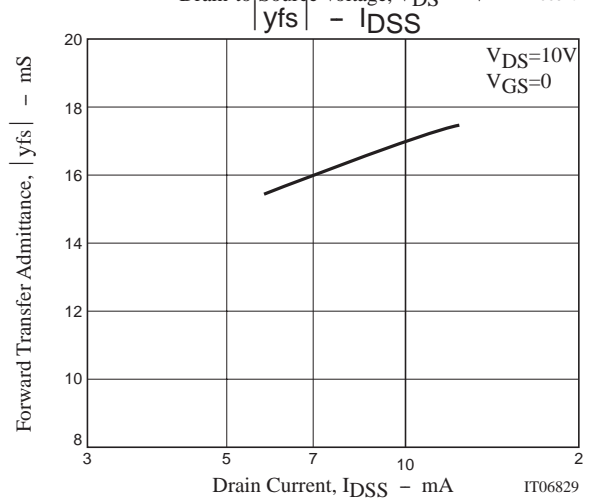
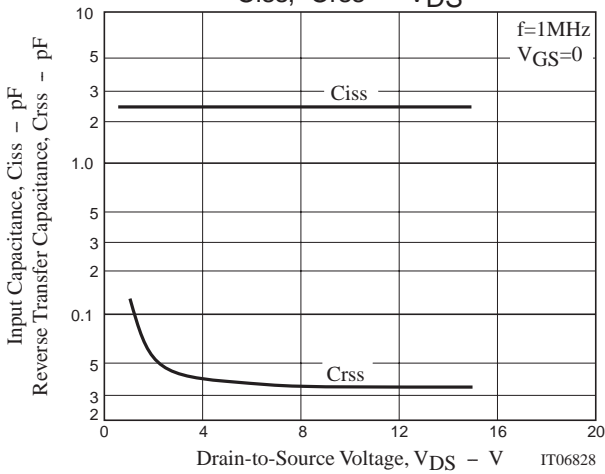
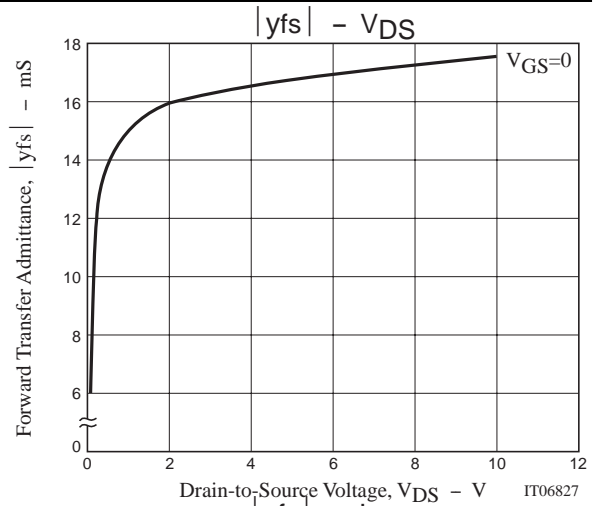
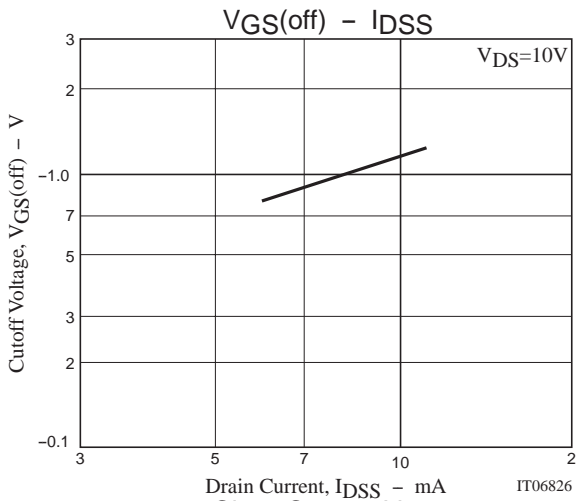
PG, NF Specified Test Circuit



L1 : 1.0mmφ copper wire 10mmφ 6T, tap : 2.5T from H side
L2 : 1.0mmφ copper wire 10mmφ 7T, tap : 4T from H side



2SK3856



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