



# 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 <sub>DS</sub>		15	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>		200	mW
Channel Temperature	T <sub>ch</sub>		150	°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	15			V
Gate-to-Source Leakage Current	I <sub>GSS</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	6.0*		12*	mA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =100μA			-2.2	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1kHz	11	16		mS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1kHz		2.4		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1kHz		0.035		pF
Power Gain	PG	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=100MHz, See Specified Test Circuit.		35		dB
Noise Figure	NF	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=100MHz, See Specified Test Circuit.		2.0		dB

\* : The 2SK3856 is classified by I<sub>DSS</sub> as follows (unit : mA) :

Rank	5	6
I <sub>DSS</sub>	6 to 10	8 to 12

Marking : KD

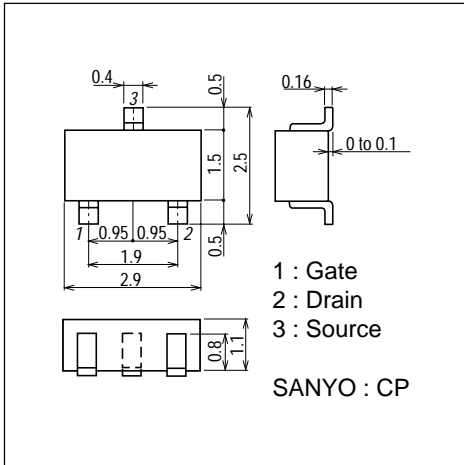
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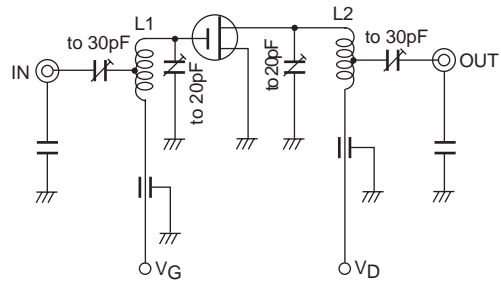
# 2SK3856

## Package Dimensions

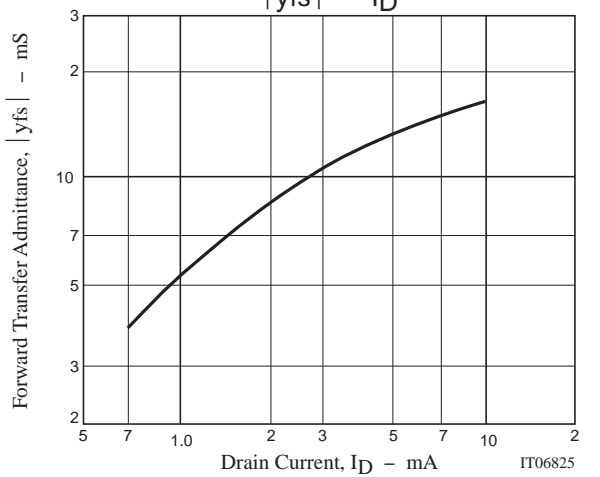
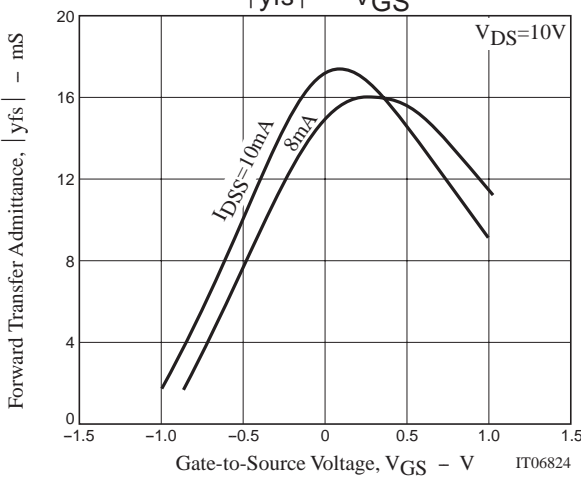
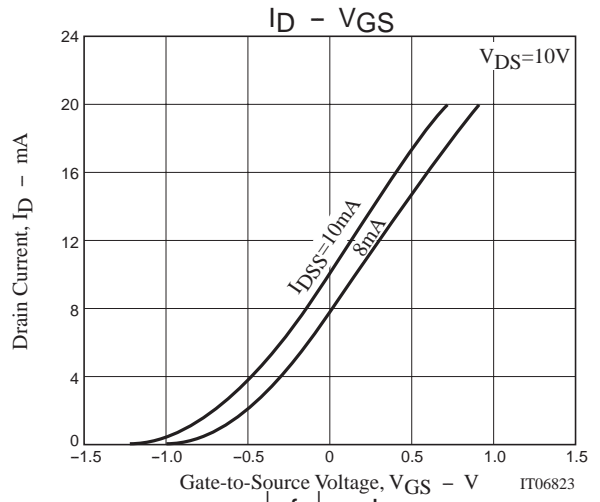
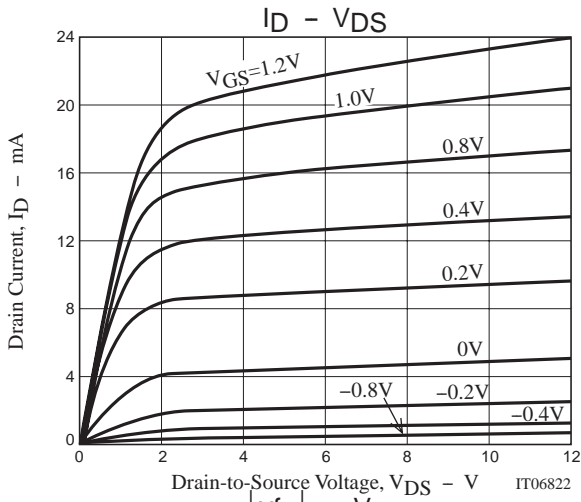
unit : mm  
2024B



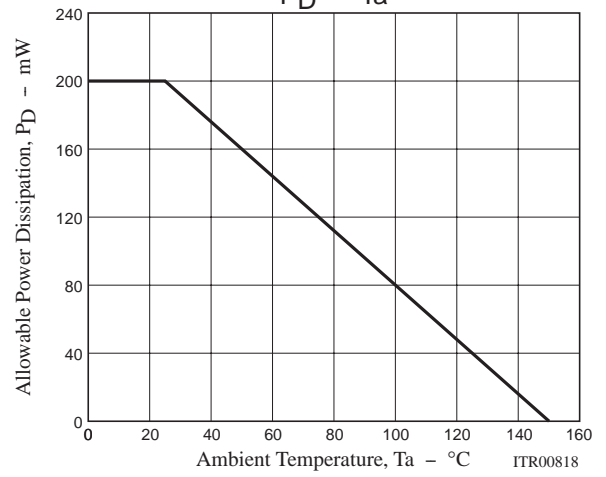
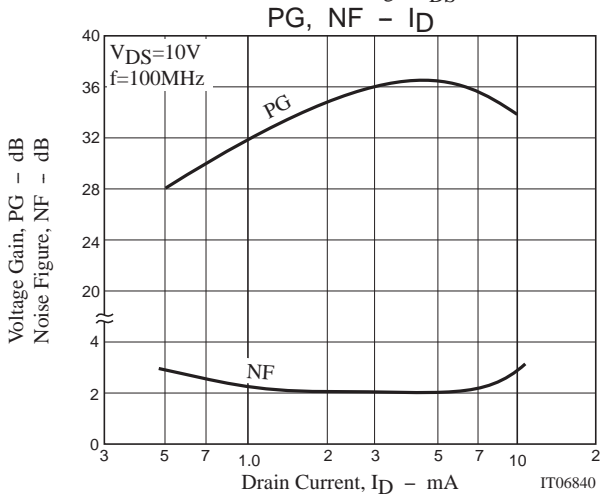
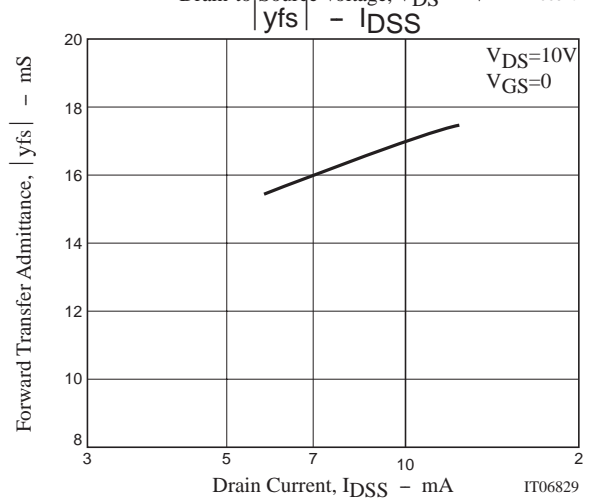
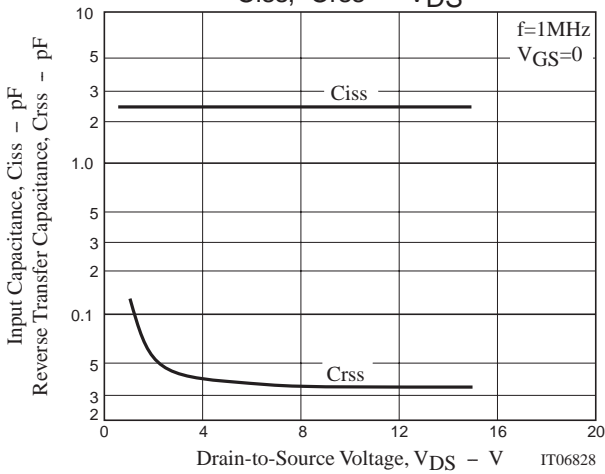
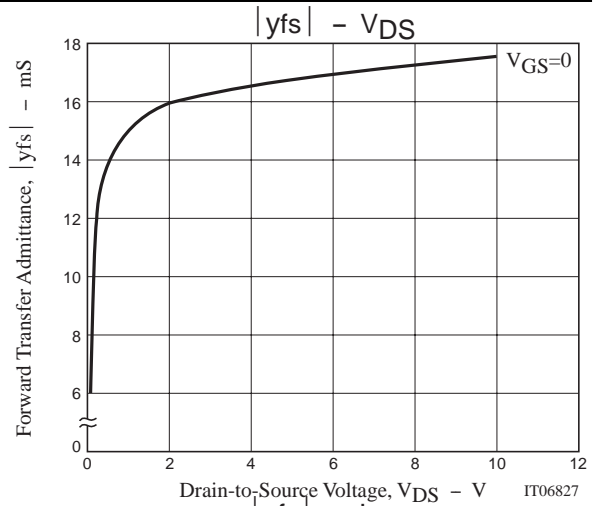
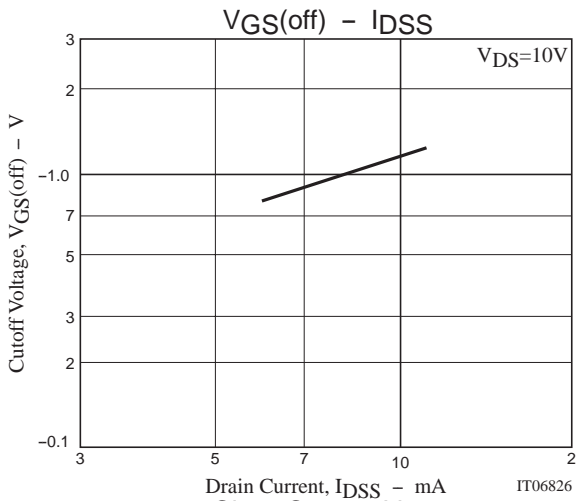
## PG, NF Specified Test Circuit



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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