Ordering number : ENN7905

SANYO Semiconductors

DATA SHEET

N-Channel Silicon MOSFET

2SK3856 — 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	Tch		150	°C
Storage Temperature	Tstg		−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	$\|yfs\|$	V_{DS}=10V, V_{GS}=0, f=1kHz	11	16		mS
Input Capacitance	Ciss	V_{DS}=10V, V_{GS}=0, f=1kHz		2.4		pF
Reverse Transfer Capacitance	Crss	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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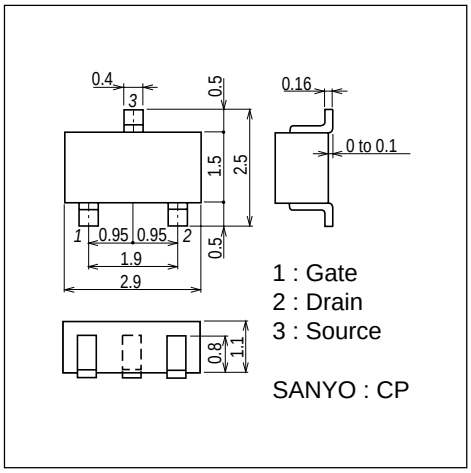
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

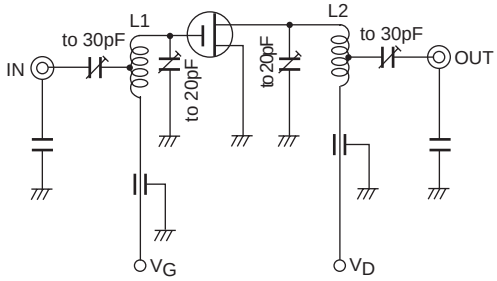
Package Dimensions

unit : mm

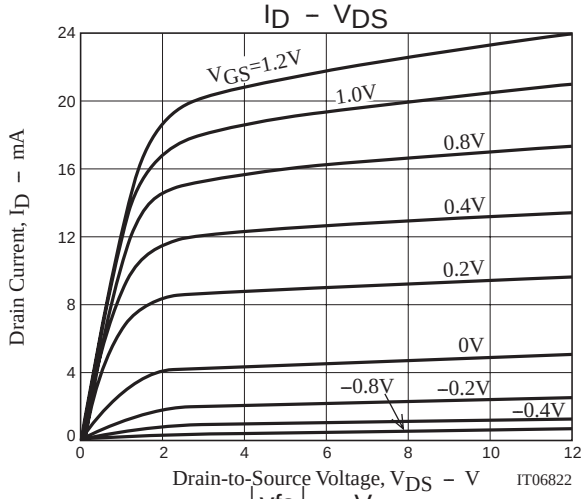
2024B

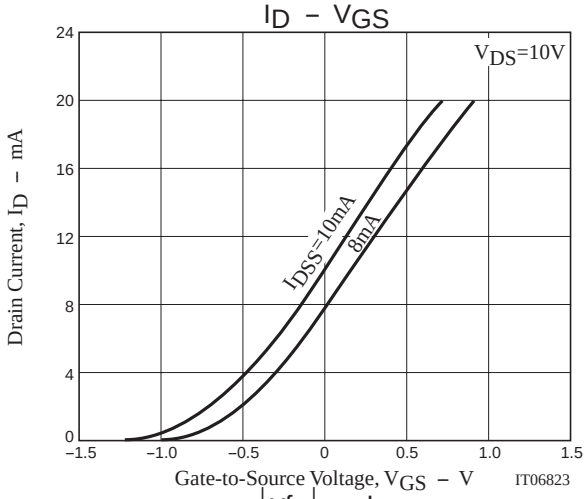


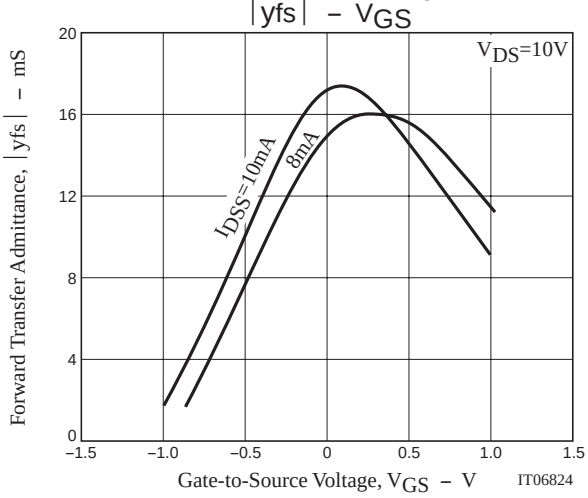
PG, NF Specified Test Circuit

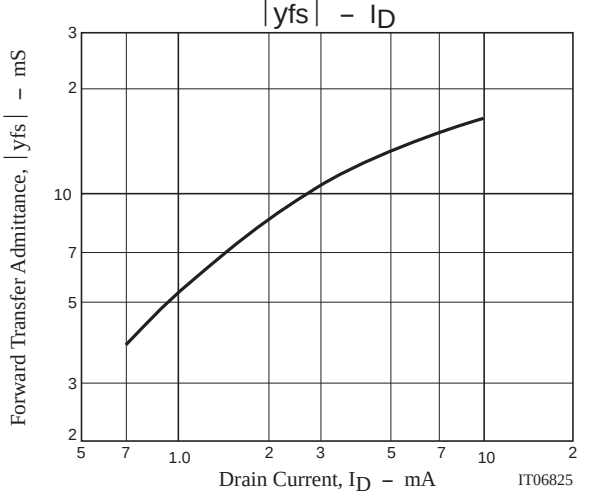


L1 : 1.0mmϕ copper wire 10mmϕ 6T, tap : 2.5T from H side
L2 : 1.0mmϕ copper wire 10mmϕ 7T, tap : 4T from H side

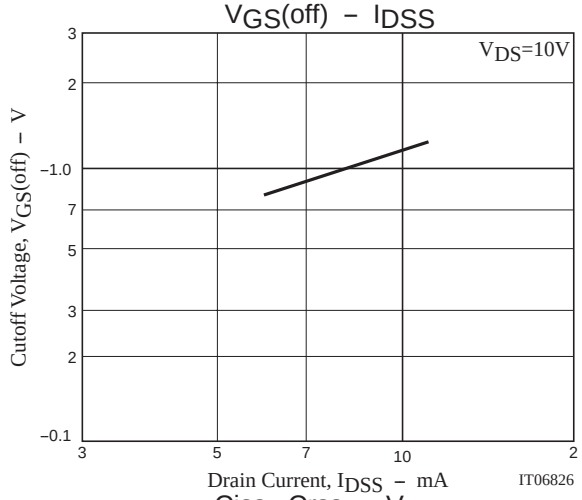




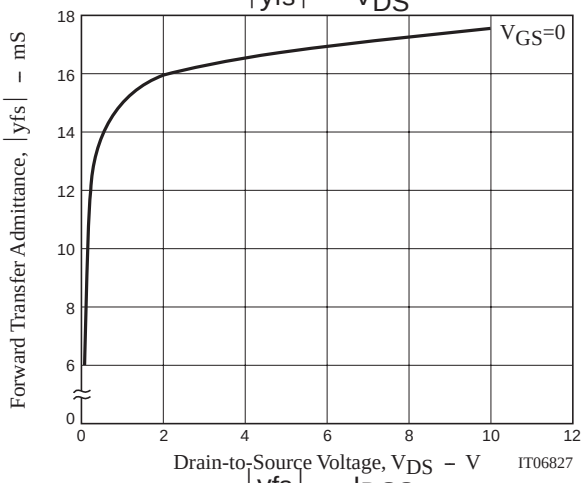




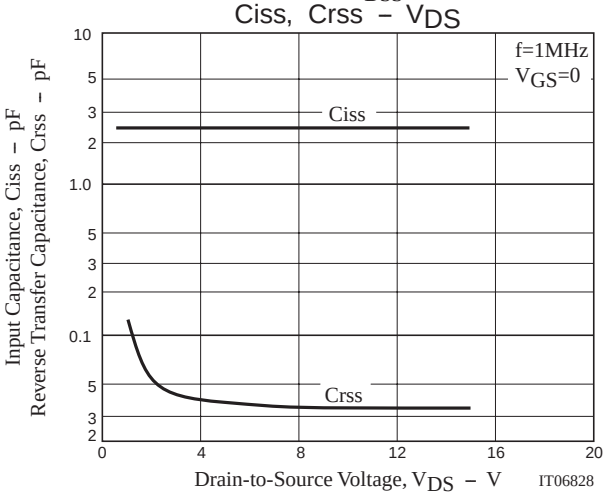
$V_{GS(off)}$ – I_{DSS}



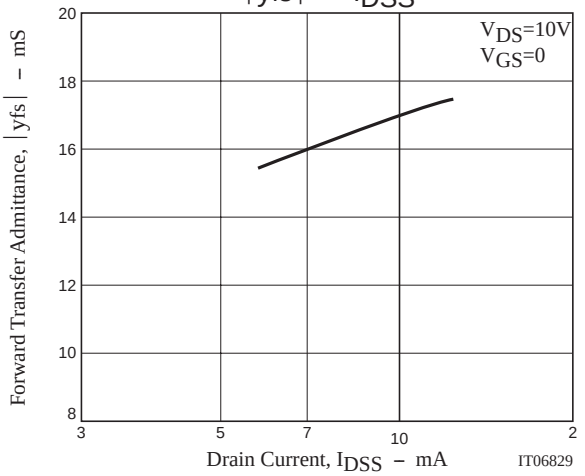
$|yfs|$ – V_{DS}



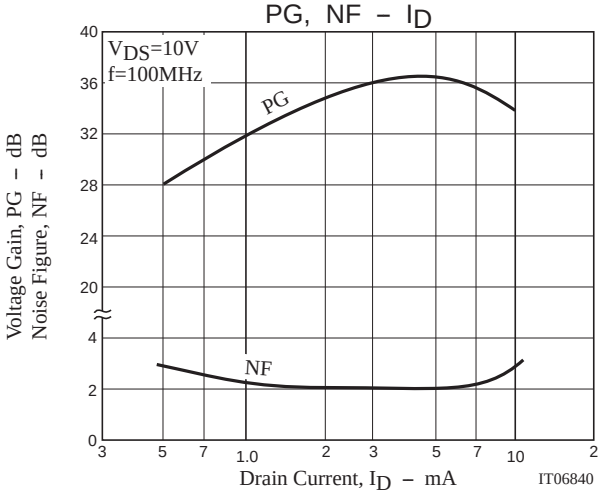
Ciss, Crss – V_{DS}



$|yfs|$ – I_{DSS}



PG, NF – I_D



P_D – Ta