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ON Semiconductor DATA SHEET

2SK544 — N-Channel Silicon MOSFET FM Tuner, VHF-Band 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_{DS}=10V, f=1MHz).

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DS}		20	V
Gate-to-Source Voltage	V _{GS}		±5	V
Drain Current	I _D		30	mA
Allowable Power Dissipation	P _D		300	mW
Channel Temperature	T _{ch}		125	°C
Storage Temperature	T _{stg}		-55 to +125	°C

Electrical Characteristics at Ta=25°C

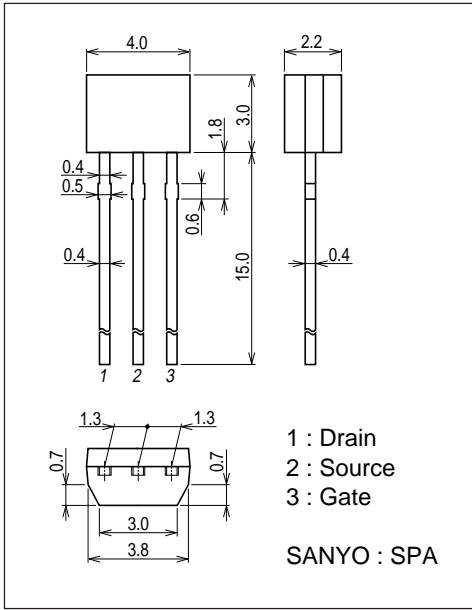
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Voltage	V _{DSX}	V _{GS} =-4V, I _D =100μA	20			V
Gate-to-Source Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±5V			10	nA
Zero-Gate Voltage Drain Current	I _{DSS} *	V _{DS} =10V, V _{GS} =0V	1.2*		12*	mA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =100μA			-2.5	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, V _{GS} =0V, f=1kHz		11		mS
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz		2.4		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, V _{GS} =0V, f=1MHz		0.035		pF
Power Gain	PG	V _{DS} =10V, V _{GS} =0V, f=100MHz, See Specified Test Circuit.		27		dB
Noise Figure	NF	V _{DS} =10V, V _{GS} =0V, f=100MHz, See Specified Test Circuit.		1.8	3.0	dB

* : The 2SK544 is classified by I_{DSS} as follows (unit : mA) :

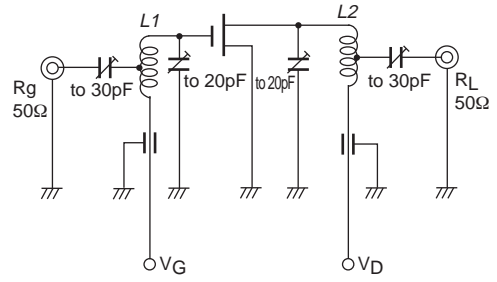
Rank	D	E	F
I _{DSS}	1.2 to 3.0	2.5 to 6.0	5.0 to 12

Package Dimensions

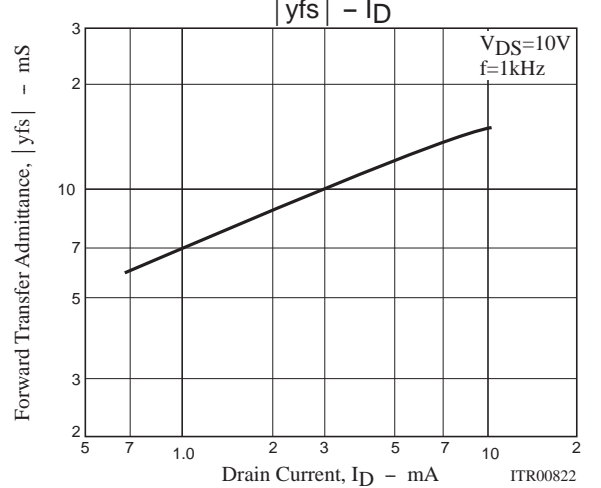
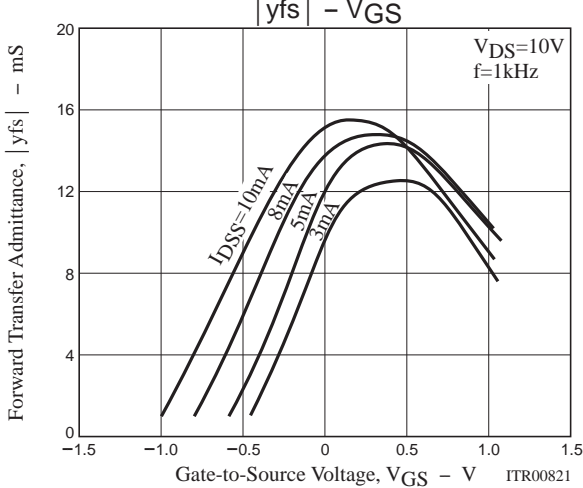
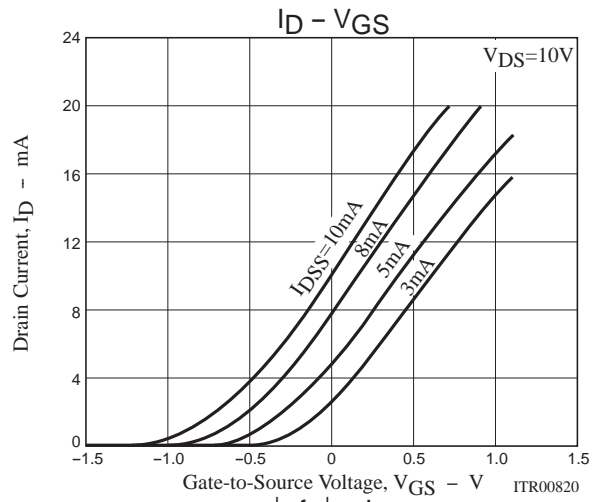
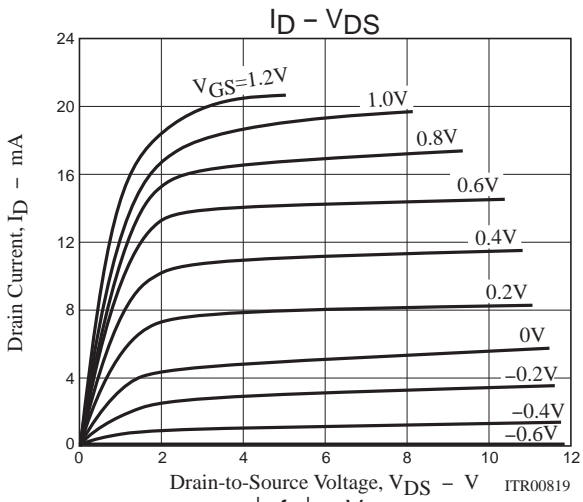
unit : mm
7524-006

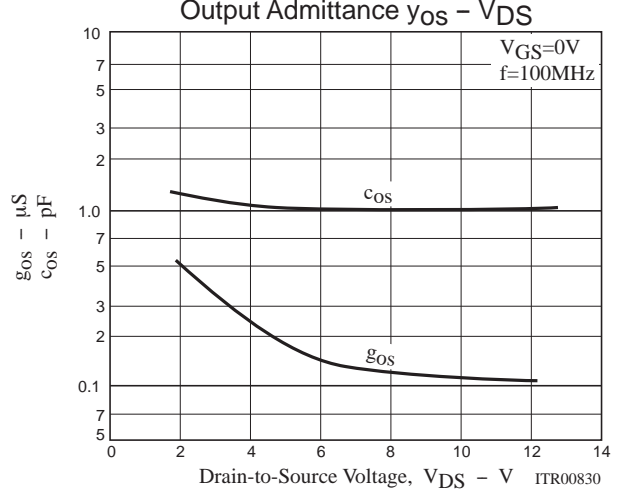
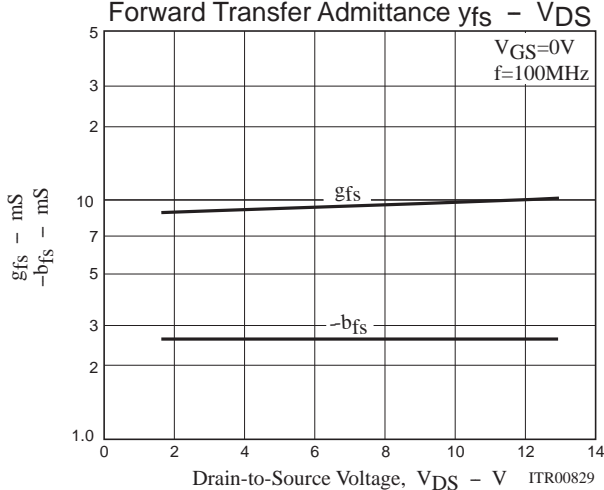
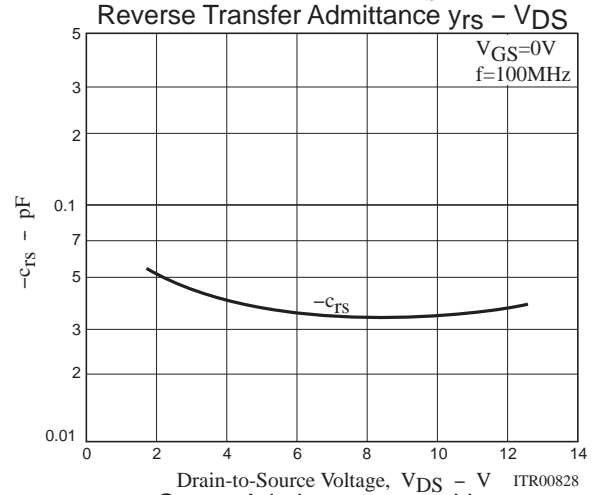
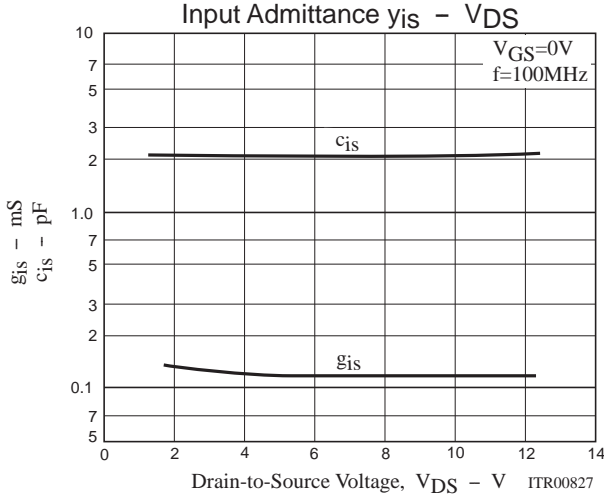
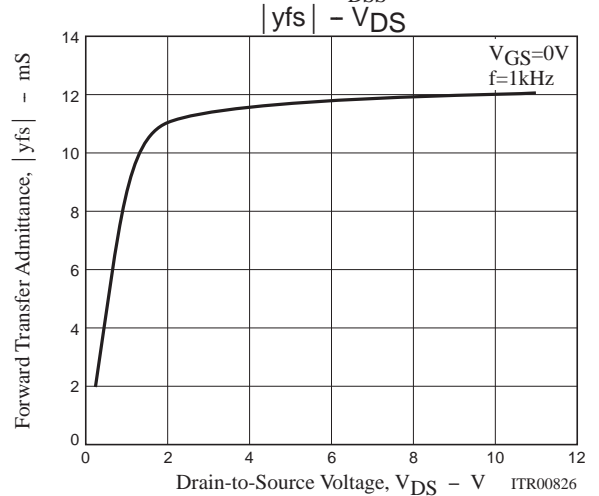
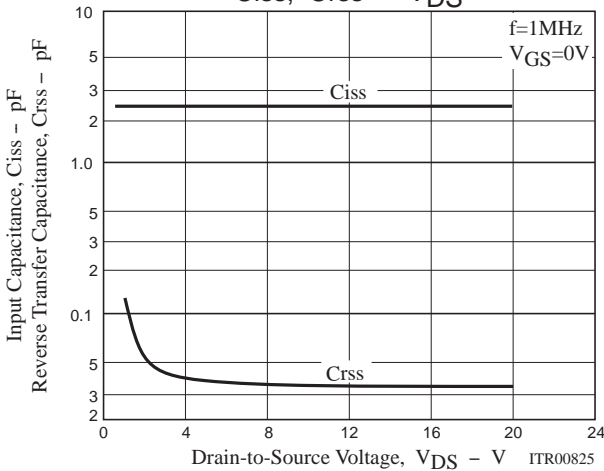
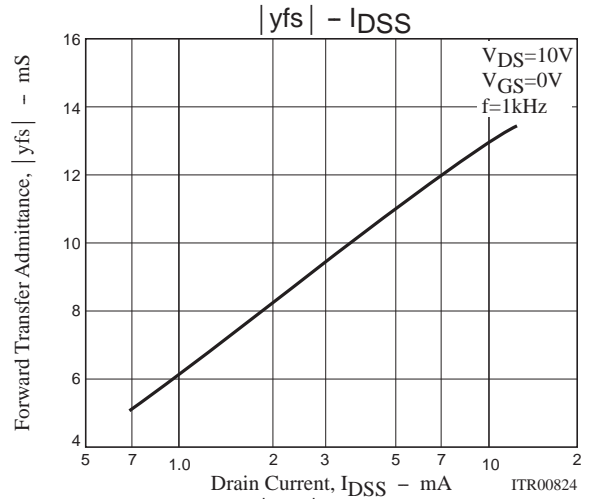
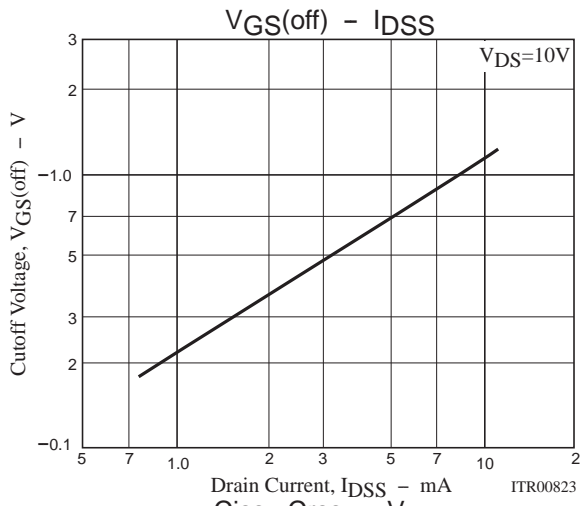


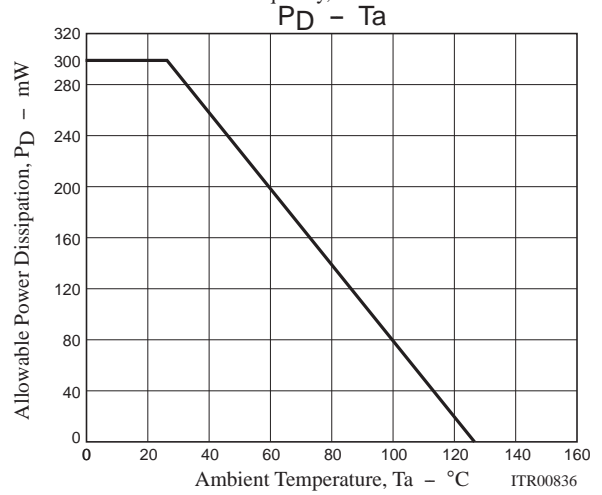
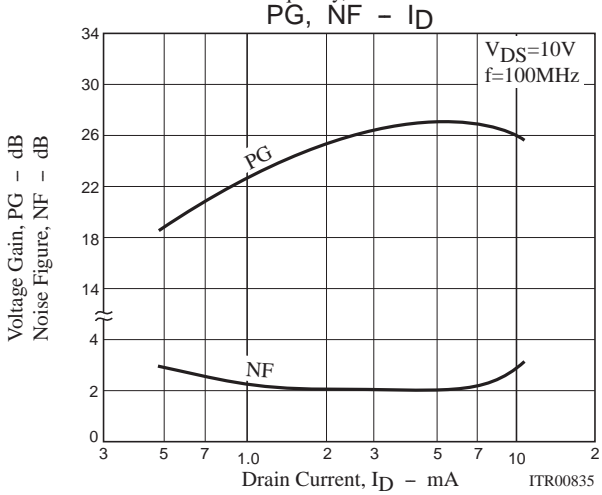
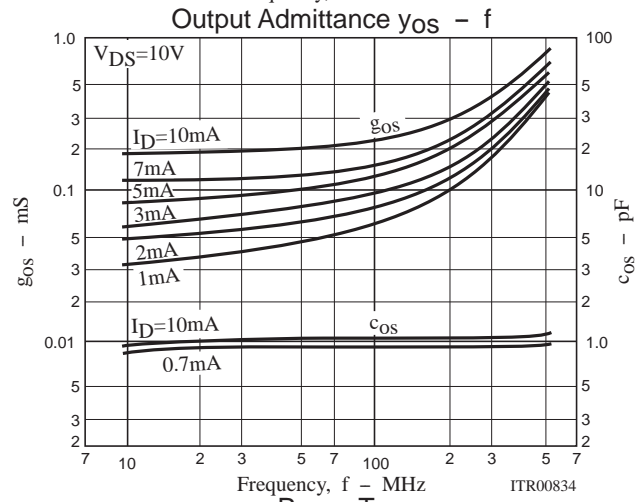
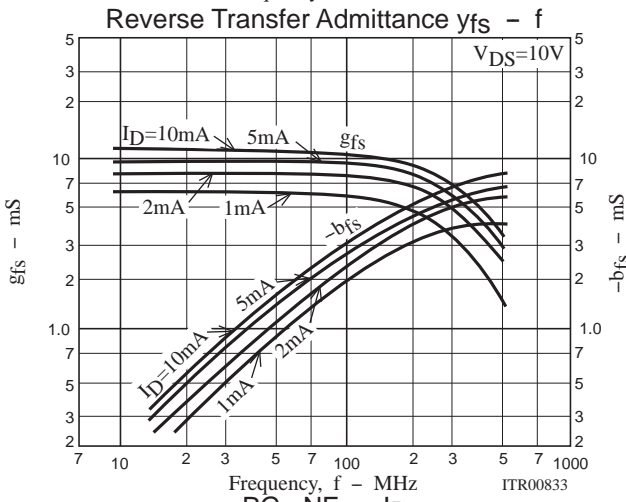
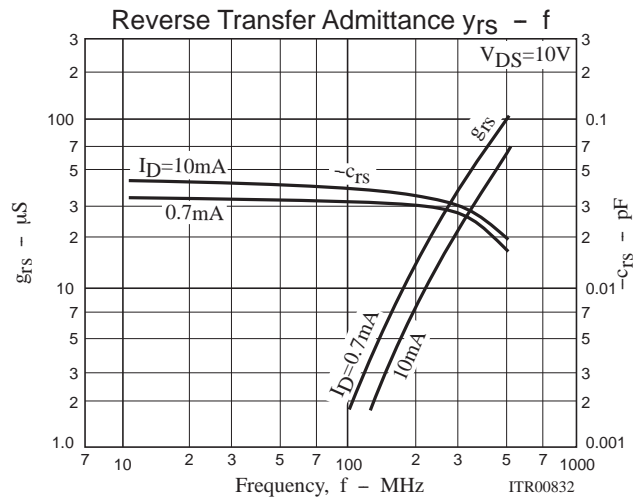
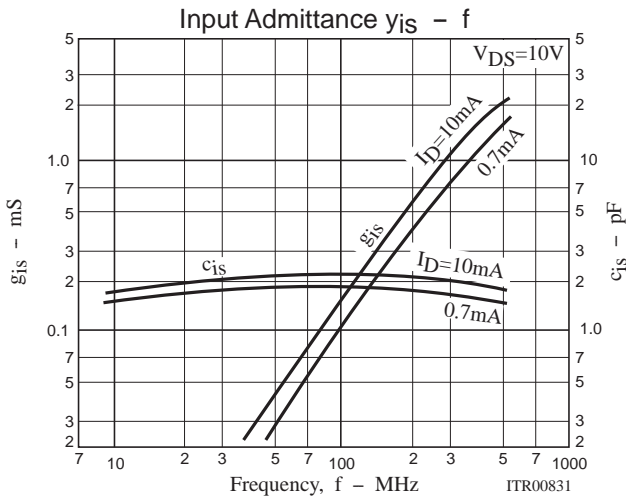
PG, NF Specified Test Circuit



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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