



# **FM Tuner, VHF-Band Amplifier Applications**

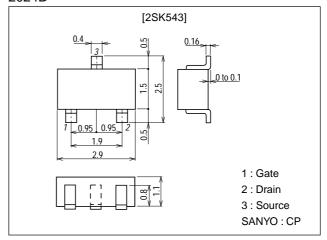
#### **Features**

- · Low noise. NF=1.8dB typ (f=100MHz).
- · High power gain. PG=27dB typ (f=100MHz).
- $\cdot$  Small reverse transfer capacitance. Crss=0.035pF (VDS=10V, f=1MHz).

# **Package Dimensions**

unit:mm

2024B



## **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	ID		30	mA
Allowable Power Dissipation	$P_{D}$		200	mW
Channel Temperature	Tch		125	°C
Storage Temperature	Tstg		-55 to +125	°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	IGSS	V <sub>DS</sub> =0V, V <sub>GS</sub> =±5V			10	nA
Zero-Gate Voltage Drain Current	I <sub>DSS</sub> *	$V_{DS}$ =10V, $V_{GS}$ =0V	1.2*		12*	mA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =100μA			-2.5	V
Forward Transfer Admittance	yfs	$V_{DS}$ =10V, $V_{GS}$ =0V, f=1kHz		11		mS
Input Capacitance	Ciss	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz		2.4		pF
Reverse Transfer Capacitance	Crss	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz		0.035		pF

 $<sup>\</sup>mbox{\ensuremath{^{*}}}$  : The 2SK543 is classified by  $I_{DSS}$  as follows (unit : mA) :

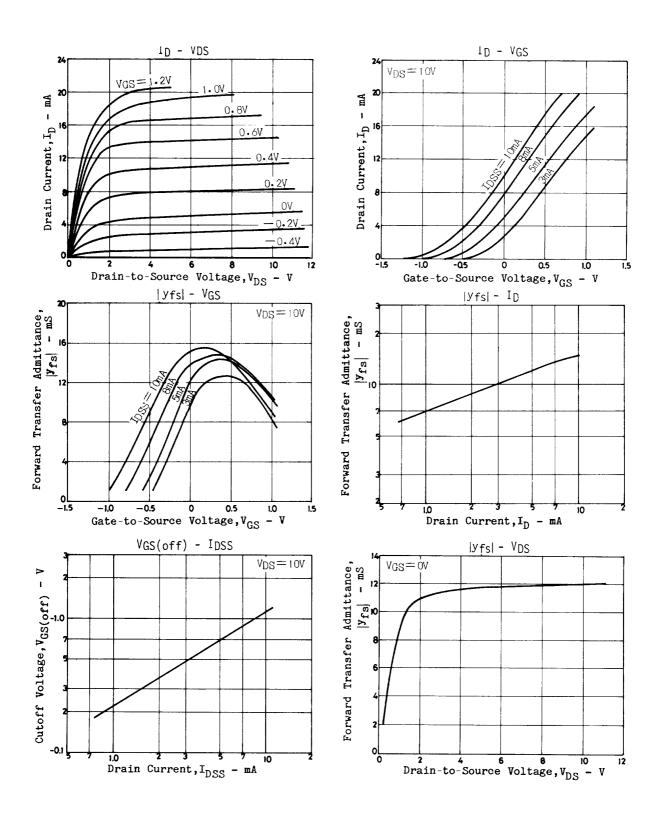
1.2 3 3.0 2.5 4 6.0 5.0 5 12

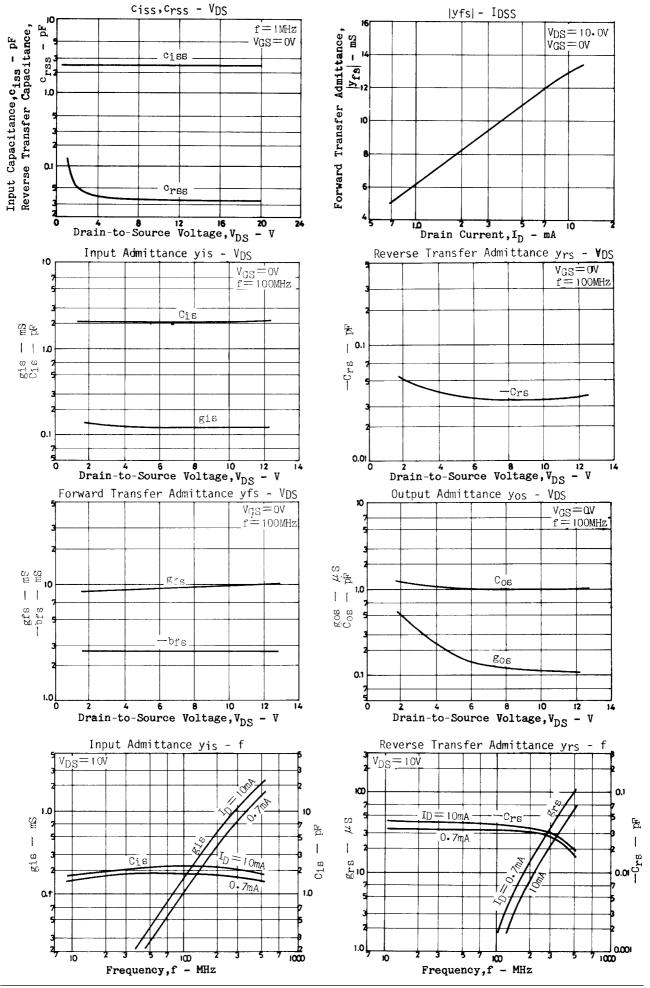
(Note) Marking : CJ I<sub>DSS</sub> rank : 3, 4, 5 Continued on next page.

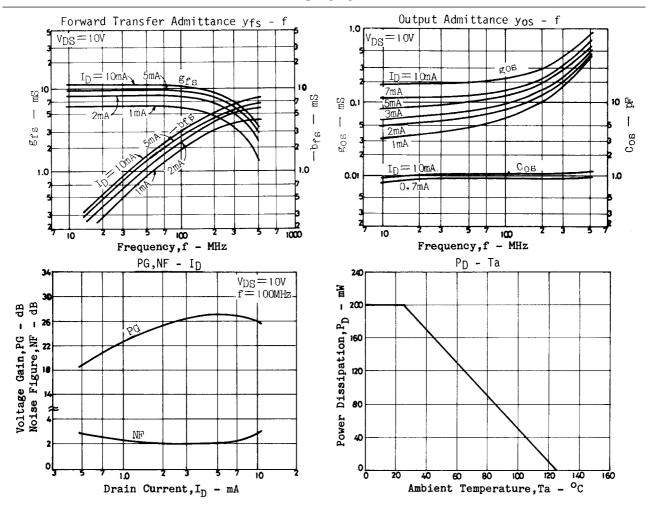
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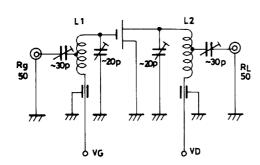
Parameter	Symbol	Conditions	Ratings		Unit	
Power Gain	PG	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=100MHz, See specified Test Circuit		27		dB
Noise Figure	NF	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=100MHz, See specified Test Circuit		1.8	3.0	dB







## **PG, NF Specified Test Circuit**



L1: 1mmø plated wire 10mmø 6T, tap: 3T from H side L2: 1mmø plated wire 10mmø 7T, tap: 4T from H side

Unit (resistance :  $\Omega$ , capacitance : F)

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