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# 2SK522

Silicon N-Channel Junction FET

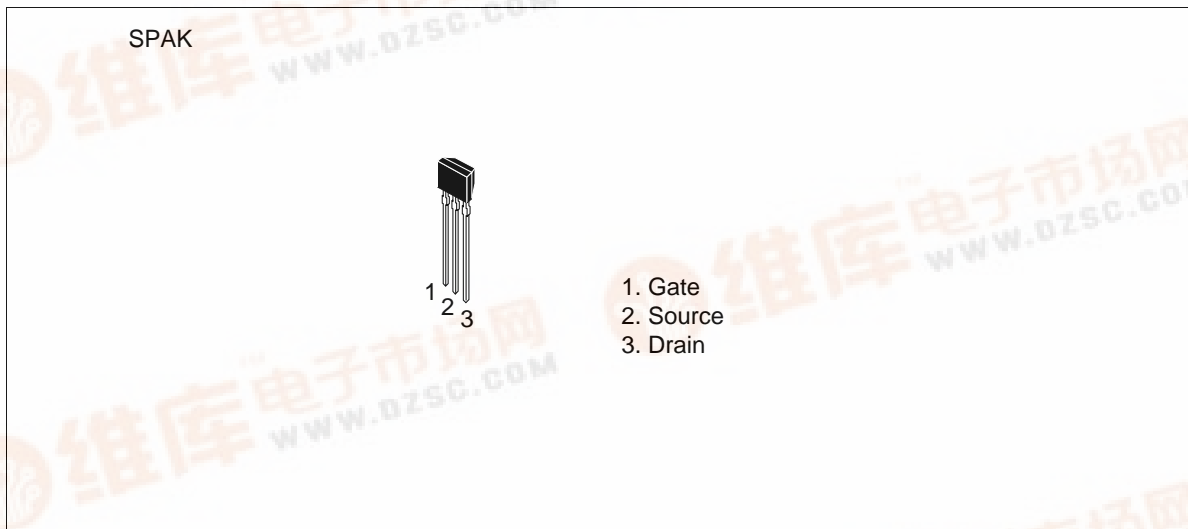
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## Application

VHF amplifier, Mixer, local oscillator

## Outline



## 2SK522

### Absolute Maximum Ratings (Ta = 25°C)

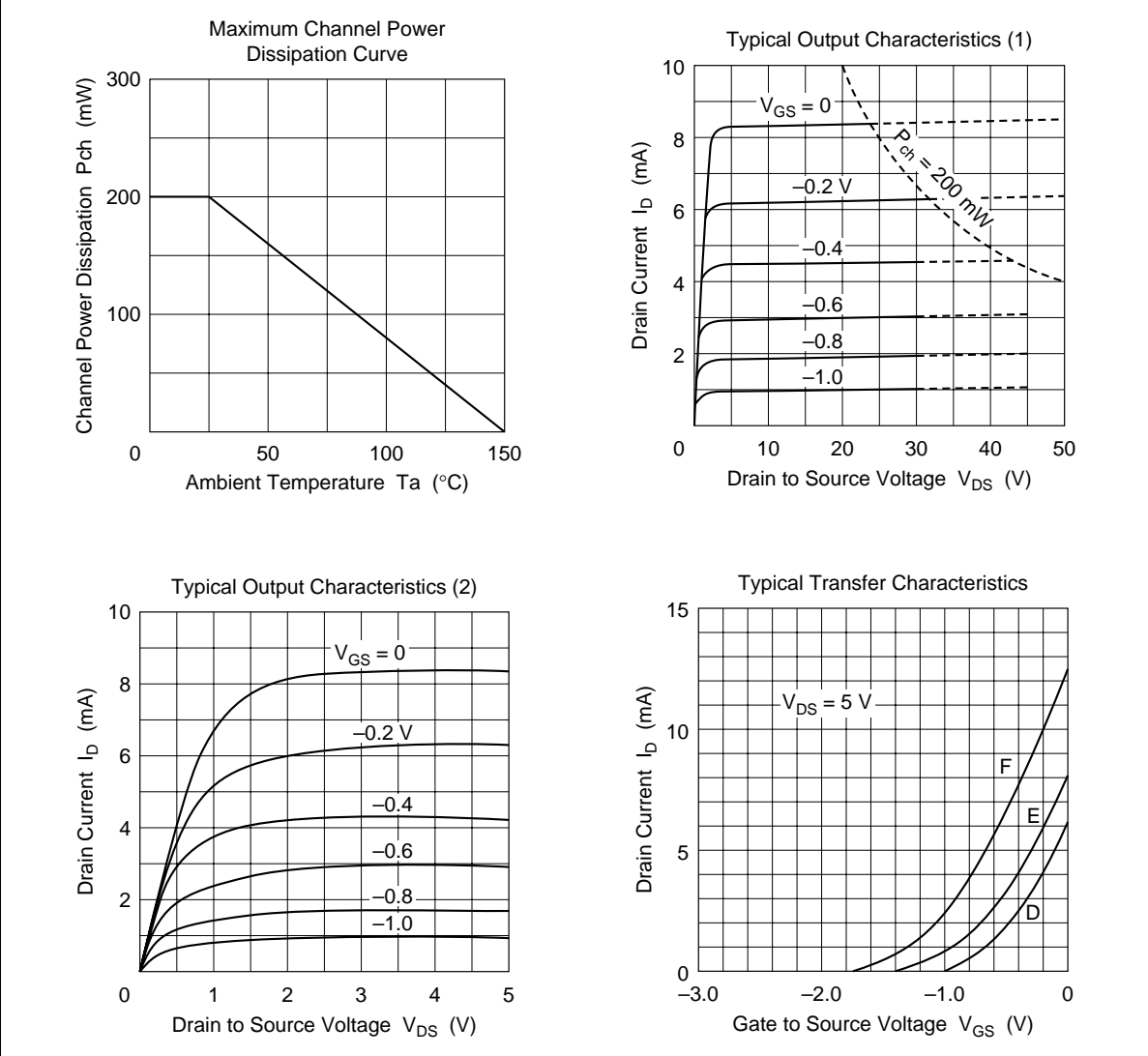
Item	Symbol	Ratings	Unit
Gate to drain voltage	$V_{GDO}$	-30	V
Gate current	$I_G$	10	mA
Drain current	$I_D$	20	mA
Channel power dissipation	Pch	200	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

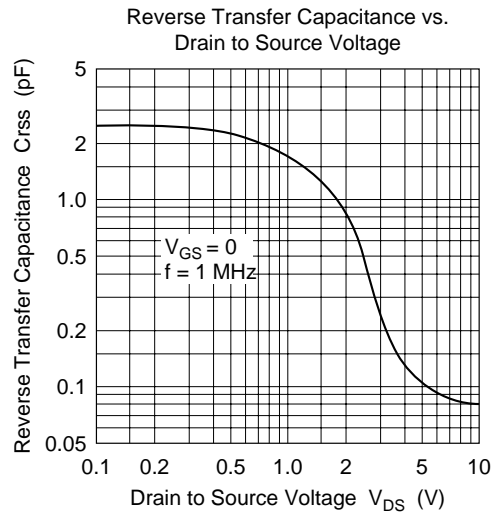
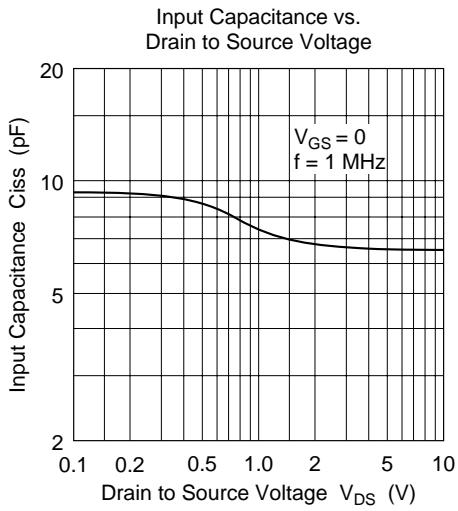
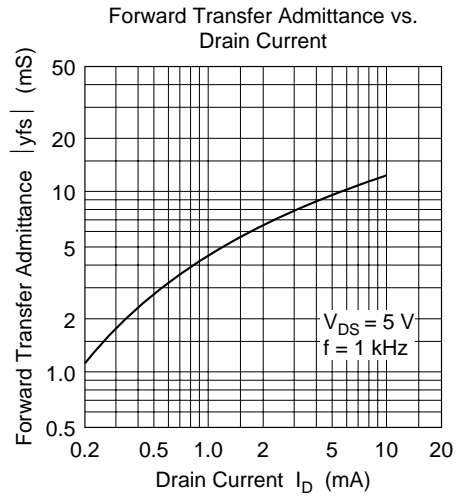
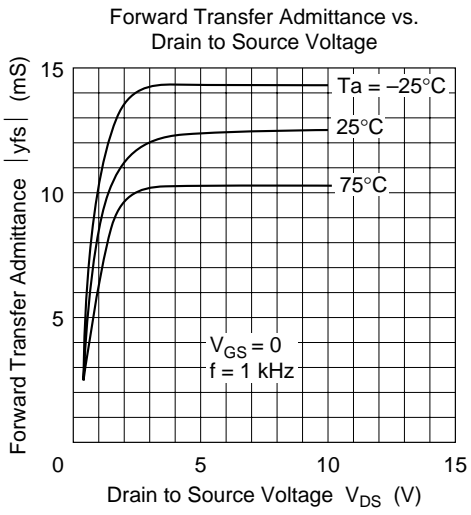
### Electrical Characteristics (Ta = 25°C)

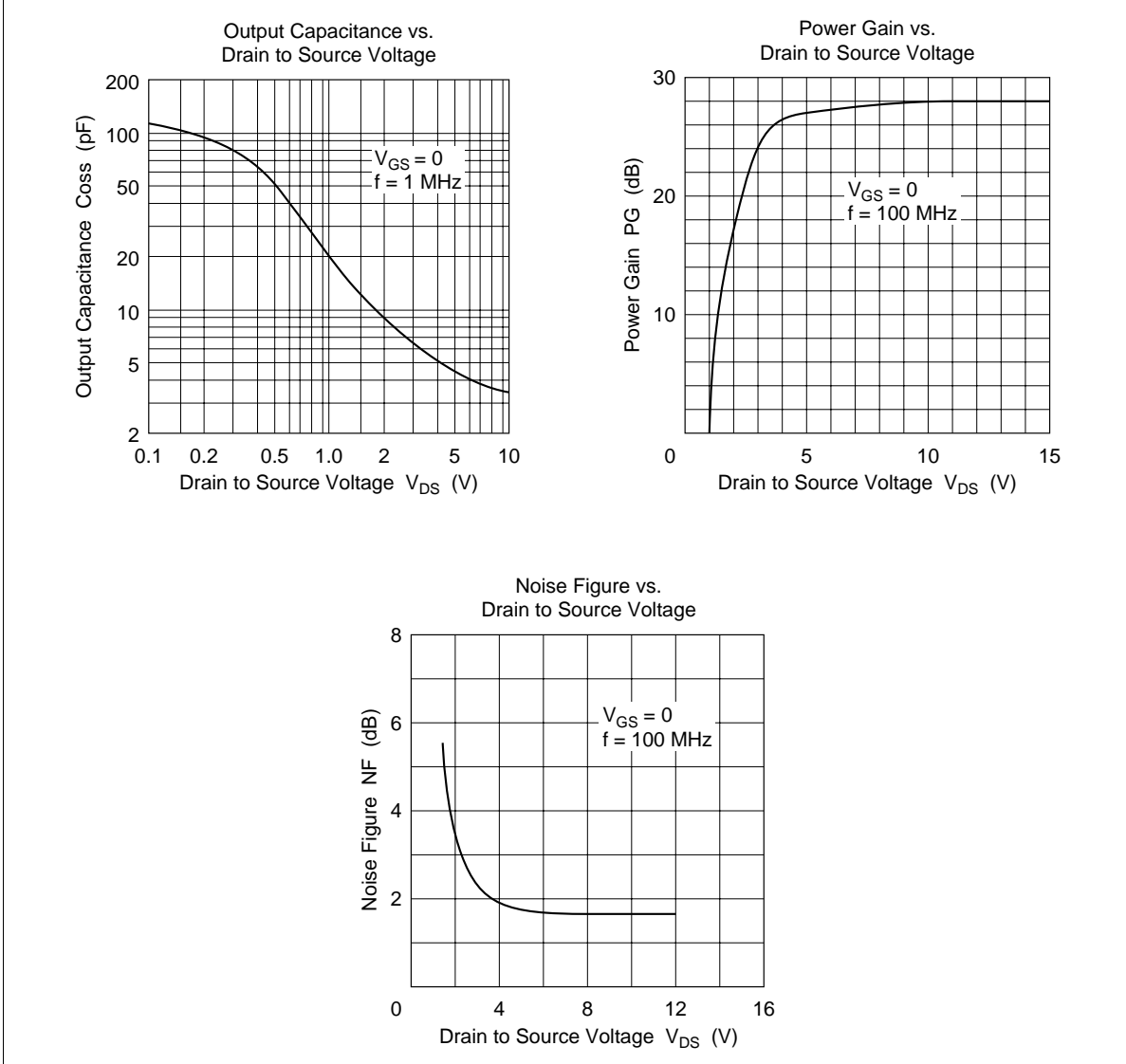
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Gate to drain breakdown voltage	$V_{(BR)GDO}$	-30	—	—	V	$I_G = -100 \mu A, I_S = 0$
Gate cutoff current	$I_{GSS}$	—	—	-10	nA	$V_{GS} = -0.5 V, V_{DS} = 0$
Drain current	$I_{DSS}^{*1}$	4	—	20	mA	$V_{DS} = 5 V, V_{GS} = 0$
Gate to source cutoff voltage	$V_{GS(off)}$	—	—	-3	V	$V_{DS} = 5 V, I_D = 10 \mu A$
Forward transfer admittance	$ y_{fs} $	8	10	—	mS	$V_{DS} = 5 V, V_{GS} = 0, f = 1 kHz$
Input capacitance	Ciss	—	6.8	—	pF	$V_{DS} = 5 V, V_{GS} = 0, f = 1 MHz$
Reverse transfer capacitance	Crss	—	0.1	—	pF	
Power gain	PG	20	27	—	dB	$V_{DS} = 5 V, V_{GS} = 0, f = 100 MHz$
Noise figure	NF	—	1.7	2.5	dB	

Note: 1. The 2SK522 is grouped by  $I_{DSS}$  as follows.

Drain	D	E	F
$I_{DSS}$	4 to 8	6 to 10	10 to 20

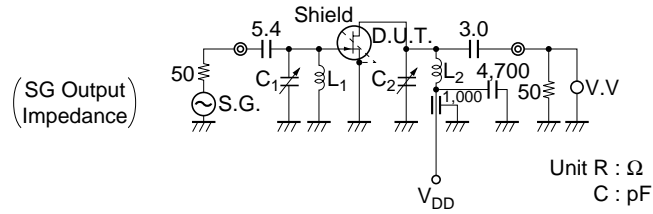




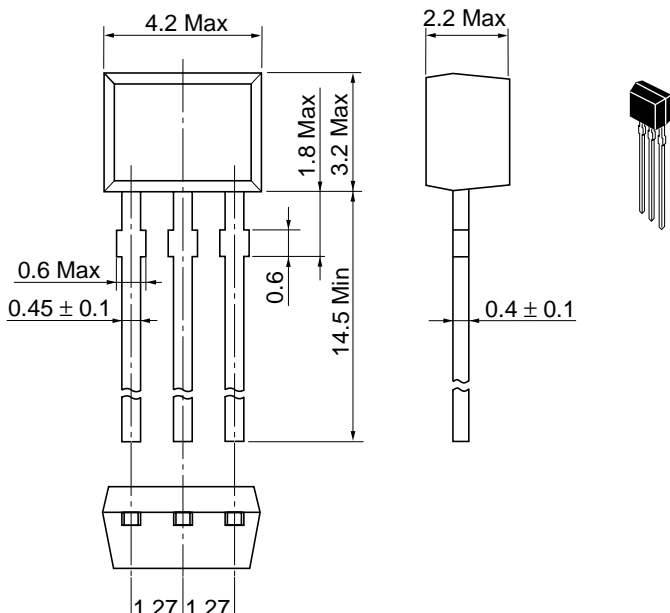


## 2SK522

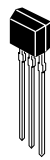
Power Gain and Noise Figure  
Test Circuit



$C_1, C_2$  : 0 to 30pF Max Variable Air  
 $L_1$  : 3.5 T  $\phi 1$  mm $\phi$  Copper Ribbon, Tin plated 10 mm Inside dia.  
 $L_2$  : 4.5 T  $\phi 1$  mm $\phi$  Copper Ribbon, Tin plated 10 mm Inside dia.



Unit: mm



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