
2SK522

Silicon N-Channel Junction FET

HITACHI

Application

VHF amplifier, Mixer, local oscillator

Outline

SPAK



1. Gate
2. Source
3. Drain

Absolute Maximum Ratings (Ta = 25°C)

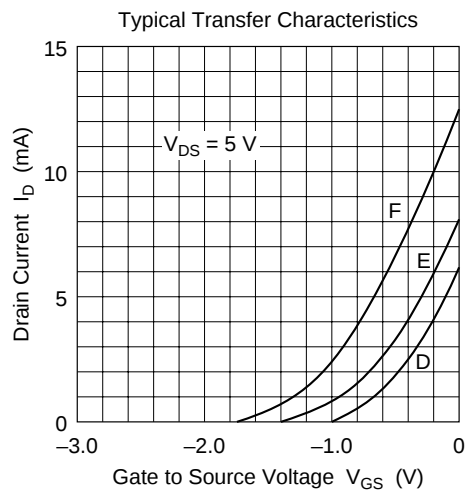
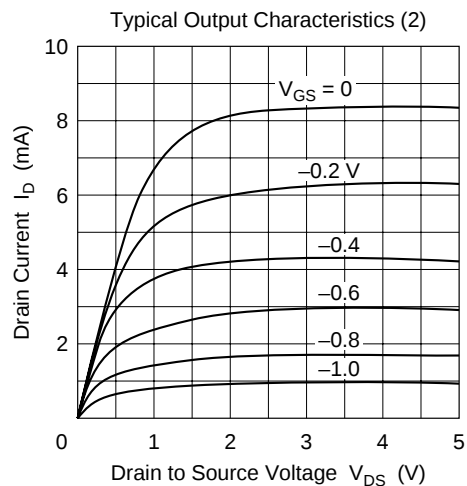
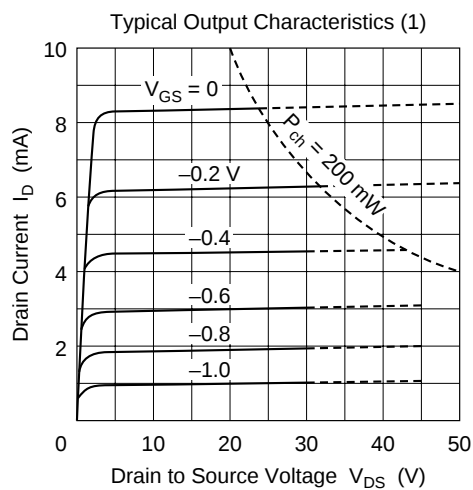
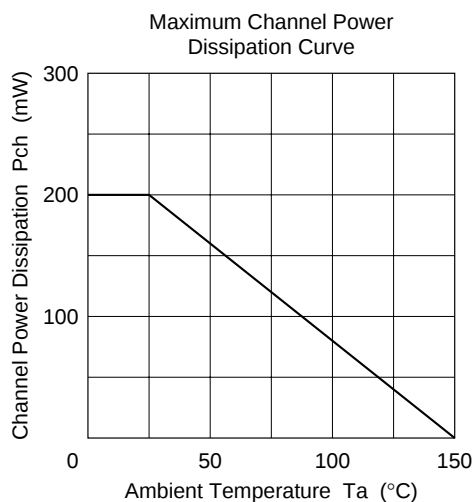
Item	Symbol	Ratings	Unit
Gate to drain voltage	V_{GDO}	-30	V
Gate current	I_G	10	mA
Drain current	I_D	20	mA
Channel power dissipation	Pch	200	mW
Channel temperature	Tch	150	°C
Storage temperature	Tstg	-55 to +150	°C

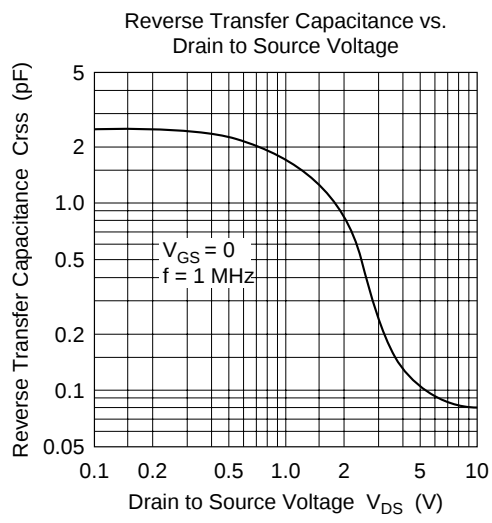
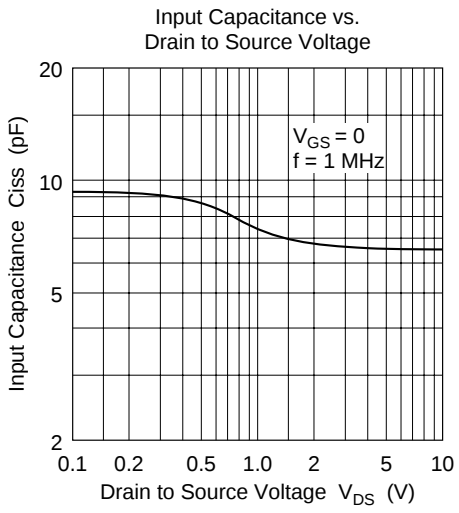
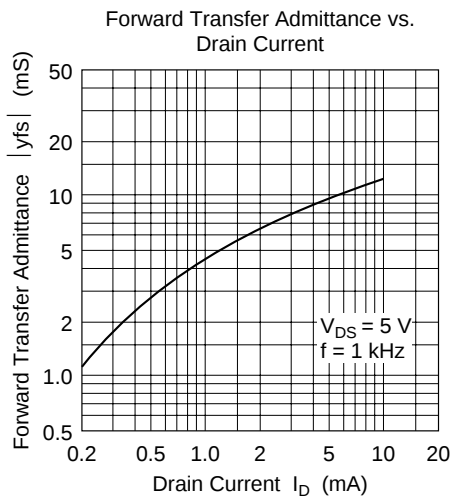
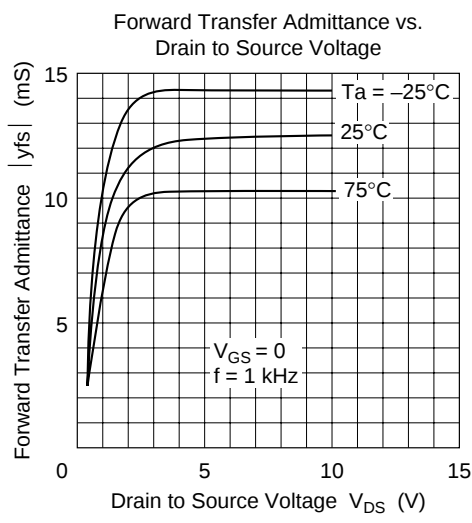
Electrical Characteristics (Ta = 25°C)

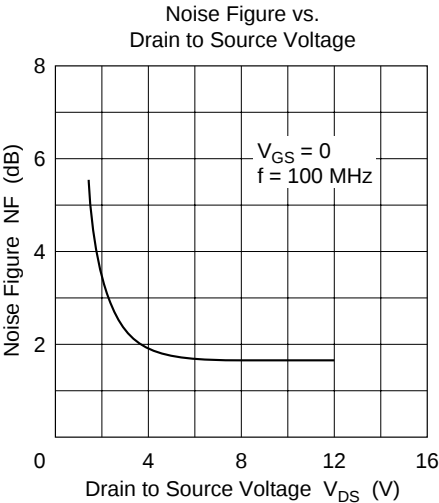
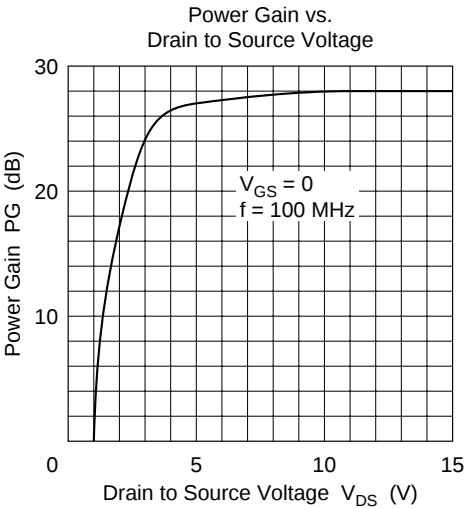
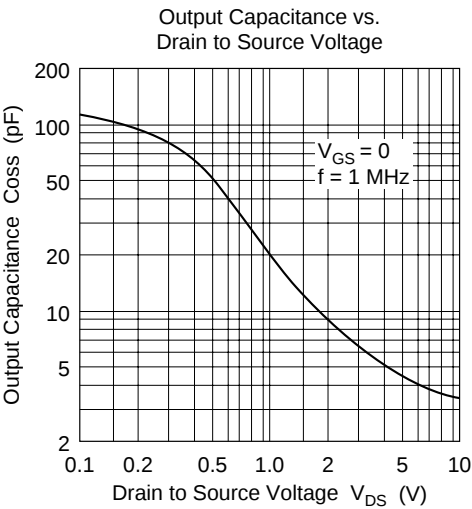
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Gate to drain breakdown voltage	$V_{(BR)GDO}$	-30	—	—	V	$I_G = -100\text{ }\mu\text{A}$, $I_S = 0$
Gate cutoff current	I_{GSS}	—	—	-10	nA	$V_{GS} = -0.5\text{ V}$, $V_{DS} = 0$
Drain current	I_{DSS}^{*1}	4	—	20	mA	$V_{DS} = 5\text{ V}$, $V_{GS} = 0$
Gate to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

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

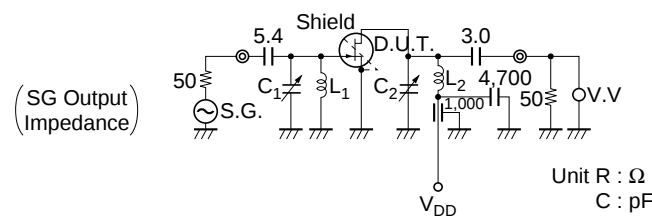
Drain	D	E	F
I_{DSS}	4 to 8	6 to 10	10 to 20





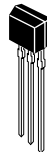
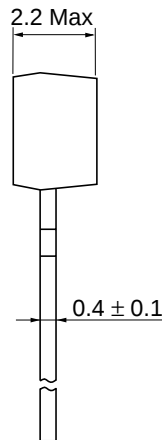
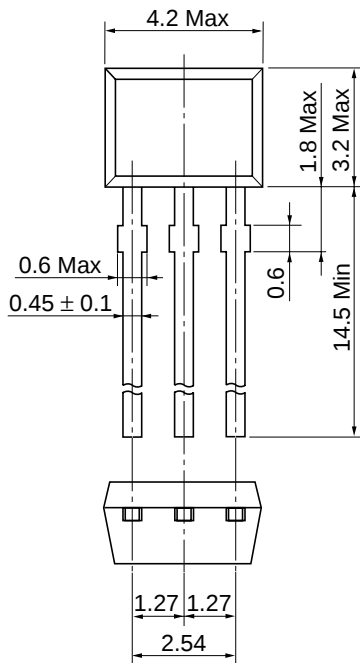


Power Gain and Noise Figure
Test Circuit



- C₁, C₂ : 0 to 30pF Max Variable Air
- L₁ : 3.5 T ϕ 1 mm ϕ Copper Ribbon, Tin plated 10 mm Inside dia.
- L₂ : 4.5 T ϕ 1 mm ϕ Copper Ribbon, Tin plated 10 mm Inside dia.

Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Weight (reference value)	0.10 g

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