

# 3SK270

## Silicon N-Channel 4-pin MOS FET

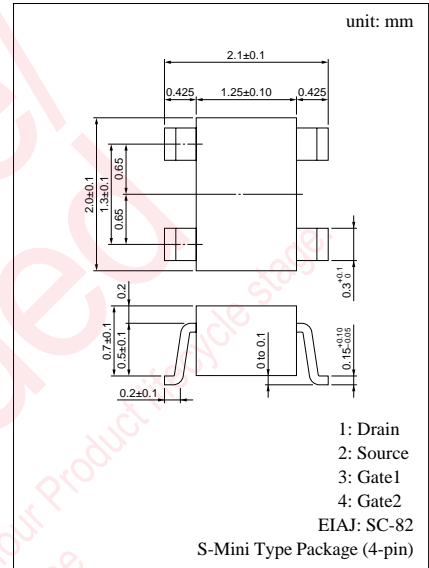
For VHF-UHF amplification

### ■ Features

- Low noise-figure (NF)
- Large power gain PG
- S-mini type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

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

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DS}$	15	V
Gate 1 to Source voltage	$V_{G1S}$	$\pm 8$	V
Gate 2 to Source voltage	$V_{G2S}$	$\pm 8$	V
Drain current	$I_D$	$\pm 30$	mA
Allowable power dissipation	$P_D$	150	mW
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

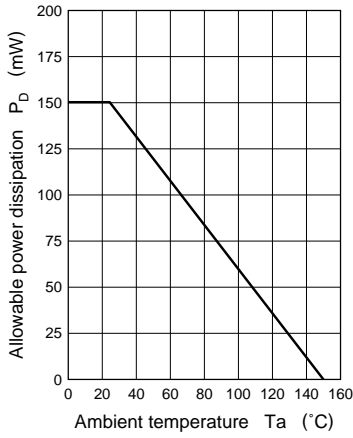


Marking Symbol: AF

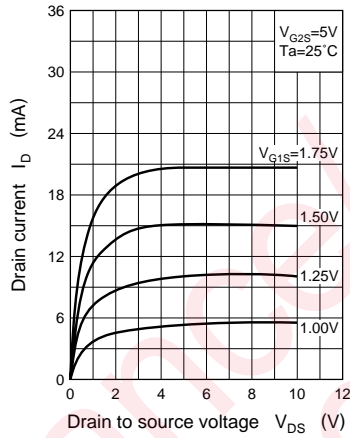
### ■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}$	$V_{DS} = 10V, V_{G1S} = 1.5V, V_{G2S} = 5V$	12		22	mA
Gate 1 cut-off current	$I_{G1SS}$	$V_{DS} = V_{G2S} = 0, V_{G1S} = \pm 8V$			$\pm 20$	nA
Gate 2 cut-off current	$I_{G2SS}$	$V_{DS} = V_{G1S} = 0, V_{G2S} = \pm 8V$			$\pm 20$	nA
Drain to Source voltage	$V_{DSX}$	$I_D = 50\mu A, V_{G1S} = -5V, V_{G2S} = 0$	15			V
Gate 1 to Source cut-off voltage	$V_{G1SC}$	$V_{DS} = 10V, V_{G2S} = 5V, I_D = 100\mu A$	0		1	V
Gate 2 to Source cut-off voltage	$V_{G2SC}$	$V_{DS} = 10V, V_{G1S} = 5V, I_D = 100\mu A$	0		1	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10V, I_D = 10mA, V_{G2S} = 5V, f = 1kHz$	16	21	25	mS
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 10V, V_{G1S} = V_{G2S} = -5V$ $f = 1MHz$	2.2	3.3	4.5	pF
Output capacitance (Common Source)	$C_{oss}$			0.9	1.3	pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			0.02		pF
Power gain	PG	$V_{DS} = 6V, I_D = 8mA, V_{G2S} = 4V$	11	15.5		dB
Noise figure	NF	$f = 495 \text{ to } 515MHz$ (Sweep)		2.8	4.6	dB

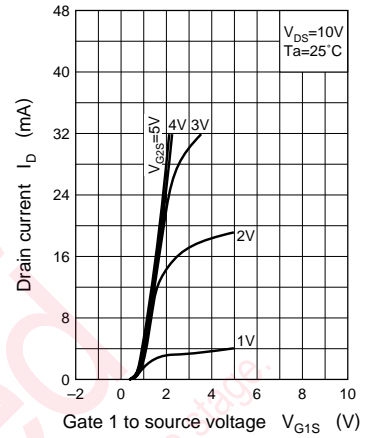
$P_D - T_a$



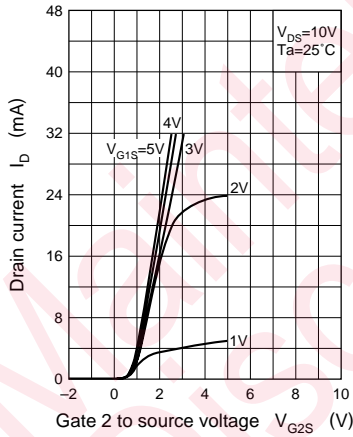
$I_D - V_{DS}$



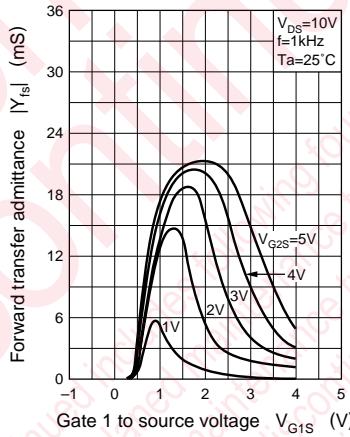
$I_D - V_{G1S}$



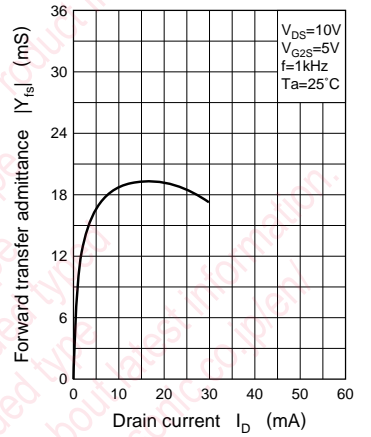
$I_D - V_{G2S}$



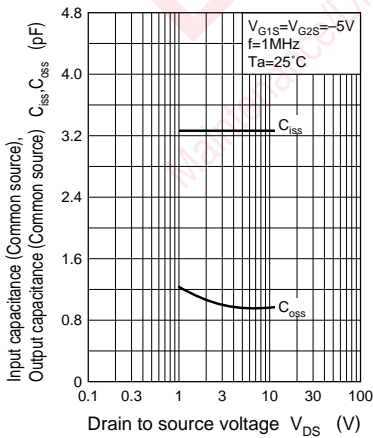
$|Y_{fs}| - V_{G1S}$



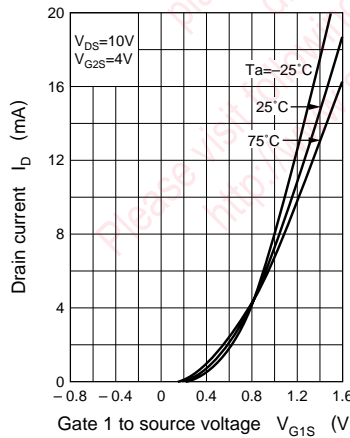
$|Y_{fs}| - I_D$



$C_{iss}, C_{oss} - V_{DS}$



$I_D - V_{G1S}$



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