

# 3SK273

## GaAs N-Channel MES

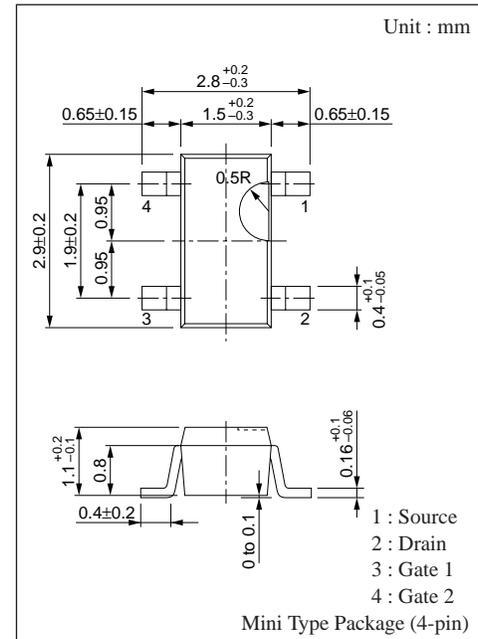
For VHF-UHF amplification

### ■ Features

- Low noise-figure (NF)
- Large power gain PG
- Downsizing of sets by mini power package and automatic insertion by taping/magazine packing are available.

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

Parameter	Symbol	Rating	Unit
Drain-Source voltage	$V_{DS}$	13	V
Gate 1-Source voltage	$V_{G1S}$	- 6	V
Gate 2-Source voltage	$V_{G2S}$	- 6	V
Drain current	$I_D$	50	mA
Gate 1 current	$I_{G1}$	1	mA
Gate 2 current	$I_{G2}$	1	mA
Allowable power dissipation	$P_D$	200	mW
Channel temperature	$T_{ch}$	150	°C
Storage temperature	$T_{stg}$	- 55 to +150	°C



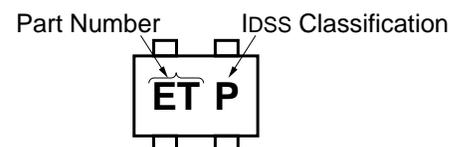
### ■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	$I_{DSS}^*$	$V_{DS}=5V, V_{G1S}=0, V_{G2S}=0$	8.5		35	mA
Gate 2-Drain current	$I_{G2DO}$	$V_{G2D}=-13V(G1, S=Open)$			50	$\mu A$
Gate 1 cut-off current	$I_{G1SS}$	$V_{DS}=V_{G2S}=0, V_{G1S}=-6V$			- 20	$\mu A$
Gate 2 cut-off current	$I_{G2SS}$	$V_{DS}=V_{G1S}=0, V_{G2S}=-6V$			- 20	$\mu A$
Drain cut-off current	$I_{DSX}$	$V_{DS}=13V, V_{G1S}=-3.5V, V_{G2S}=0$			50	$\mu A$
Gate 1-Source cut-off voltage	$V_{G1SC}$	$V_{DS}=5V, V_{G2S}=0, I_D=200\mu A$			- 3.5	V
Gate 2-Source cut-off voltage	$V_{G2SC}$	$V_{DS}=5V, V_{G1S}=0, I_D=200\mu A$			- 3.5	V
Forward transadmittance	$ Y_{fs} $	$V_{DS}=5V, I_D=10mA, V_{G2S}=1.5V, f=1kHz$	15	20		mS
Input capacitance	$C_{iss}$	$V_{DS}=5V, V_{G1S}=V_{G2S}=-6V, f=1MHz$		0.4	2	pF
Output capacitance	$C_{oss}$			0.3	1.2	pF
Feedback capacitance	$C_{rss}$			0.02	0.04	pF
Power gain	PG	$V_{DS}=5V, I_D=10mA,$	13	16		dB
Noise figure	NF	$V_{G2S}=1.5V, f=800MHz$		1.8	2.8	dB
Gain reduction	$G_R$	$V_{DS}=5V, V_{AGC}=1.5V/-3.5V, f=800MHz$	37	45		dB

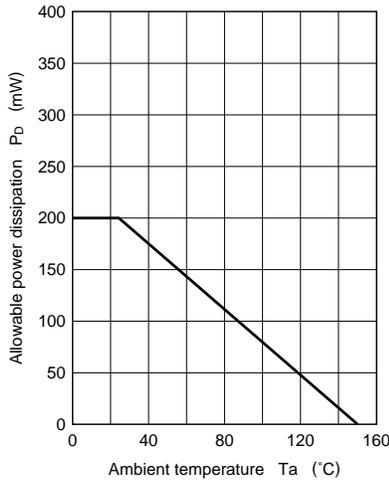
\*  $I_{DSS}$  rank classification

Rank	P	Q	R	S
$I_{DSS}(mA)$	8.5 to 17	15 to 21	19 to 30	25 to 35
Part number symbol	ETP	ETQ	ETR	ETS

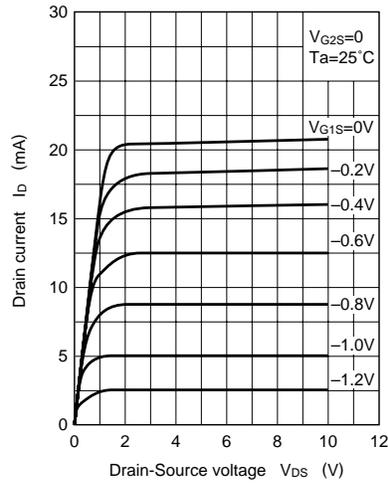
### ■ Marking (Example)



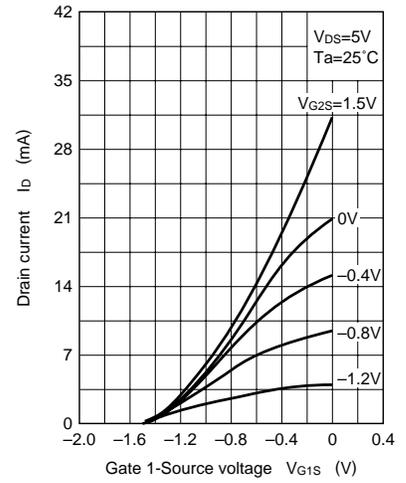
$P_D - T_a$



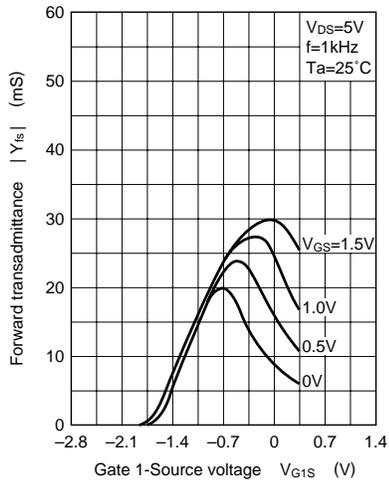
$I_D - V_{DS}$



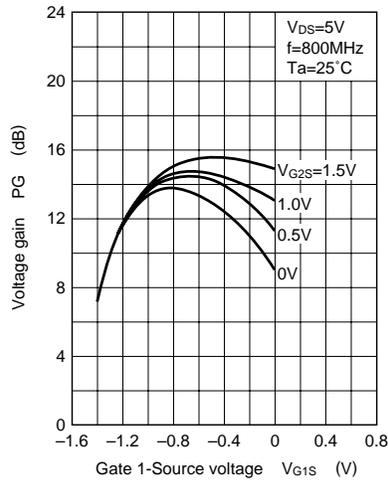
$I_D - V_{G1S}$



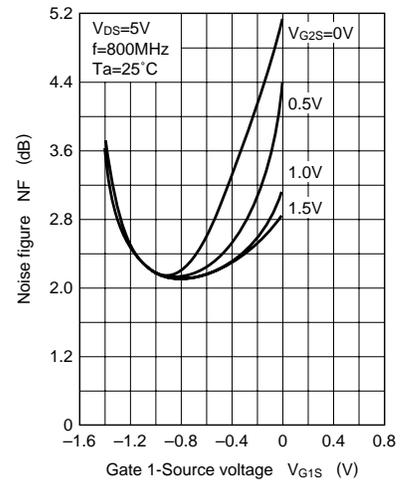
$|Y_{fs}| - V_{G1S}$



$PG - V_{G1S}$



$NF - V_{G1S}$



$PG - V_{G2S}$

