

# 2SK198

## Silicon N-Channel Junction

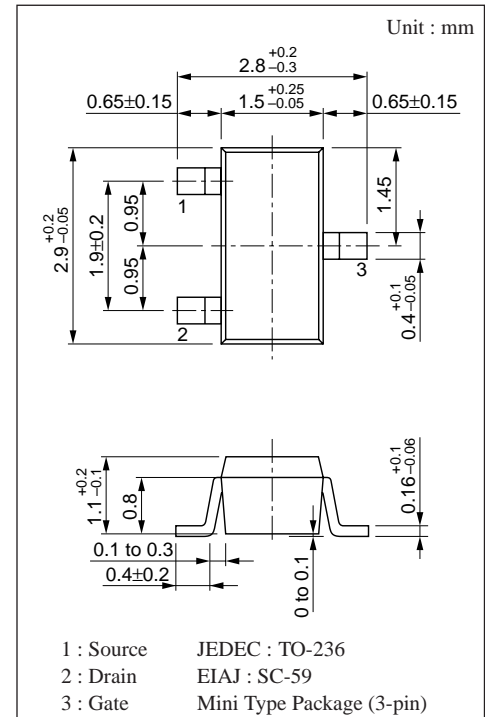
For low-frequency amplification

### ■ Features

- High mutual conductance  $g_m$
- Low noise type
- Downsizing of sets by mini-type package and automatic insertion by taping/magazine packing are available.

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

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V <sub>DSX</sub>	30	V
Gate-Drain voltage	V <sub>GDO</sub>	- 30	V
Drain current	I <sub>D</sub>	±20	mA
Gate current	I <sub>G</sub>	10	mA
Allowable power dissipation	P <sub>D</sub>	150	mW
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	- 55 to +150	°C



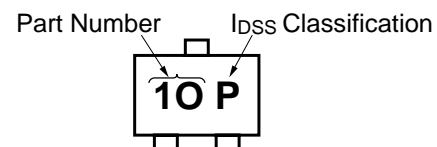
### ■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I <sub>DSS</sub> *	V <sub>DS</sub> =10V, V <sub>GS</sub> = 0	0.5		12	mA
Gate-Source leakage current	I <sub>GSS</sub>	V <sub>GS</sub> = -30V, V <sub>DS</sub> = 0			-100	nA
Gate-Source cut-off voltage	V <sub>GSC</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =10μA	- 0.1		-1.5	V
Mutual conductance	g <sub>m</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> = 0.5mA, f=1kHz	4			mS
		V <sub>DS</sub> =10V, V <sub>GS</sub> = 0, f=1kHz		12		
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> = 0, f=1MHz		14		pF
Feedback capacitance	C <sub>rss</sub>			3.5		pF
Noise voltage	NV	V <sub>DS</sub> = 30V, I <sub>D</sub> =1mA, G <sub>v</sub> = 80dB R <sub>g</sub> =100kΩ, Function= FLAT		60		mV

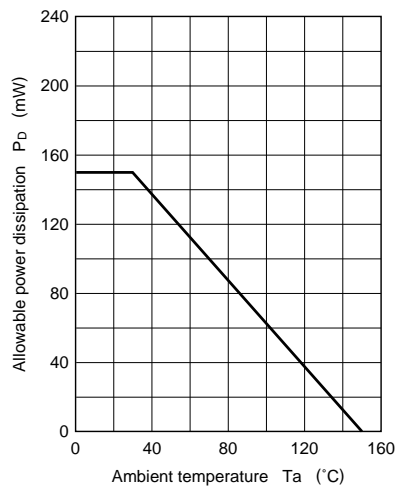
\* I<sub>DSS</sub> rank classification

Rank	P	Q	R
I <sub>DSS</sub> (mA)	0.5 to 3	2 to 6	4 to 12
Part number symbol	10P	10Q	10R

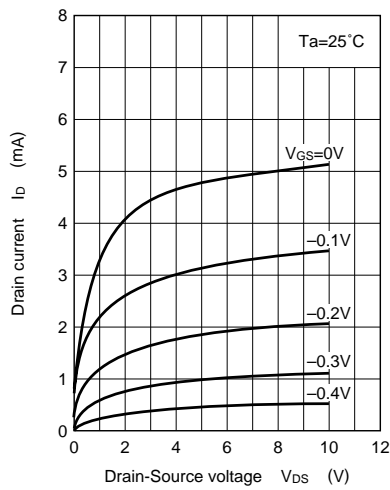
### ■ Marking (Example)



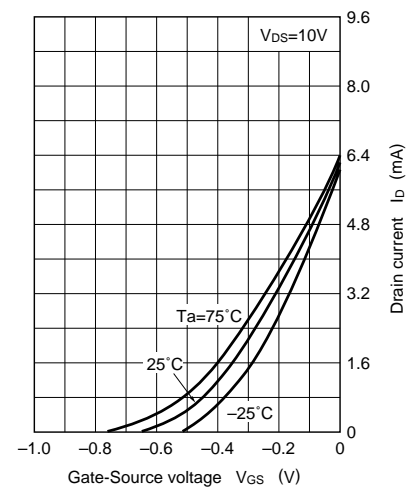
$P_D - T_a$



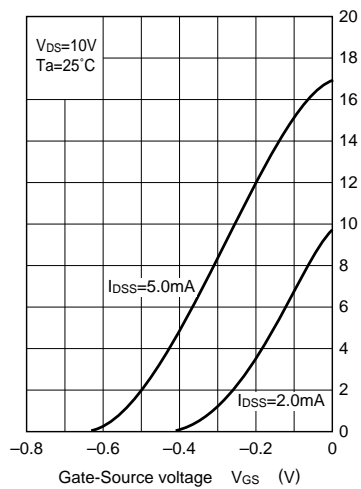
$I_D - V_{DS}$



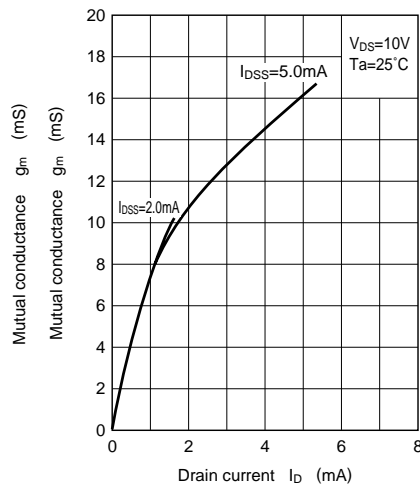
$I_D - V_{GS}$



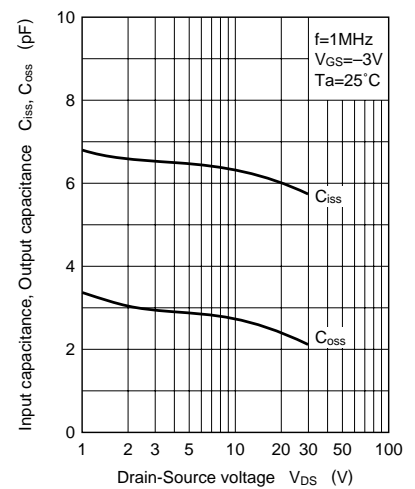
$g_m - V_{GS}$



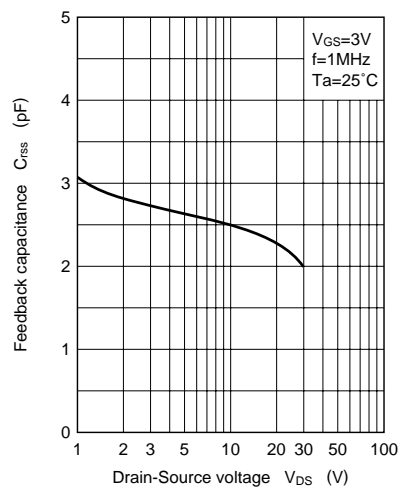
$g_m - I_D$



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



$C_{rss} - V_{DS}$



NF - f

