

# 2SK0198 (2SK198)

## Silicon N-Channel Junction FET

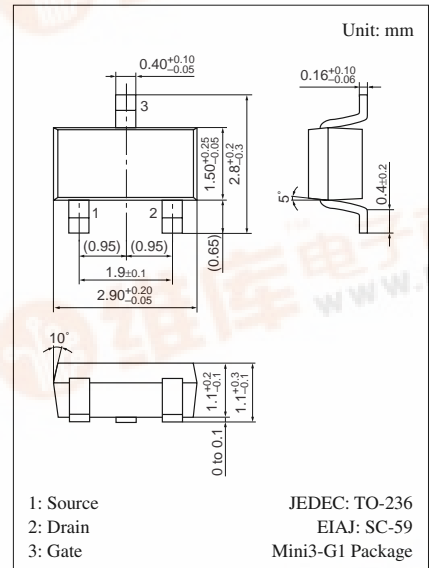
For low-frequency amplification

### ■ Features

- High mutual conductance  $g_m$
- Low noise type
- Mini-type package, allowing downsizing of the sets and automatic insertion through the tape/magazine packing.

### ■ Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DSX}$	30	V
Gate to Drain voltage	$V_{GDO}$	-30	V
Drain current	$I_D$	20	mA
Gate current	$I_G$	10	mA
Allowable power dissipation	$P_D$	150	mW
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



Marking Symbol (Example): 10

### ■ Electrical Characteristics ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	$I_{DSS}^*$	$V_{DS} = 10\text{ V}, V_{GS} = 0$	0.5		12	mA
Gate to Source leakage current	$I_{GSS}$	$V_{GS} = -30\text{ V}, V_{DS} = 0$			-100	nA
Gate to Source cut-off voltage	$V_{GSC}$	$V_{DS} = 10\text{ V}, I_D = 10\ \mu\text{A}$	-0.1		-1.5	V
Mutual conductance	$g_m$	$V_{DS} = 10\text{ V}, I_D = 0.5\text{ mA}, f = 1\text{ kHz}$	4			mS
		$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ kHz}$		13		
Input capacitance (Common Source)	$C_{iss}$	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$		14		pF
Reverse transfer capacitance (Common Source)	$C_{rss}$			3.5		pF
Noise figure	NV	$V_{DS} = 30\text{ V}, I_D = 1\text{ mA}, G_V = 80\text{ dB}$ $R_g = 100\text{ k}\Omega, \text{Function} = \text{FLAT}$		60		mV

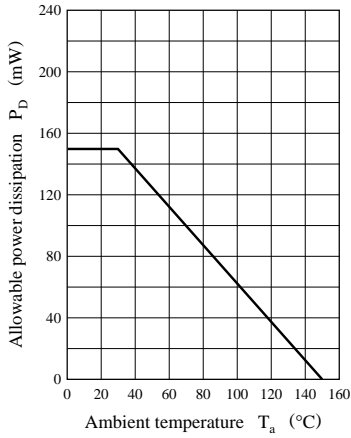
\*  $I_{DSS}$  rank classification

Runk	P	Q	R
$I_{DSS}$ (mA)	0.5 to 3	2 to 6	4 to 12
Marking Symbol	10P	10Q	10R

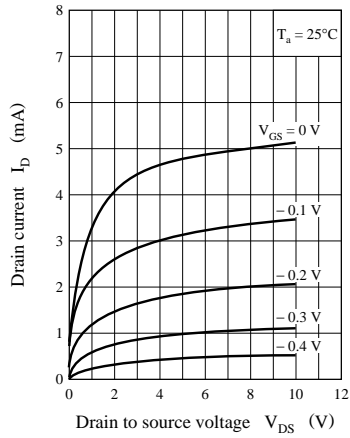
Note) The part number in the parenthesis shows conventional part number.



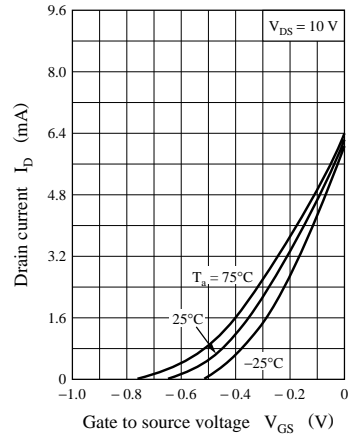
$P_D - T_a$



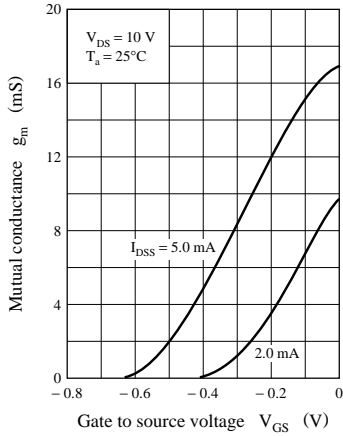
$I_D - V_{DS}$



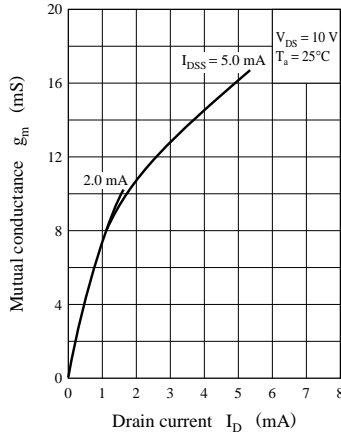
$I_D - V_{GS}$



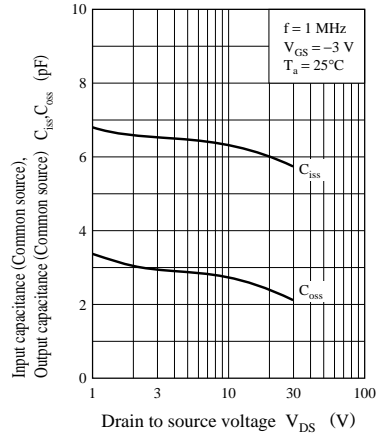
$g_m - V_{GS}$



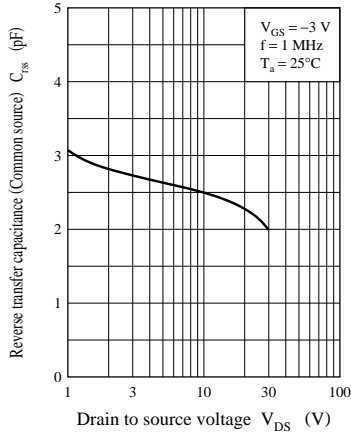
$g_m - I_D$



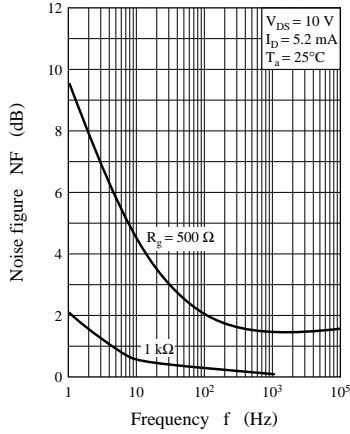
$C_{iss}, C_{oss} - V_{DS}$



$C_{rss} - V_{DS}$



NF - f



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