

# XN1871

## Silicon N-channel junction FET

For amplification of the low frequency

### ■ Features

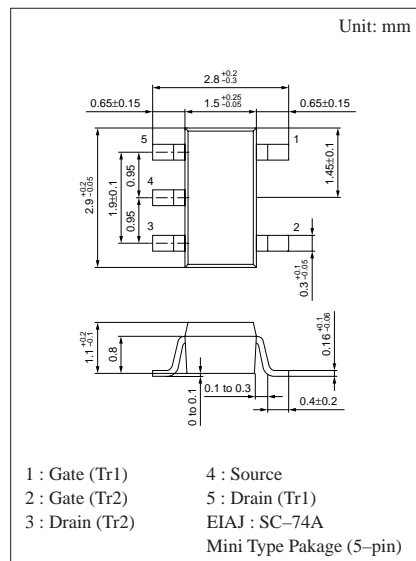
- Two elements incorporated into one package.  
(Source-coupled FETs)
- Reduction of the mounting area and assembly cost by one half.

### ■ Basic Part Number of Element

- 2SK198 × 2 elements

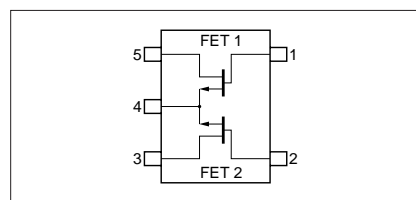
### ■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating	Unit
Rating of element	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
Overall	Total power dissipation	$P_T$	300	mW
	Channel temperature	$T_{ch}$	150	°C
	Storage temperature	$T_{stg}$	-55 to +150	°C



Marking Symbol: 5T

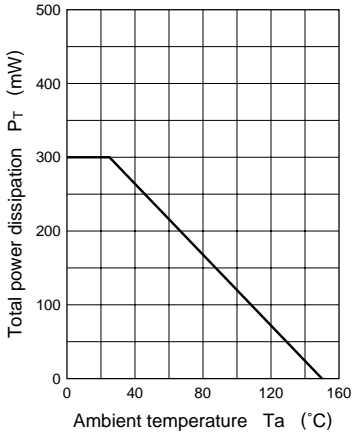
Internal Connection



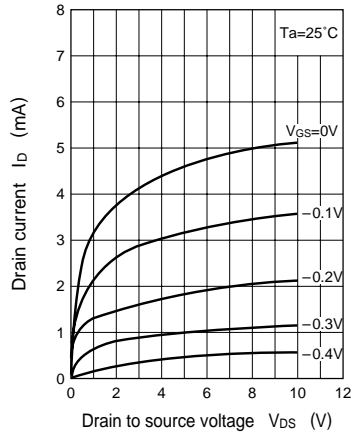
### ■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain current	$I_{DSS}$	$V_{DS} = 10V, V_{GS} = 0$	0.5		12	mA
Gate cutoff current	$I_{GSS}$	$V_{GS} = -30V, V_{DS} = 0$			-100	nA
Gate to source cutoff voltage	$V_{GSC}$	$V_{DS} = 10V, I_D = 10\mu A$	-0.1		-1.5	V
Mutual conductance	gm	$V_{DS} = 10V, I_D = 0.5mA, f = 1MHz$	4			mS
	gm	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$	4	12		mS
Common source short-circuit input capacitance	$C_{iss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		14		pF
Common source reverse transfer capacitance	$C_{rss}$	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		3.5		pF
Noise voltage	NV	$V_{DS} = 30V, I_D = 1mA, G_v = 80dB$ $R_g = 100k\Omega, Function = FLAT$		60		mV

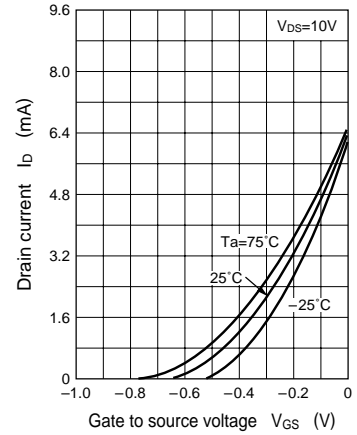
$P_T - T_a$



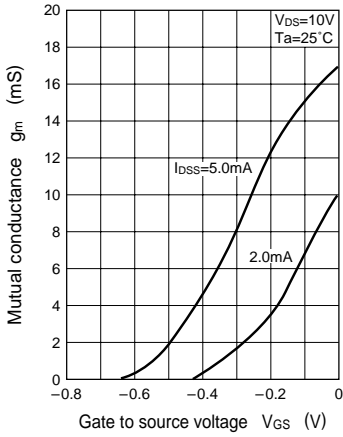
$I_D - V_{DS}$



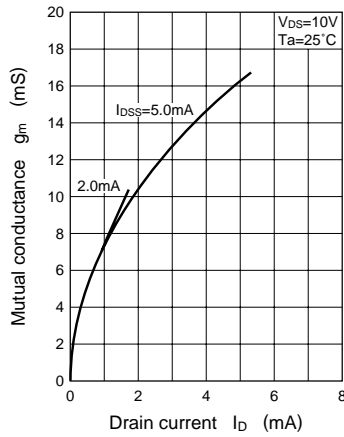
$I_D - V_{GS}$



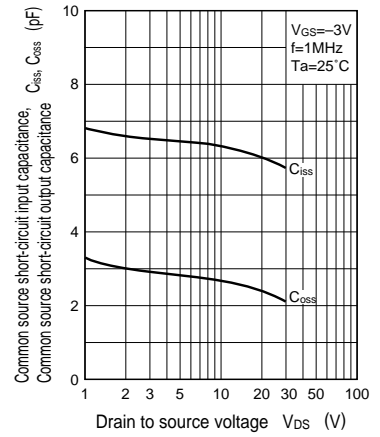
$g_m - V_{GS}$



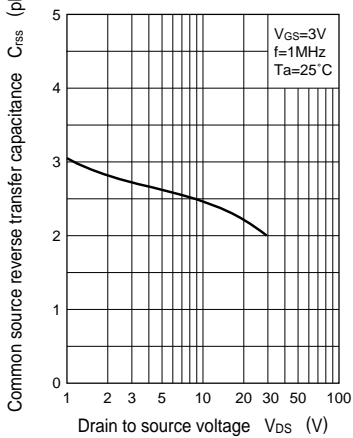
$g_m - I_D$



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



$C_{rss} - V_{DS}$



$NF - f$

