

**2SK0123 (2SK123)**

## Silicon N-Channel Junction FET

For impedance conversion in low frequency

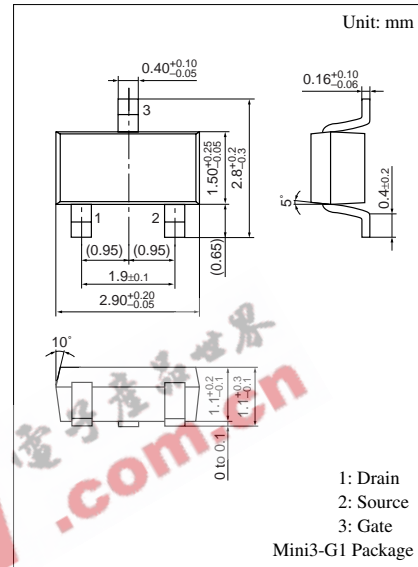
For electret capacitor microphone

## ■ Features

- High mutual conductance  $g_m$
- Low noise voltage of NV

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

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	$V_{DSO}$	20	V
Drain to Gate voltage	$V_{DGO}$	20	V
Drain to Source current	$I_{DSO}$	2	mA
Drain to Gate current	$I_{DGO}$	2	mA
Gate to Source current	$I_{GSO}$	2	mA
Allowable power dissipation	$P_D$	200	mW
Operating ambient temperature	$T_{opr}$	-20 to +80	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$



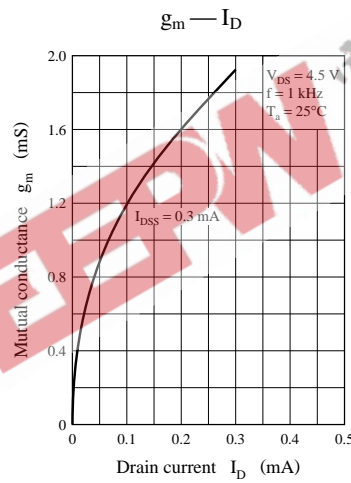
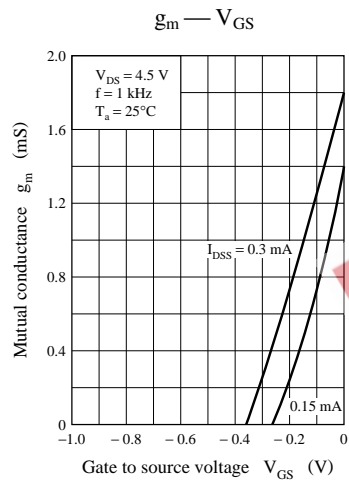
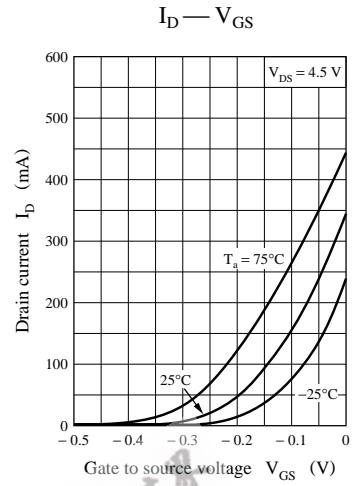
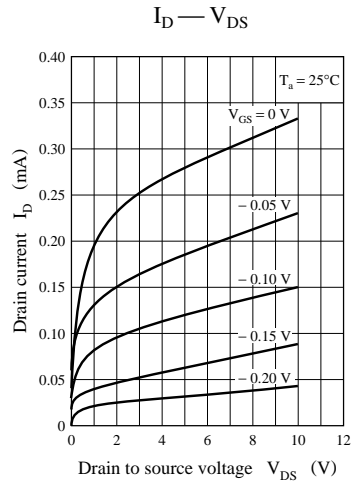
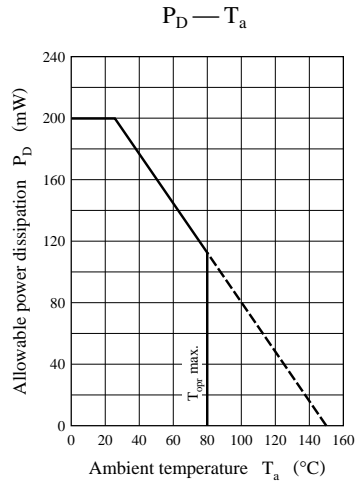
## Marking Symbol: 1H

Note: For the forming type, (Y) is indicated after the part No.

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

Parameter	Symbol	Conditions	min	typ	max	Unit
Current consumption	$I_D$	$V_D = 4.5\text{ V}$ , $C_0 = 10\text{ pF}$ , $R_D = 2.2\text{ k}\Omega \pm 1\%$	100		600	$\mu\text{A}$
Drain to Source cut-off current	$I_{DSS}$	$V_{DS} = 4.5\text{ V}$ , $V_{GS} = 0$	95		480	$\mu\text{A}$
Mutual conductance	$g_m$	$V_D = 4.5\text{ V}$ , $V_{GS} = 0$ , $f = 1\text{ kHz}$	0.7	1.6		mS
Noise figure	NV	$V_D = 4.5\text{ V}$ , $R_D = 2.2\text{ k}\Omega \pm 1\%$ $C_0 = 10\text{ pF}$ , A-curve			4	$\mu\text{V}$
Voltage gain	$G_{V1}$		-3	2		dB
	$G_{V2}$	$V_D = 4.5\text{ V}$ , $R_D = 2.2\text{ k}\Omega \pm 1\%$ $C_0 = 10\text{ pF}$ , $e_G = 10\text{ mV}$ , $f = 1\text{ kHz}$	0	3.3		dB
	$G_{V3}$	$V_D = 12\text{ V}$ , $R_D = 2.2\text{ k}\Omega \pm 1\%$ $C_0 = 10\text{ pF}$ , $e_G = 10\text{ mV}$ , $f = 1\text{ kHz}$	-4.5	-0.3		dB
Voltage gain difference	$ \Delta G_{V2} - G_{V1} $	$V_D = 1.5\text{ V}$ , $R_D = 2.2\text{ k}\Omega \pm 1\%$	0		+3.5	dB
	$ \Delta G_{V1} - G_{V3} $	$C_0 = 10\text{ pF}$ , $e_G = 10\text{ mV}$ , $f = 1\text{ kHz}$	0		+3.5	dB

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



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