

2SK1860

Silicon N-Channel Junction FET

For impedance conversion in low frequency

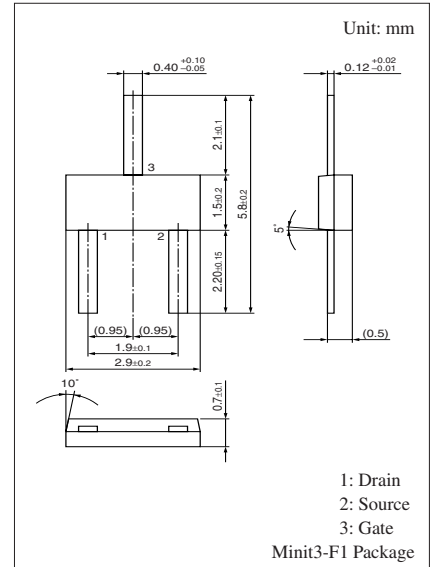
For electret capacitor microphone

■ Features

- High mutual conductance g_m
- Low noise voltage of NV

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

Parameter	Symbol	Rating	Unit
Drain-source voltage (Gate open)	V_{DSO}	20	V
Drain-gate voltage (Source open)	V_{DGO}	20	V
Drain-source current (Gate open)	I_{DSO}	2	mA
Drain-gate current (Source open)	I_{DGO}	2	mA
Gate-source cutoff current (Drain open)	I_{GSO}	2	mA
Power dissipation	P_D	200	mW
Operating ambient temperature	T_{opr}	-20 to +80	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



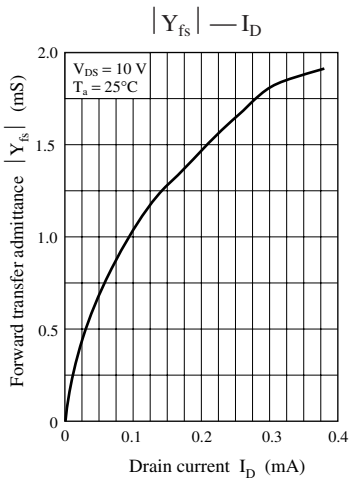
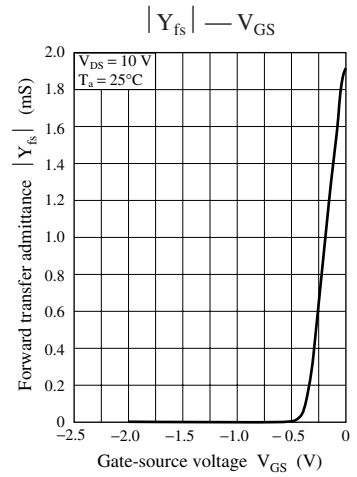
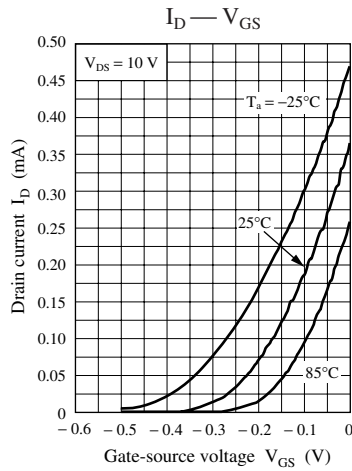
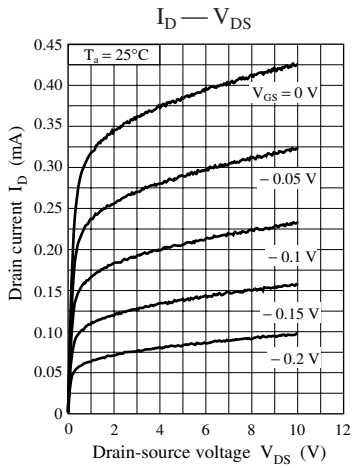
Marking Symbol: 1H

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain current	I_D	$V_{DS} = 4.5\text{ V}$, $C_O = 10\text{ pF}$, $R_D = 2.2\text{ k}\Omega \pm 1\%$	100		600	μA
Drain-source cutoff current (G-S short)	I_{DSS}	$V_{DS} = 4.5\text{ V}$, $V_{GS} = 0$	95		480	μA
Mutual conductance	g_m	$V_D = 4.5\text{ V}$, $V_{GS} = 0$, $f = 1\text{ kHz}$	700	1600		μS
Noise voltage	NV	$V_D = 4.5\text{ V}$, $R_D = 2.2\text{ k}\Omega \pm 1\%$, $C_O = 10\text{ pF}$, A-curve			4	μV
Voltage gain	G_{v1}	$V_D = 4.5\text{ V}$, $R_D = 2.2\text{ k}\Omega \pm 1\%$, $C_O = 10\text{ pF}$, $e_G = 10\text{ mV}$, $f = 1\text{ kHz}$	-3	2		dB
	G_{v2}	$V_D = 12\text{ V}$, $R_D = 2.2\text{ k}\Omega \pm 1\%$, $C_O = 10\text{ pF}$, $e_G = 10\text{ mV}$, $f = 1\text{ kHz}$	0	3.3		dB
	G_{v3}	$V_D = 1.5\text{ V}$, $R_D = 2.2\text{ k}\Omega \pm 1\%$, $C_O = 10\text{ pF}$, $e_G = 10\text{ mV}$, $f = 1\text{ kHz}$	-4.5	-0.3		dB
	$\Delta G_v \cdot f ^*$	$V_D = 4.5\text{ V}$, $R_D = 2.2\text{ k}\Omega \pm 1\%$, $C_O = 10\text{ pF}$, $e_G = 10\text{ mV}$, $f = 1\text{ kHz to } 70\text{ Hz}$		0	1.5	
Voltage gain difference	$\Delta G_{v2} - G_{v1} $		0		3.5	dB
	$\Delta G_{v1} - G_{v3} $		0		3.5	dB

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. * : $\Delta|G_v \cdot f|$ is assured for AQL0.065%. (the measurement method is used by source-grounded circuit.)



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