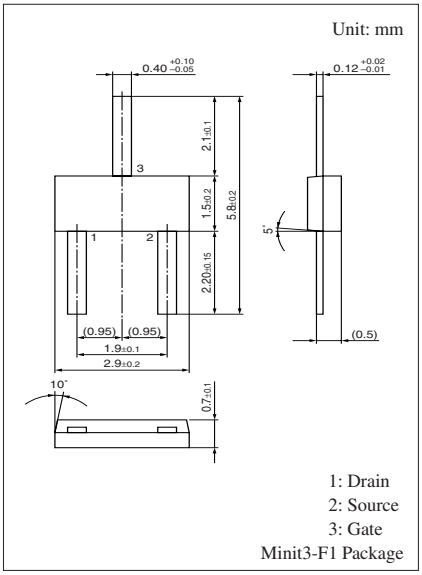
2SK1860

Silicon N-Channel Junction FET

For impedance conversion in low frequency
For electret capacitor microphone



Marking Symbol: 1H

■ Features

- High mutual conductance g_m
- Low noise voltage of NV

■ Absolute Maximum Ratings $T_a = 25°C$

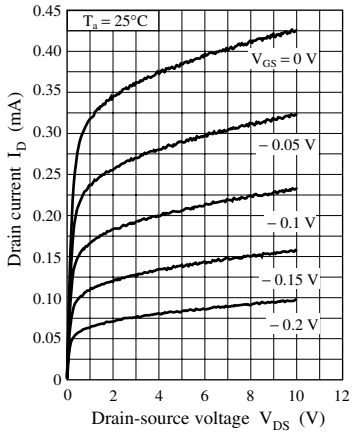
Parameter	Symbol	Rating	Unit
Drain-source voltage (Gate open)	V_{DSO}	20	V
Drain-gate voltage (Souse open)	V_{DGO}	20	V
Drain-source current (Gate open)	I_{DSO}	2	mA
Drain-gate current (Souse open)	I_{DGO}	2	mA
Gate-source cutoff current (Drain open)	I_{GSO}	2	mA
Power dissipation	P_D	200	mW
Operating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

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

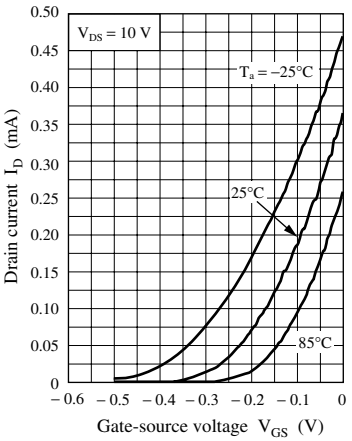
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain current	I_D	V_{DS} = 4.5 V, C_O = 10 pF, R_D = 2.2 kΩ ± 1%	100		600	µA
Drain-sourse cutoff current (G-S short)	I_{DSS}	V_{DS} = 4.5 V, V_{GS} = 0	95		480	µA
Mutual conductance	g_m	V_D = 4.5 V, V_{GS} = 0, f = 1 kHz	700	1 600		µS
Noise voltage	NV	V_D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

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. ∗ : $\Delta\lvert G_{v\,.\,f}\rvert$ is assured for AQL0.065%. (the measurment method is used by source-grounded circuit.)

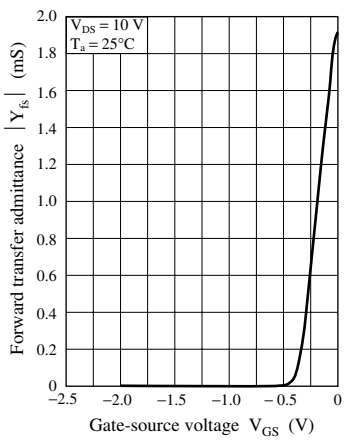
I_D — V_{DS}



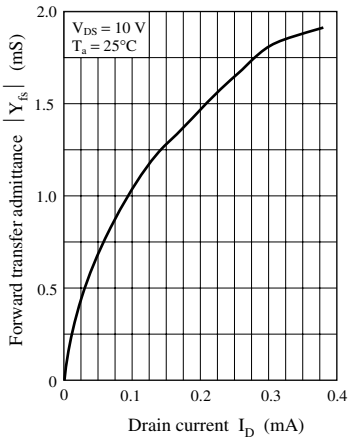
I_D — V_{GS}



$|Y_{fs}|$ — V_{GS}



$|Y_{fs}|$ — I_D



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