

2SK3427

Silicon N-Channel Junction

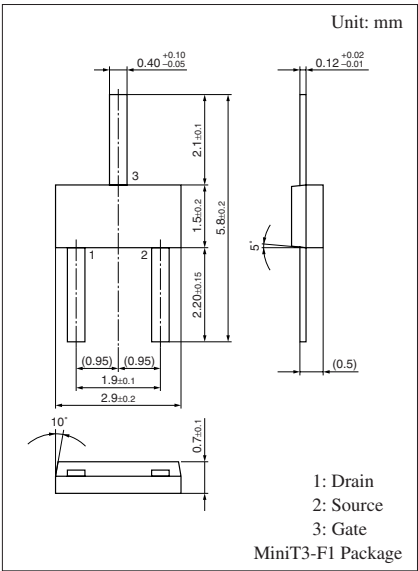
For impedance conversion in low frequency
For electret capacitor microphone

■ 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	V_{DSO}	20	V
Drain-gate voltage	V_{DGO}	20	V
Drain-source current	I_{DSO}	2	mA
Drain-gate current	I_{DGO}	2	mA
Gate-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	$^\circ\text{C}$

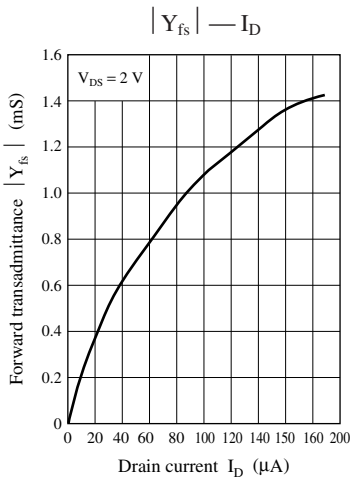
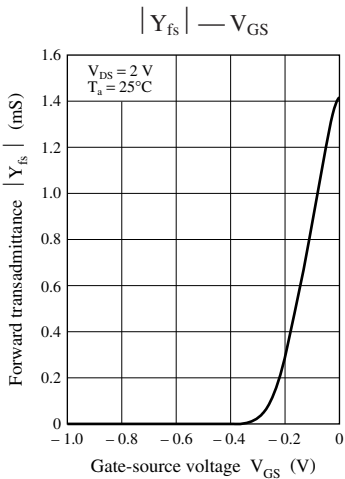
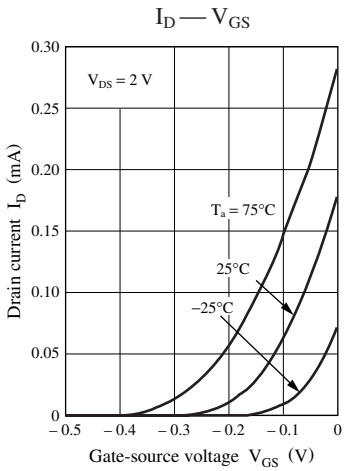
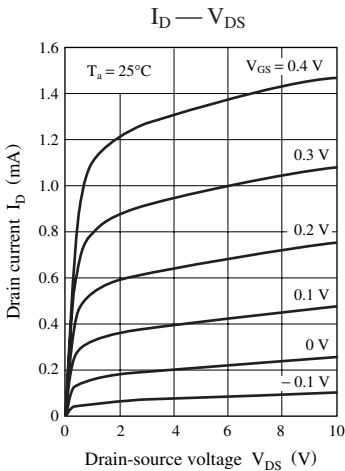
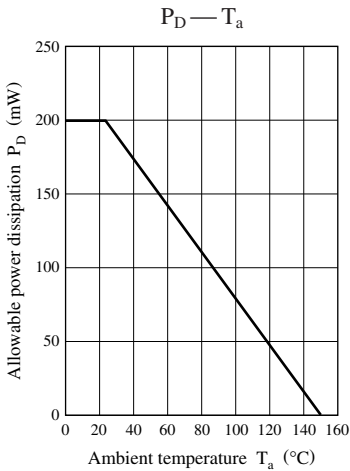


Marking Symbol: 5E

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain current	I_D	$V_{DS} = 2.0 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%$	100		460	μA
	I_{DSS}	$V_{DS} = 2.0 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%, V_{GS} = 0$	107		470	
Mutual conductance	g_m	$V_D = 2.0 \text{ V}, V_{GS} = 0, f = 1 \text{ kHz}$	660	1600		μS
Noise voltage	NV	$V_D = 2.0 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%$ $C_O = 5 \text{ pF}, A\text{-Curve}$			10	μV
Voltage gain	G_{V1}	$V_D = 2.0 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%$ $C_O = 5 \text{ pF}, e_G = 10 \text{ mV}, f = 1 \text{ kHz}$	-7.5	-4.7		dB
	G_{V2}	$V_D = 12 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%$ $C_O = 5 \text{ pF}, e_G = 10 \text{ mV}, f = 1 \text{ kHz}$	-4.0	-1.5		
	G_{V3}	$V_D = 1.5 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%$ $C_O = 5 \text{ pF}, e_G = 10 \text{ mV}, f = 1 \text{ kHz}$	-8.0	-5.0		
	$\Delta G_V \cdot f ^*$	$V_D = 2.0 \text{ V}, R_D = 2.2 \text{ k}\Omega \pm 1\%$ $C_O = 5 \text{ pF}, e_G = 10 \text{ mV}, f = 1 \text{ kHz to } 70 \text{ Hz}$		0	1.7	
Voltage gain difference	$ G_{V2} - G_{V1} $		0		4.0	dB
	$ G_{V1} - G_{V3} $		0		1.7	

Note) *: $\Delta |G_V \cdot f|$ is assured for AQL 0.065%. (the measurement method is used by source-grounded circuit.)



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