

2SK301

Silicon N-Channel Junction FET

For low-frequency amplification

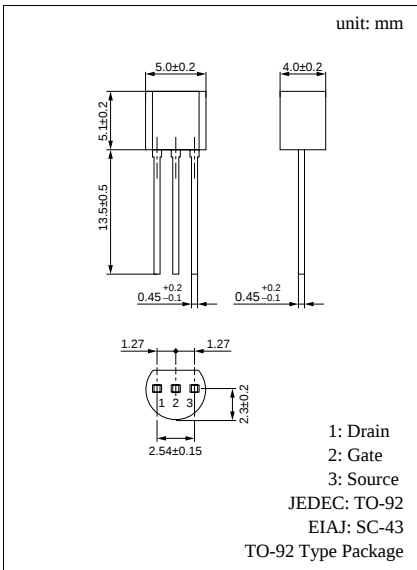
For switching

■ Features

- Low noises, high gain
- High gate to drain voltage V_{GDO}

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

Parameter	Symbol	Ratings	Unit
Drain to Source voltage	V_{DSX}	55	V
Gate to Drain voltage	V_{GDO}	-55	V
Gate to Source voltage	V_{GSO}	-55	V
Drain current	I_D	± 30	mA
Gate current	I_G	10	mA
Allowable power dissipation	P_D	250	mW
Junction temperature	T_j	125	$^{\circ}\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^{\circ}\text{C}$



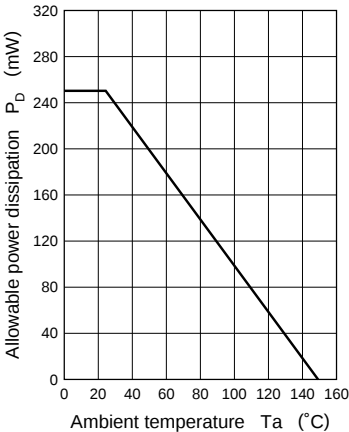
■ Electrical Characteristics ($T_a = 25^{\circ}\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}^*	$V_{DS} = 10\text{V}, V_{GS} = 0$	1		20	mA
Gate to Source leakage current	I_{GSS}	$V_{GS} = -30\text{V}, V_{DS} = 0$			-10	nA
Gate to Drain voltage	V_{GDC}	$I_G = -100\mu\text{A}, V_{DS} = 0$	-55	-80		V
Gate to Source cut-off voltage	V_{GSC}	$V_{DS} = 10\text{V}, I_D = 10\mu\text{A}$			-5	V
Mutual conductance	g_m	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{kHz}$	2.5	7.5		mS
Input capacitance (Common Source)	C_{iss}	$V_{DS} = 10\text{V}, V_{GS} = 0, f = 1\text{MHz}$		6.5		pF
Reverse transfer capacitance (Common Source)	C_{rss}			1.9		pF
Noise figure	NF	$V_{DS} = 10\text{V}, V_{GS} = 0, R_g = 100\text{k}\Omega, f = 100\text{Hz}$		0.5		dB

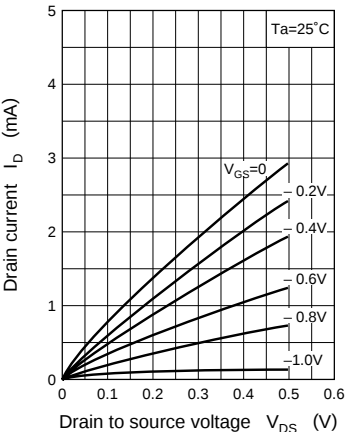
* I_{DSS} rank classification

Runk	P	Q	R	S
I_{DSS} (mA)	1 to 3	2 to 6.5	5 to 12	10 to 20

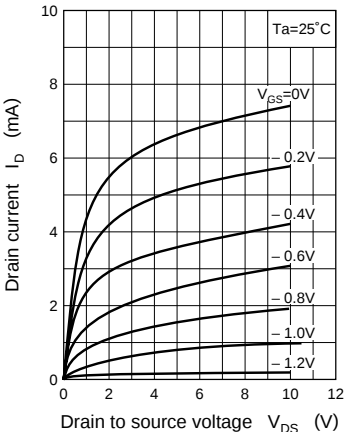
$P_D - T_a$



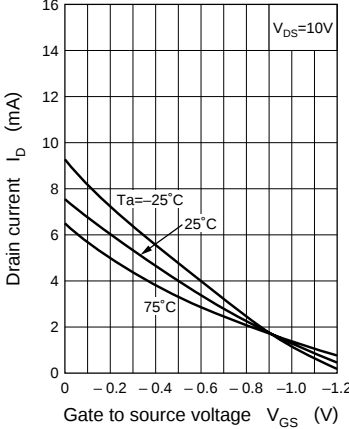
$I_D - V_{DS}$



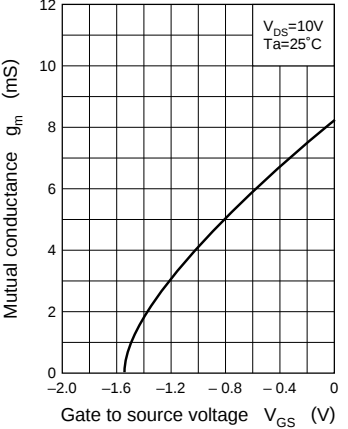
$I_D - V_{DS}$



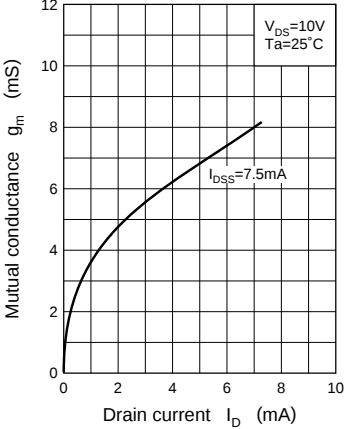
$I_D - V_{GS}$



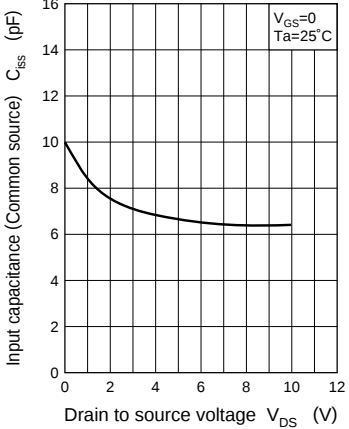
$g_m - V_{GS}$



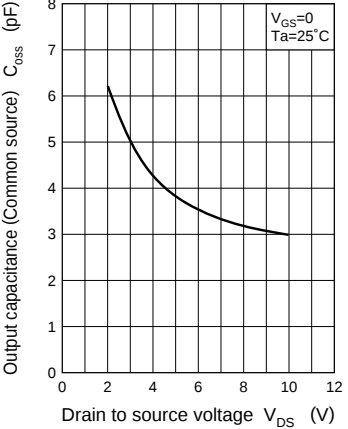
$g_m - I_D$



$C_{iss} - V_{DS}$



$C_{oss} - V_{DS}$



$C_{rss} - V_{DS}$

