

2SK301

Silicon N-Channel Junction

For low-frequency amplification

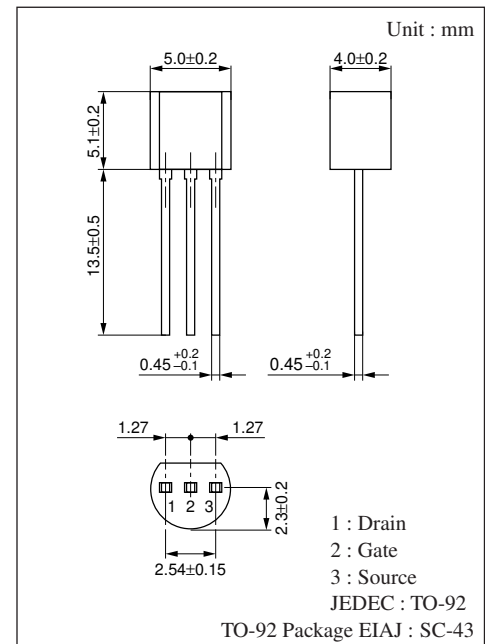
For switching

■ Features

- Low noise, high gain
- High gate-drain voltage VGDO

■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V _{DSX}	55	V
Gate-Drain voltage	V _{GDO}	- 55	V
Gate-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	°C
Storage temperature	T _{stg}	- 55 to +125	°C



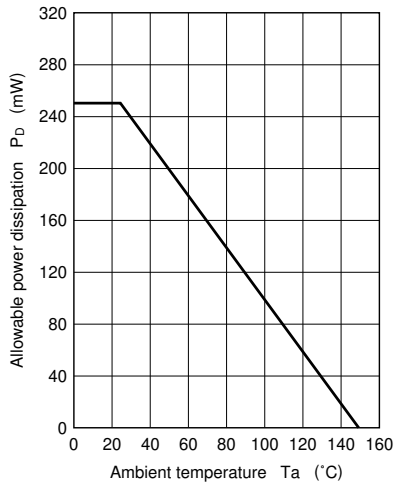
■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain-Source cut-off current	I _{DSS} *	V _{DS} =10V, V _{GS} = 0	1		12	mA
Gate-Source leakage current	I _{GSS}	V _{GS} = -30V, V _{DS} = 0			-10	nA
Gate-Drain voltage	V _{GDS}	I _G = -100μA, V _{DS} = 0	- 55	- 80		V
Gate-Source cut-off voltage	V _{GSC}	V _{DS} =10V, I _D =10μA			- 5	V
Mutual conductance	g _m	V _{DS} =10V, V _{GS} = 0, f=1kHz	2.5	7.5		mS
Input capacitance	C _{iss}	V _{DS} =10V, V _{GS} = 0, f=1MHz		6.5		pF
Feedback capacitance	C _{rss}			1.9		pF
Noise voltage	NF	V _{DS} =10V, V _{GS} = 0, R _g =100kΩ, f=100Hz		0.5		dB

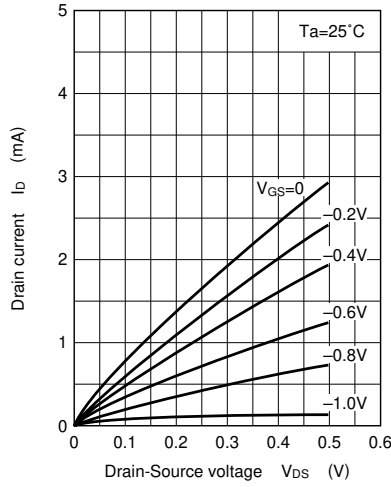
* I_{DSS} rank classification

Rank	P	Q	R	S
I _{DSS} (mA)	1 to 3	2 to 6.5	5 to 12	10 to 20

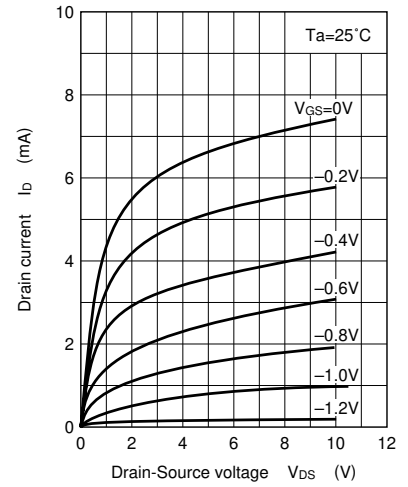
$P_D - T_a$



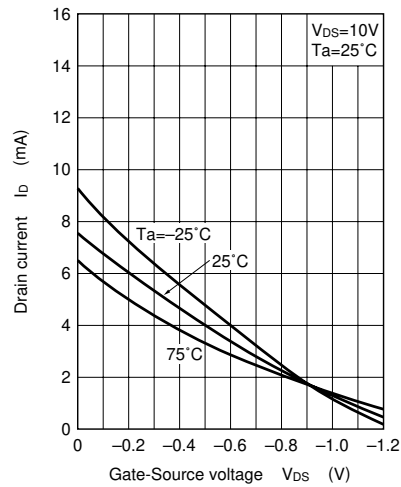
$I_D - V_{DS}$



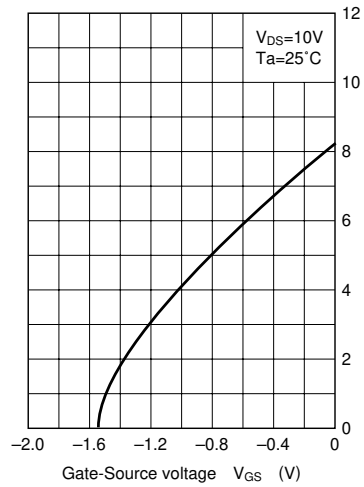
$I_D - V_{DS}$



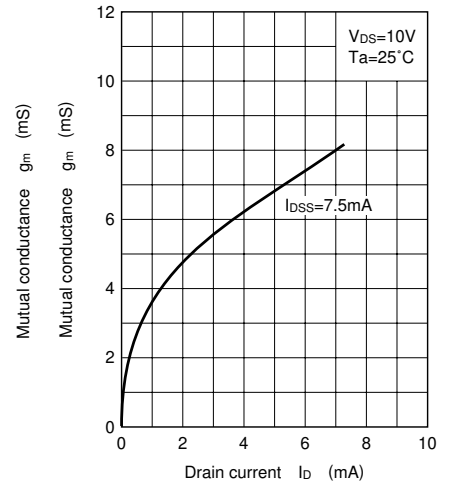
$I_D - V_{GS}$



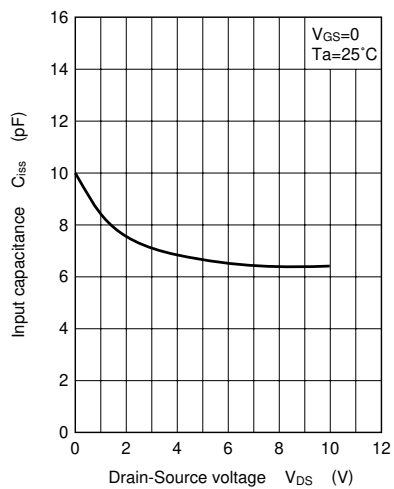
$g_m - V_{GS}$



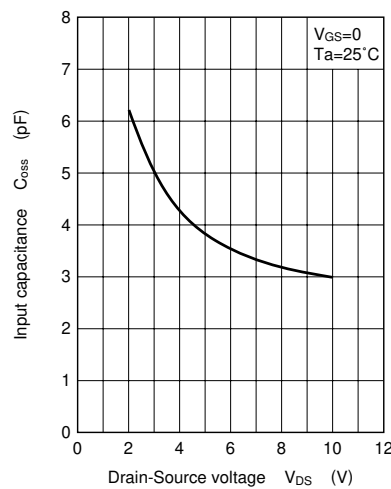
$g_m - I_D$



$C_{RSS} - V_{DS}$



$C_{OSS} - V_{DS}$



$C_{RSS} - V_{DS}$

