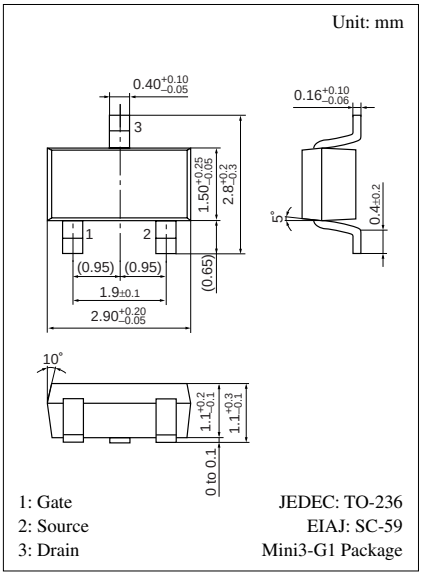
2SK1228

Silicon N-Channel MOS FET

For switching

■ Features

- High-speed switching
- Wide frequency band
- Incorporating a built-in gate protection-diode
- Allowing 2.5 V drive



Marking Symbol: 4V

■ Absolute Maximum Ratings (T_a = 25°C)

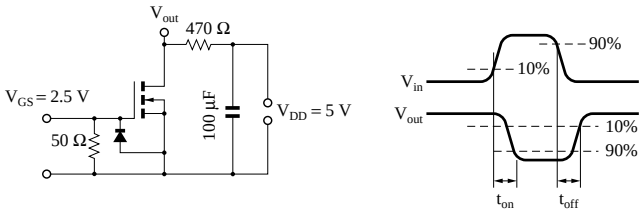
Parameter	Symbol	Ratings	Unit
Drain to Source voltage	V_{DS}	50	V
Gate to Source voltage	V_{GSO}	10	V
Drain current	I_D	50	mA
Max drain current	I_{DP}	100	mA
Allowable power dissipation	P_D	150	mW
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

■ Electrical Characteristics (T_a = 25°C)

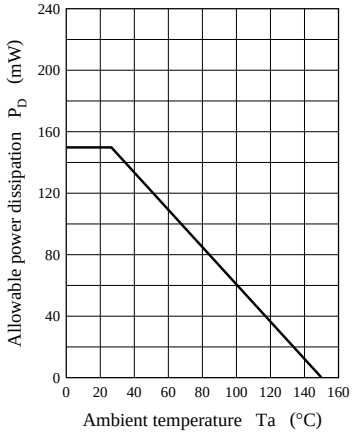
Parameter	Symbol	Conditions	min	typ	max	Unit
Drain to Source cut-off current	I_{DSS}	V_{DS} = 20 V, V_{GS} = 0			1	µA
Gate to Source leakage current	I_{GSS}	V_{GS} = 10 V, V_{DS} = 0			1	µA
Drain to Source breakdown voltage	V_{DSS}	I_D = 10 µA, V_{GS} = 0	50	100		V
Gate threshold voltage	V_{th}	I_D = 100 µA, V_{DS} = 5 V	0.5	0.8	1.1	V
Drain to Source ON-resistance	$R_{DS(on)}$ *1	I_D = 10 mA, V_{GS} = 2.5 V		27	50	Ω
Forward transfer admittance	$\|Y_{fs}\|$	I_D = 10 mA, V_{DS} = 5 V, f = 1 kHz	20	39		mS
Input capacitance (Common Source)	C_{iss}	V_{DS} = 5 V, V_{GS} = 0, f = 1 MHz		4.5		pF
Output capacitance (Common Source)	C_{oss}			4.1		pF
Reverse transfer capacitance (Common Source)	C_{rss}			1.2		pF
Turn-on time	t_{on} *2	V_{DD} = 5 V, V_{GS} = 0 V to 2.5 V, R_L = 470 Ω		0.2		µs
Turn-off time	t_{off} *2	V_{DD} = 5 V, V_{GS} = 2.5 V to 0 V, R_L = 470 Ω		0.2		µs

*1 Pulse measurement

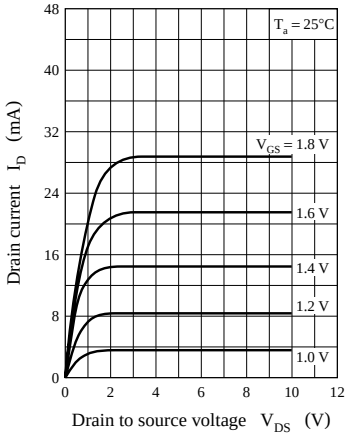
*2 t_{on}, t_{off} measurement circuit



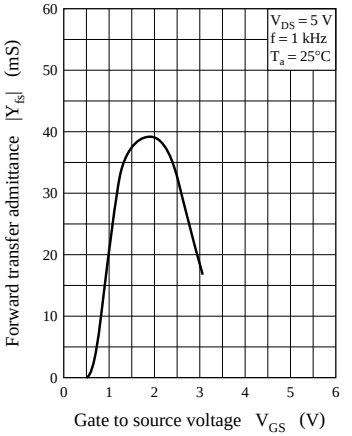
P_D — T_a



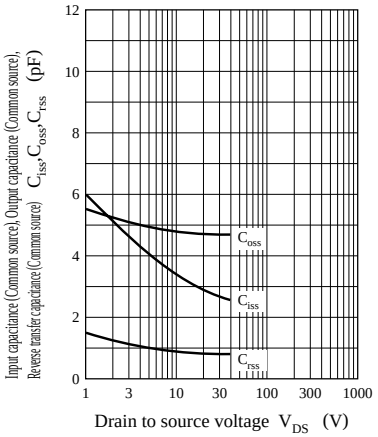
I_D — V_{DS}



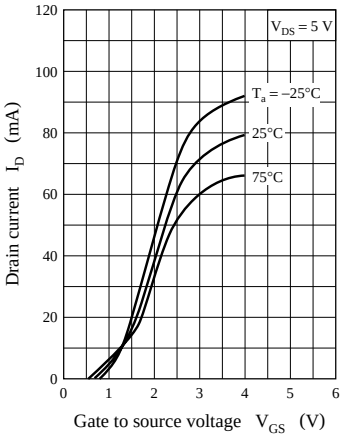
$|Y_{fs}|$ — V_{GS}



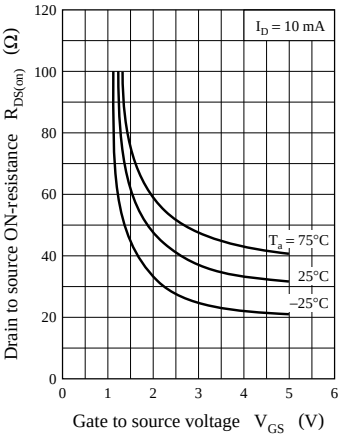
C_{iss}, C_{oss}, C_{rss} — V_{DS}



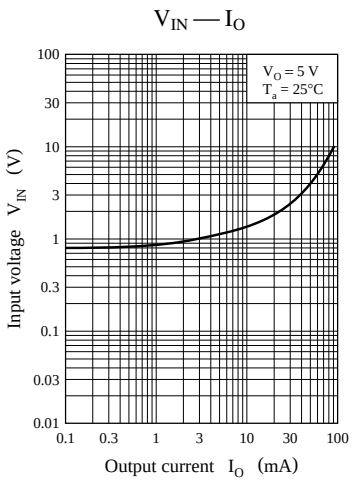
I_D — V_{GS}



$R_{DS(on)}$ — V_{GS}



V_{IN} — I_O



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