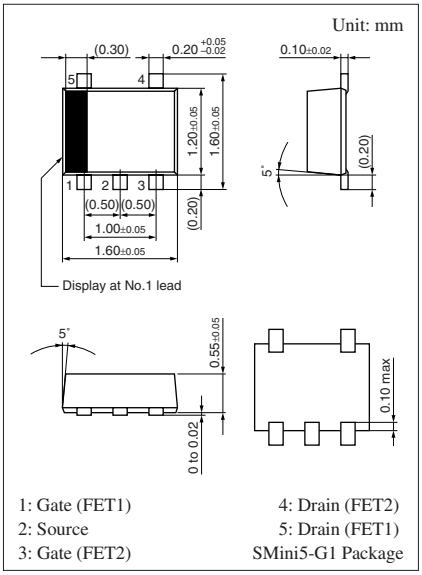
UP01878

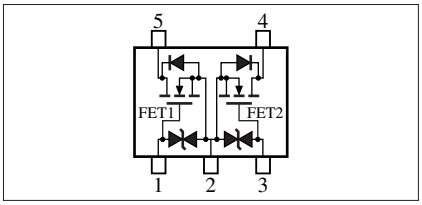
Silicon N-channel MOSFET

For switching



Marking Symbol: AL

Internal Connection



■ Features

- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half

■ Basic Part Number of Element

- 2SK3539 × 2 elements

■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
Rating of element	Drain to source voltage	V_{DSS}	50	V
	Gate to source voltage	V_{GSO}	±7	V
	Drain current	I_D	100	mA
	Max drain current	I_{DP}	200	mA
Overall	Allowable power dissipation *	P_D	125	mW
	Channel temperature	T_{ch}	125	°C
	Storage temperature	T_{stg}	–55 to +125	°C

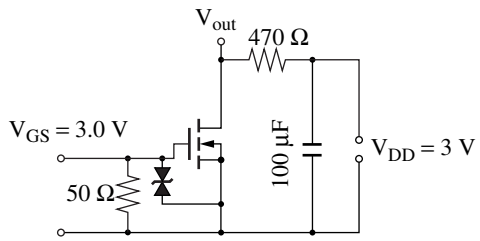
Note) *: Total power dissipation

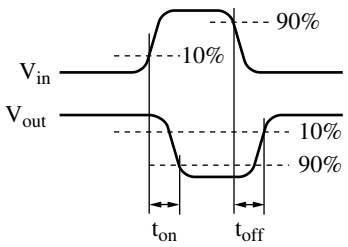
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain to source voltage	V_{DSS}	I_D = 10 µA, V_{GS} = 0	50			V
Drain cut-off current	I_{DSS}	V_{DS} = 50 V, V_{GS} = 0			1.0	µA
Gate cut-off current	I_{GSS}	V_{GS} = ±7 V, V_{DS} = 0			±5	µA
Gate threshold voltage	V_{th}	I_D = 1 µA, V_{DS} = 3 V	0.9	1.2	1.5	V
Drain on-state resistance	$R_{DS(on)}$	I_D = 10 mA, V_{GS} = 2.5 V		8	15	Ω
		I_D = 10 mA, V_{GS} = 4.0 V		6	12	
Forward transfer admittance	$\|Y_{fs}\|$	I_D = 10 mA, V_{DS} = 4.0 V	20	60		mS
Input capacitance	C_{iss}	V_{DS} = 3 V, V_{GS} = 0 V, f = 1 MHz		12		pF
Output capacitance	C_{oss}			7		pF
Reverse transfer capacitance	C_{rss}			3		pF
Turn-on time *	t_{on}	V_{DD} = 3 V, V_{GS} = 0 V to 3 V, R_L = 470 Ω		200		ns
Turn-off time *	t_{off}	V_{DD} = 3 V, V_{GS} = 3 V to 0 V, R_L = 470 Ω		200		ns

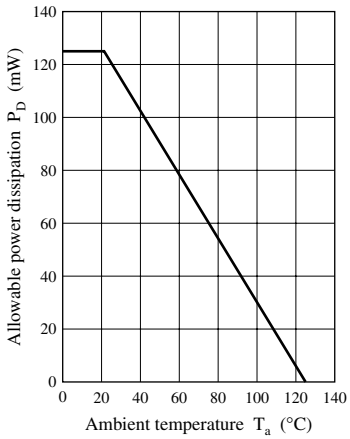
Note) *: Refer to t_{on} , t_{off} test circuit (next page)

t_{on} , t_{off} Test circuit

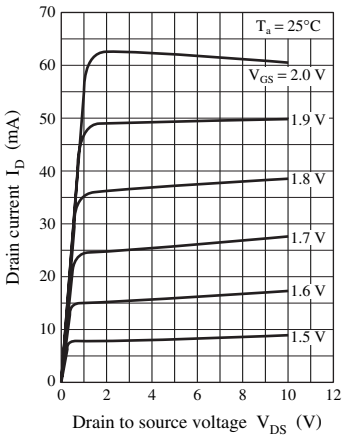




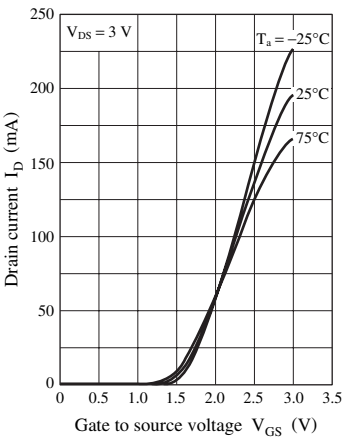
P_D — T_a



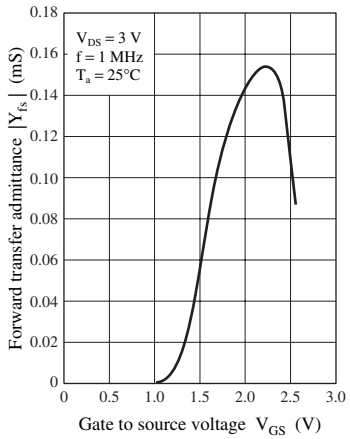
I_D — V_{DS}



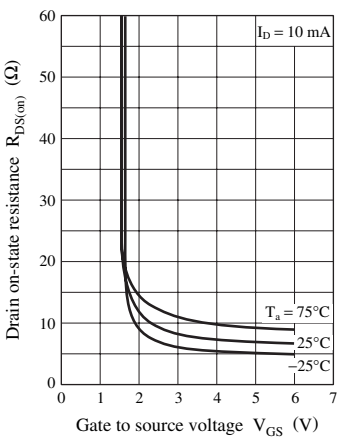
I_D — V_{GS}



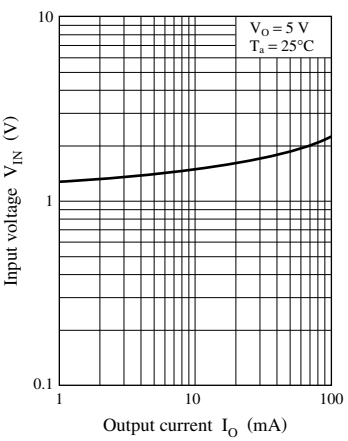
$|Y_{fs}|$ — V_{GS}



$R_{DS(on)}$ — V_{GS}



V_{IN} — I_O



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