

# PRELIMINARY

Notice : This is not a final specification  
Some parametric are subject to change.

# INK0110AM1

High Speed Switching  
Silicon N-channel MOSFET

## DESCRIPTION

INK0110AM1 is a Silicon N-channel MOSFET.

This product is most suitable for use such as portable machinery, because of low voltage drive and low on resistance.

## FEATURE

- Input impedance is high, and not necessary to consider a drive electric current.
- Low on Resistance.  
 $R_{DS(on)}=1.1\ \Omega$  (TYP) @ $I_D=0.3A, V_{GS}=10V$   
 $R_{DS(on)}=1.4\ \Omega$  (TYP) @ $I_D=0.3A, V_{GS}=4.5V$
- High speed switching.
- Small package for easy mounting.

## APPLICATION

High Speed Switching

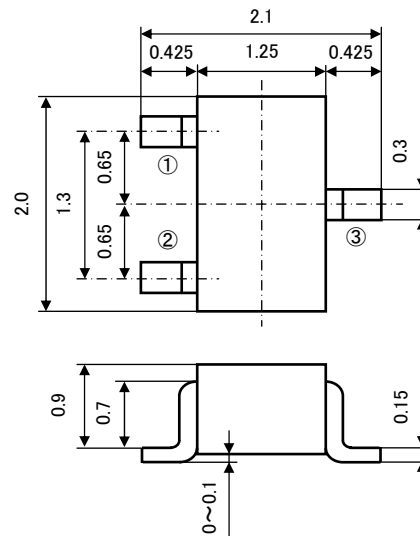
## MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V <sub>DS</sub>	60	V
Gate-Source voltage	V <sub>GS</sub>	±20	V
Drain current(DC)	I <sub>D</sub>	0.43	A
Drain current(Pulse) ※1	I <sub>DP</sub>	0.86	A
Total power dissipation	P <sub>D</sub>	200	mW
Channel temperature	T <sub>ch</sub>	+150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

※1: Pw ≤ 10 μs, Duty cycle ≤ 1%

## OUTLINE DRAWING

UNIT:mm



JEITA: SC-70

JEDEC: -

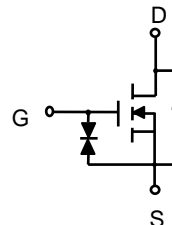
TERMINAL CONNECTOR

①: GATE

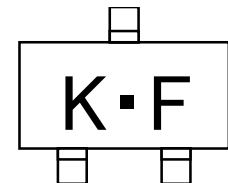
②: SOURCE

③: DRAIN

## EQUIVALENT CIRCUIT



## MARKING



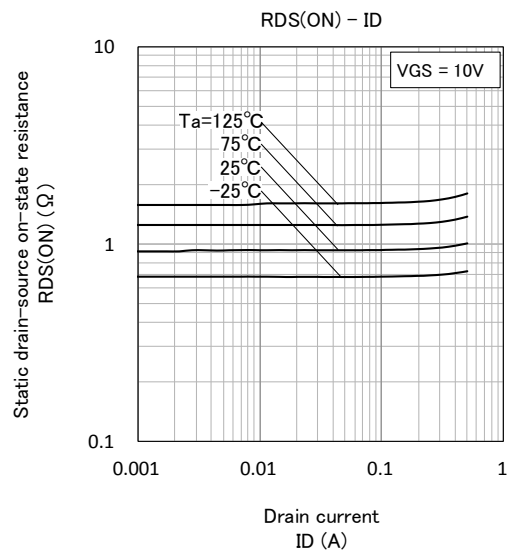
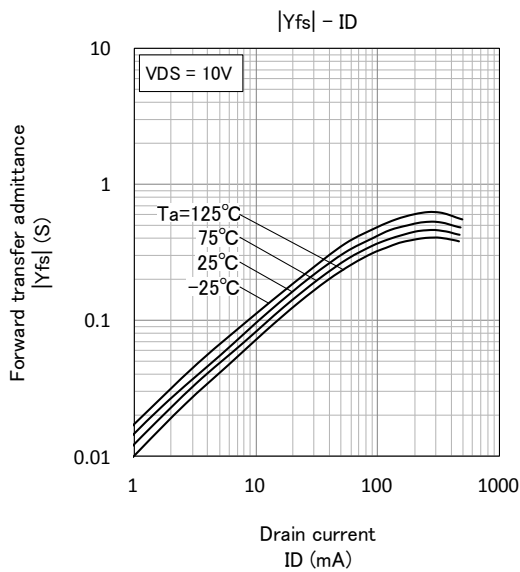
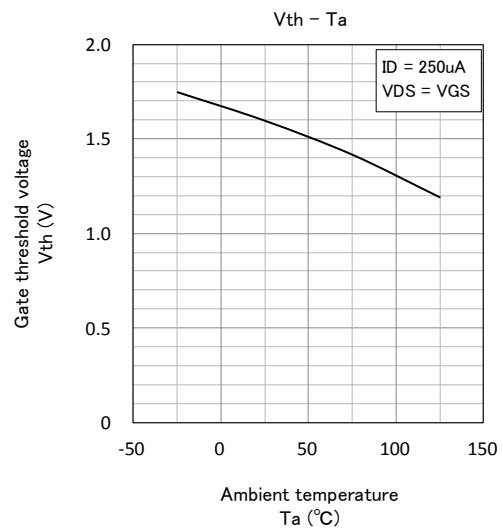
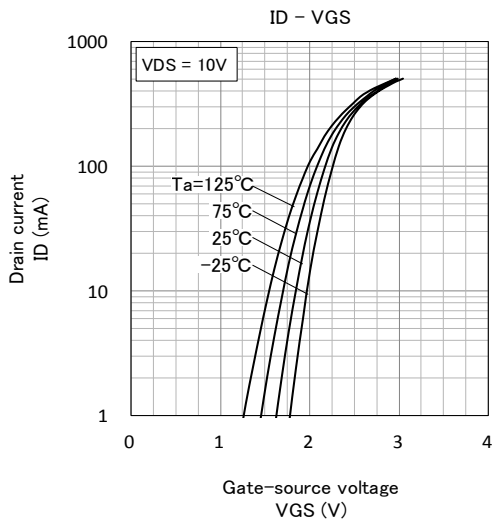
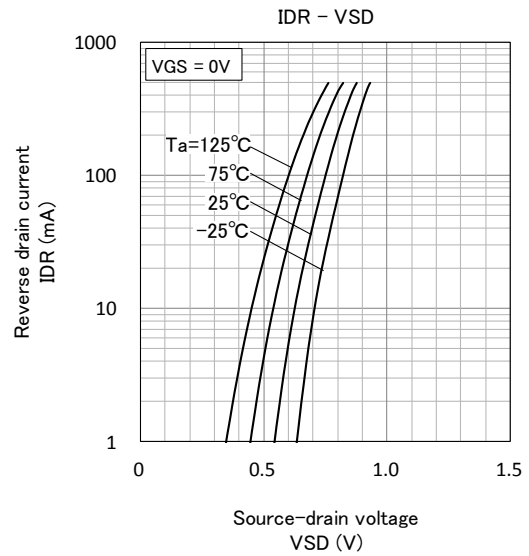
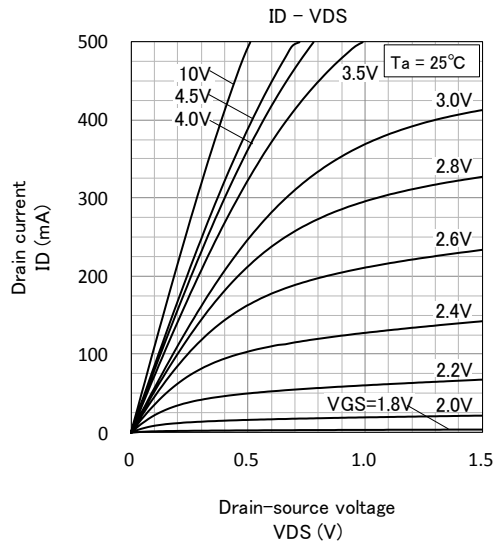
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source breakdown voltage	V(BR)DSS	I <sub>D</sub> =100 μA, V <sub>GS</sub> =0V	60	-	-	V
Gate-Source leak current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	-	-	±10	μA
Zero Gate voltage drain current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0V	-	-	1	μA
Gate threshold voltage	V <sub>th</sub>	I <sub>D</sub> =250 μA, V <sub>DS</sub> =V <sub>GS</sub>	1.0	-	2.0	V
Forward transfer admittance	Y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =0.2A	-	460	-	mS
Static Drain-Source on-state resistance	R <sub>DS(ON)</sub>	I <sub>D</sub> =0.3A, V <sub>GS</sub> =10V	-	1.1	-	Ω
		I <sub>D</sub> =0.3A, V <sub>GS</sub> =4.5V	-	1.4	-	Ω
Input capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz	-	33	-	pF
Output capacitance	C <sub>oss</sub>		-	7.3	-	pF
Feedback capacitance	C <sub>rss</sub>		-	3.7	-	pF
Switching time	t <sub>on</sub>	V <sub>DD</sub> =10V, I <sub>D</sub> =0.3A	-	28	-	ns
	t <sub>off</sub>	V <sub>GS</sub> =0~5V	-	21	-	ns

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TYPICAL CHARACTERISTICS

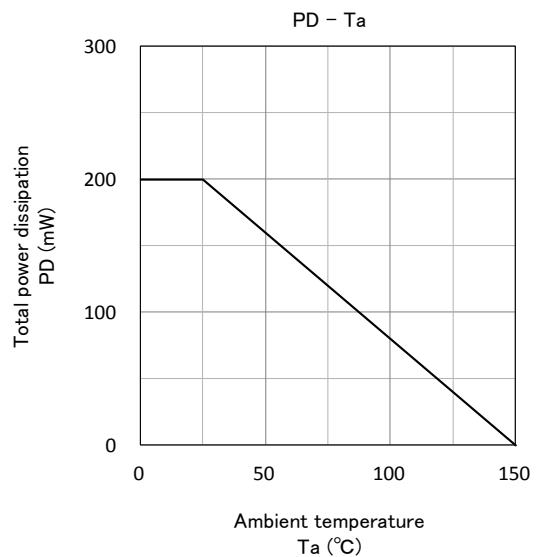
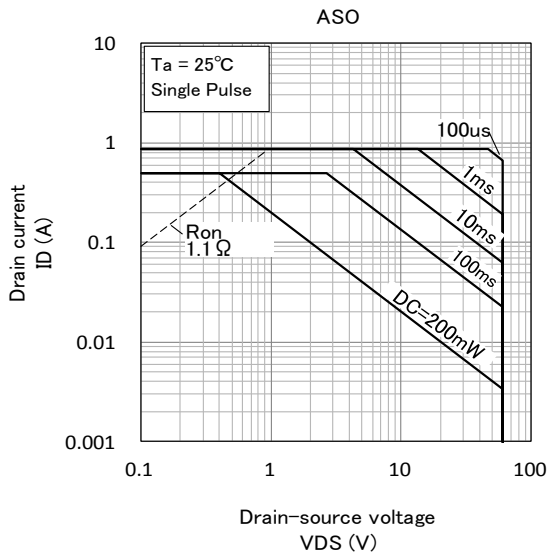
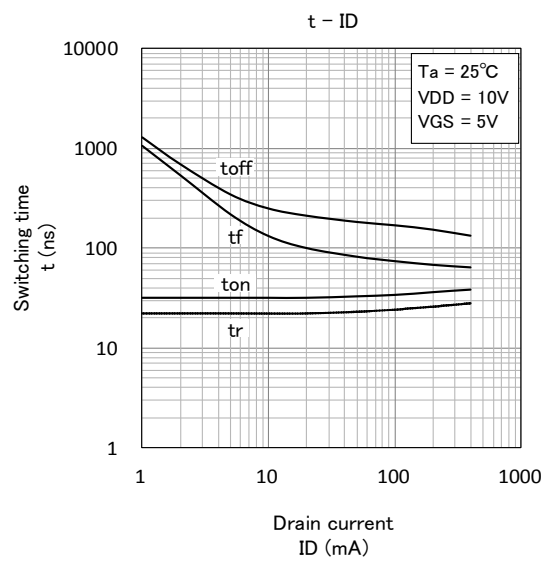
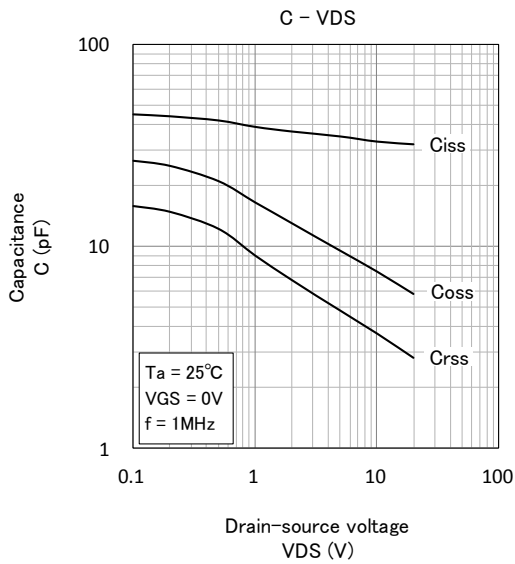
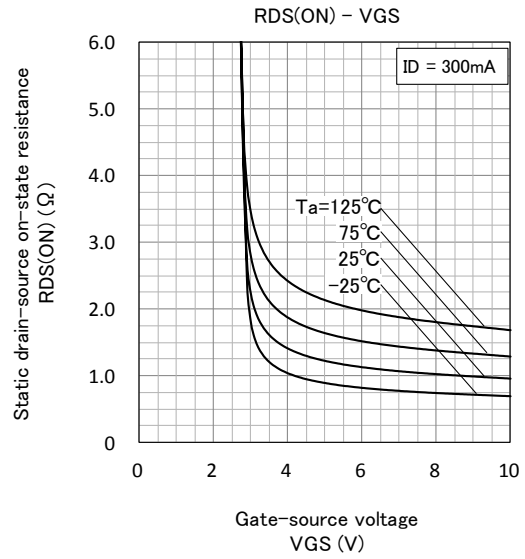
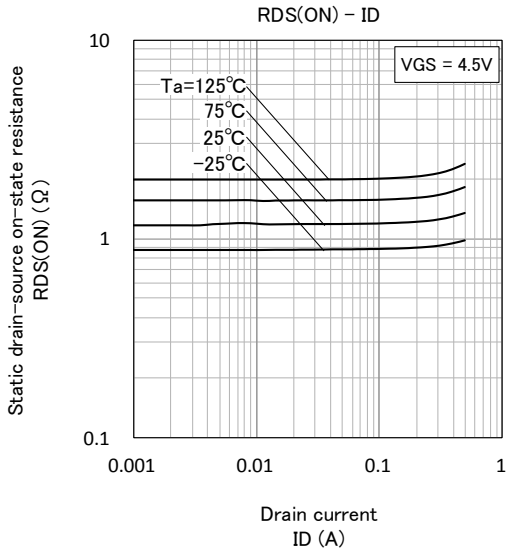


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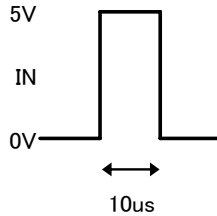
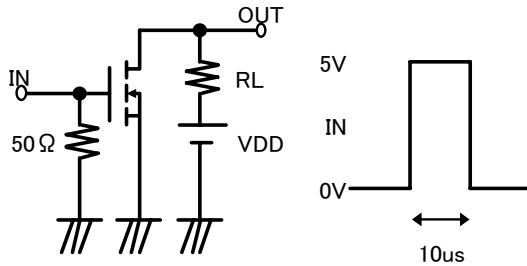
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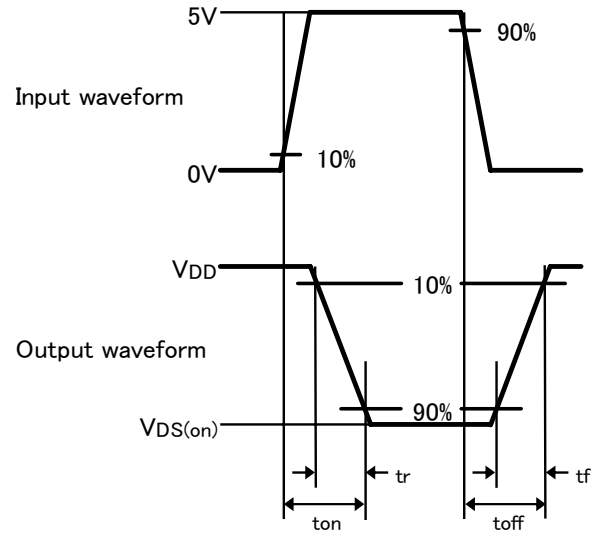
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## Switching time test condition



Duty  $\leq$  1%  
Input:  $t_r, t_f < 10\text{ns}$   
VDD = 10V  
Common source  
Ta = 25°C



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**Keep safety first in your circuit designs!**

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