

# INK0001AX SERIES

High speed switching  
Silicon N-channel MOSFET

## DESCRIPTION

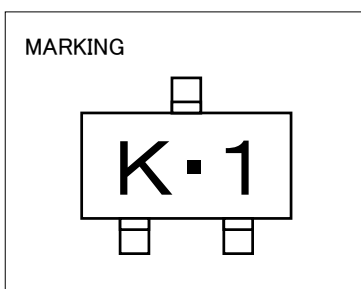
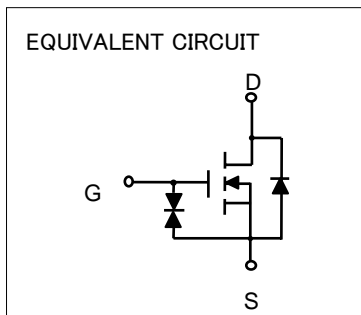
INK0001AX is a Silicon N-channel MOSFET. This product is most suitable for low voltage use such as portable machinery, because of low voltage drive and low on resistance.

## FEATURE

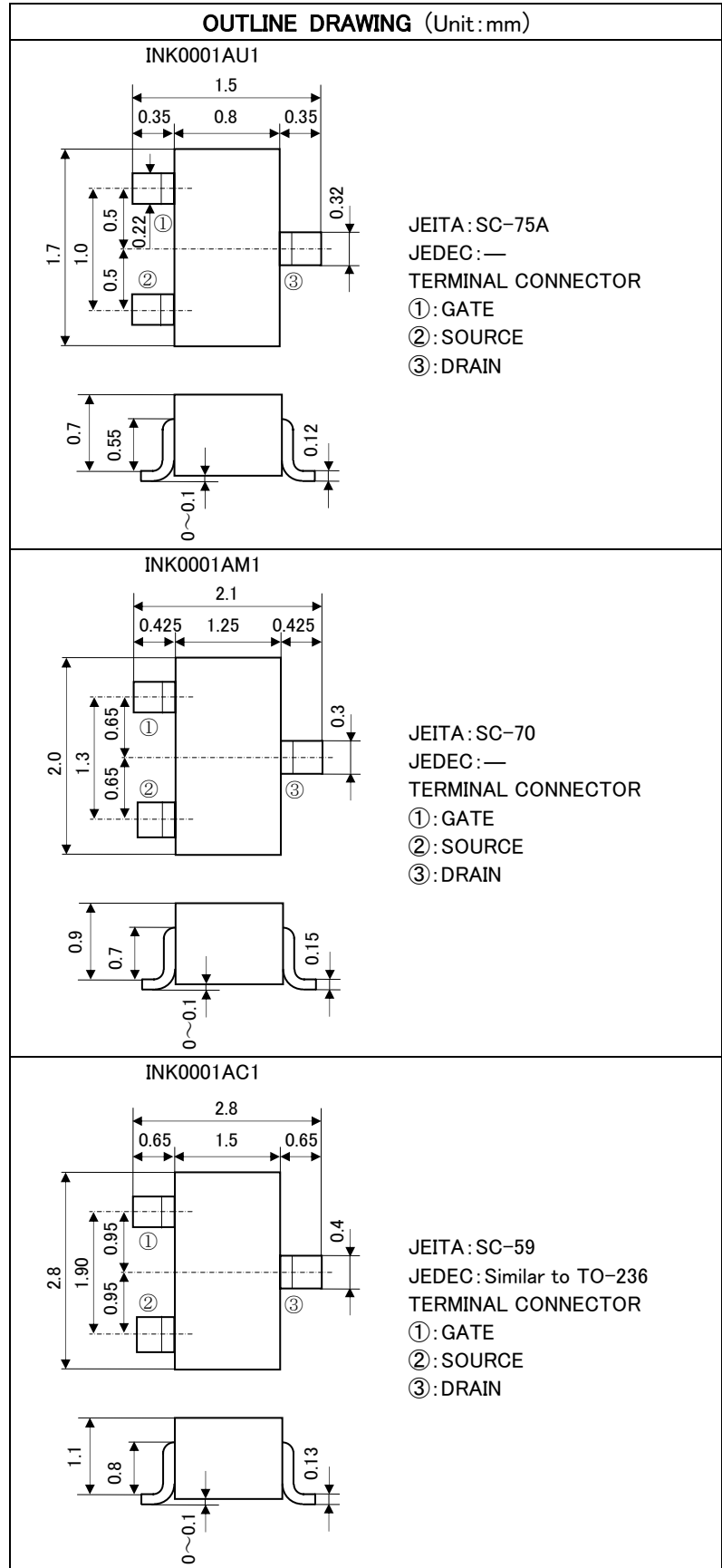
- Input impedance is high, and not necessary to consider a drive electric current.
- Drive voltage 2.5V
- Low on Resistance.  
RDS(ON)=3.5Ω (TYP) @ID=100mA, VGS=4.0V
- High speed switching.
- Small package for easy mounting.

## APPLICATION

High speed switching, Analog switching



## OUTLINE DRAWING (Unit:mm)



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## MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING			UNIT
		INK0001AU1	INK0001AM1	INK0001AC1	
V <sub>DSS</sub>	Drain-source voltage	50			V
V <sub>GSS</sub>	Gate-source voltage	±8			V
I <sub>D</sub>	Drain current(DC)	100			mA
I <sub>DP</sub>	Drain current(Pulse)	400(※1)			mA
P <sub>D</sub>	Total power dissipation	150	200		mW
T <sub>ch</sub>	Channel temperature	+150			°C
T <sub>stg</sub>	Range of Storage temperature	-55~+150			°C

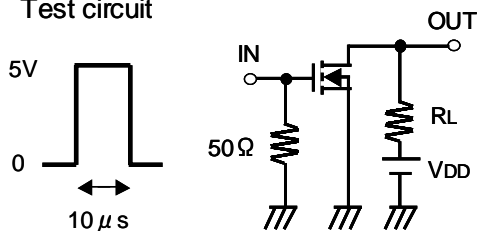
※1: Pw ≤ 10μs, Duty cycle ≤ 1%

## ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
V(BR)DSS	Drain-source breakdown voltage	I <sub>D</sub> =100μA, V <sub>GS</sub> =0V	50	-	-	V
I <sub>GSS</sub>	Gate-source leak current	V <sub>GS</sub> =±5V, V <sub>DS</sub> =0V	-	-	±0.5	μA
I <sub>DSS</sub>	Zero gate voltage drain current	V <sub>DS</sub> =50V, V <sub>GS</sub> =0V	-	-	1.0	μA
V <sub>th</sub>	Gate threshold voltage	I <sub>D</sub> =250μA, V <sub>DS</sub> =V <sub>GS</sub>	0.6	-	1.2	V
Y <sub>fs</sub>	Forward transfer admittance	V <sub>DS</sub> =10V, I <sub>D</sub> =0.1A	-	250	-	mS
R <sub>DS(ON)</sub>	Static drain-source on-state resistance	I <sub>D</sub> =100mA, V <sub>GS</sub> =4.0V	-	3.5	-	Ω
C <sub>iss</sub>	Input capacitance	V <sub>DS</sub> =10V, V <sub>GS</sub> =0V, f=1MHz	-	24	-	pF
C <sub>oss</sub>	Output capacitance		-	5	-	
t <sub>on</sub>	Switching time	V <sub>DD</sub> =5V, I <sub>D</sub> =10mA	-	11	-	ns
t <sub>off</sub>		V <sub>GS</sub> =0~5V	-	50	-	

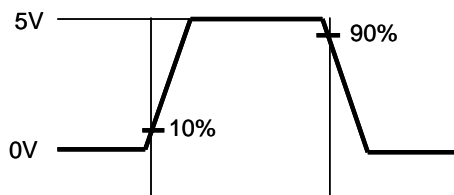
## Switching time test condition

### Test circuit

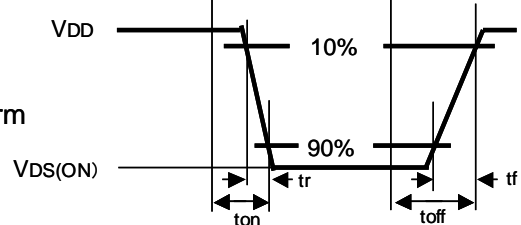


V<sub>DD</sub>=5V  
Duty ≤ 1%  
Common source  
Ta=25°C

### Input Waveform



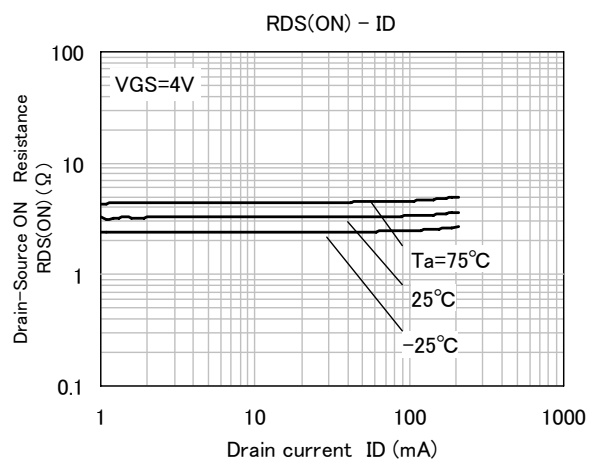
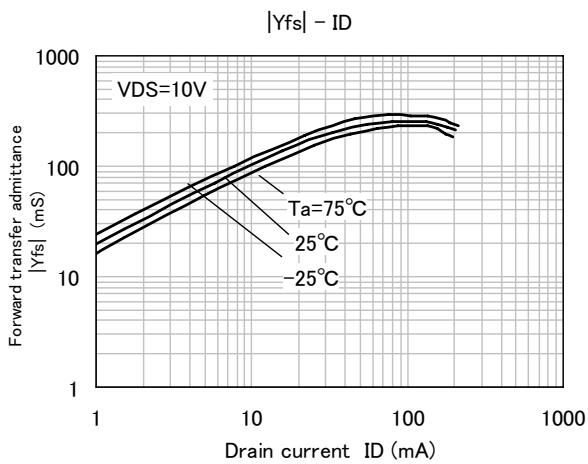
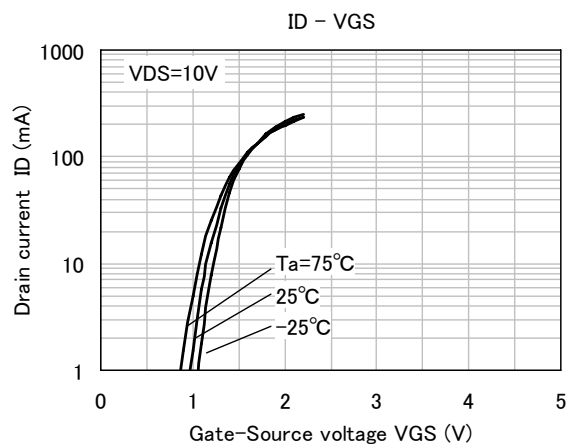
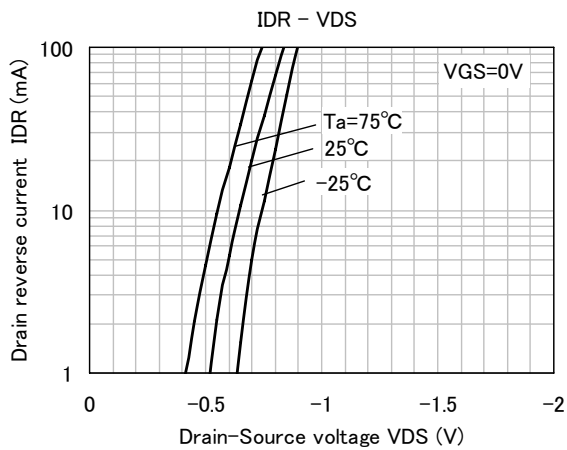
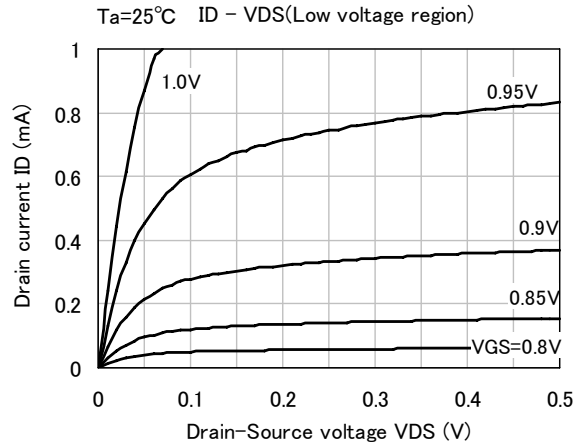
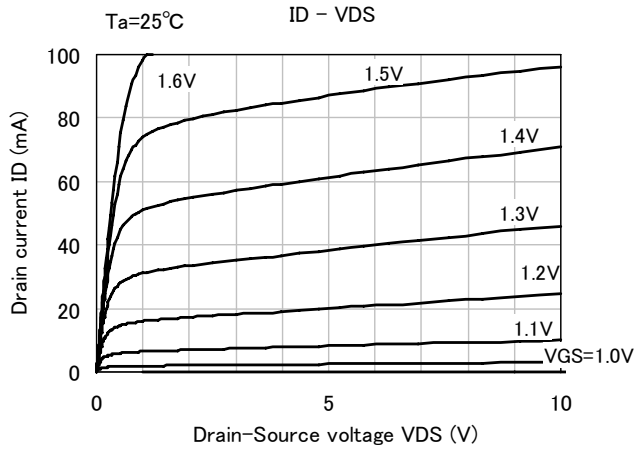
### Output Waveform



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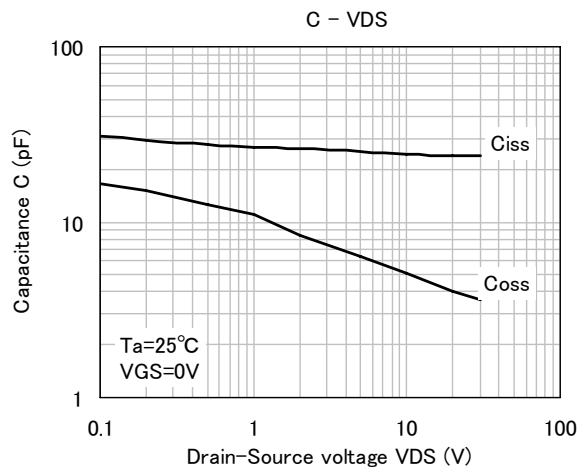
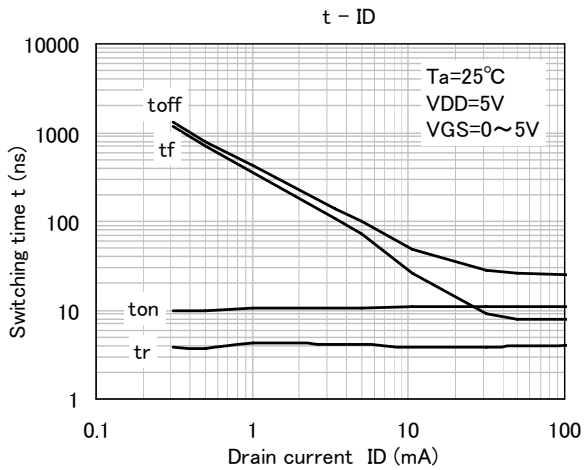
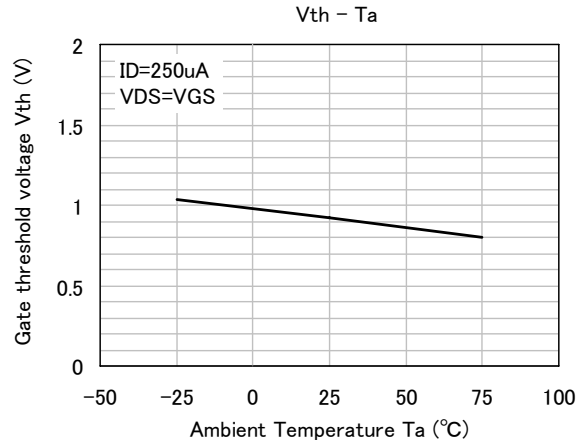
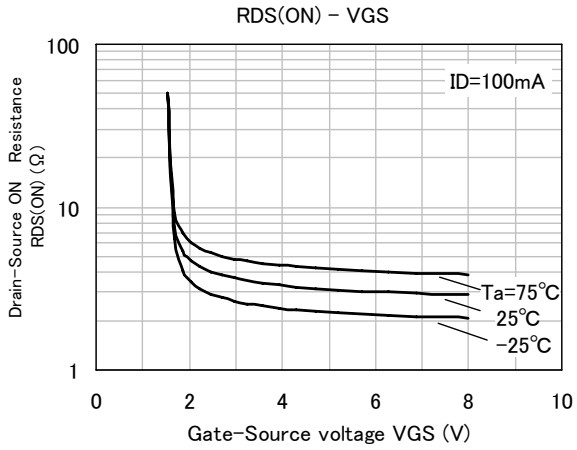
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## TYPICAL CHARACTERISTICS



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