

INK0002AX SERIES

High speed switching
Silicon N-channel MOSFET

DESCRIPTION

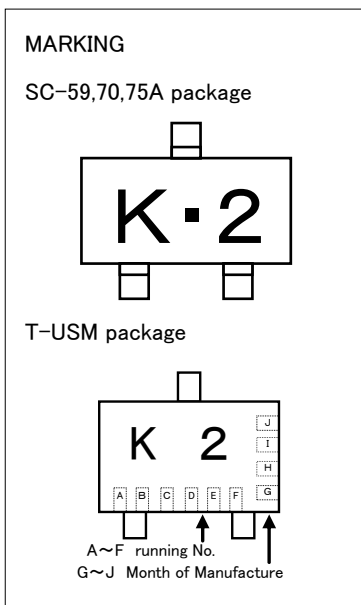
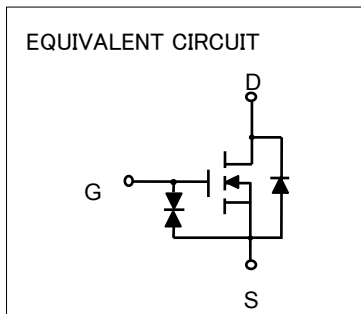
INK0002AX is a Silicon N-channel MOSFET.
This product is most suitable for low voltage use such as portable machinery, because of low voltage drive and low on resistance.

FEATURE

- Input impedance is high, and not necessary to consider a drive electric current.
- V_{th} is low, and drive by low voltage is possible. $V_{th}=0.6\sim 1.2V$
- Low on Resistance. $R_{ON}=1.1\ \Omega$ (TYP)
- High speed switching.
- Small package for easy mounting.

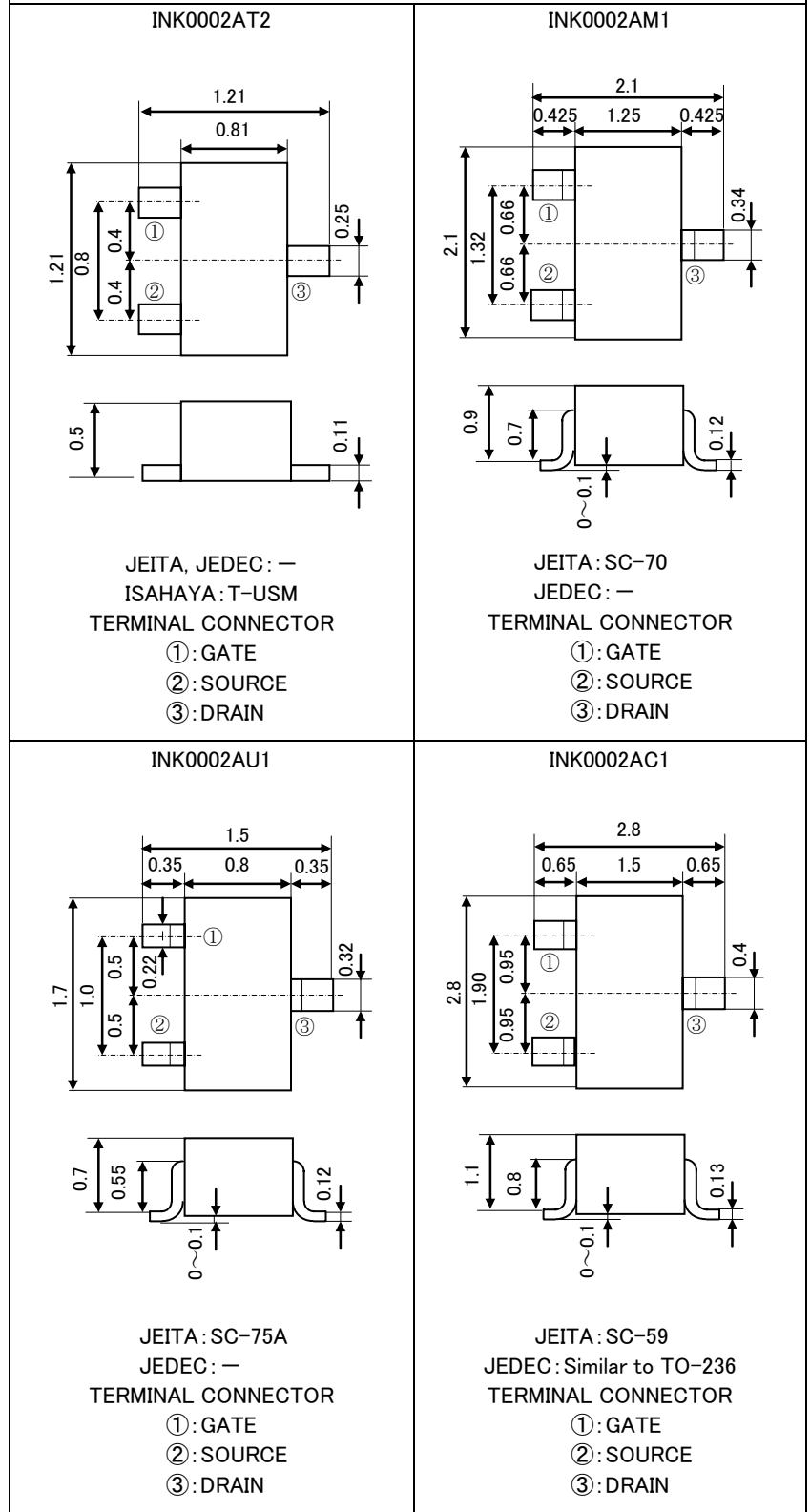
APPLICATION

High speed switching, Analog switching



OUTLINE DRAWING

Unit: mm



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MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING				UNIT
		INK0002AT2	INK0002AU1	INK0002AM1	INK0002AC1	
V _{DSS}	Drain-source voltage	30				V
V _{GSS}	Gate-source voltage	±8				V
I _D	Drain current(DC)	200				mA
I _{DP}	Drain current(Pulse)	400(※1)				mA
P _D	Total power dissipation	125(※2)	150	200		mW
T _{ch}	Channel temperature	+125	+150			°C
T _{stg}	Range of Storage temperature	-55~+125		-55~+150		°C

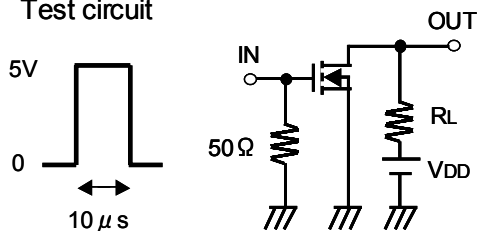
※1: P_w ≤ 10μs, Duty cycle ≤ 1% ※2: package mounted on 9mm × 19mm × 1mm glass-epoxy substrate.

ELECTRICAL CHARACTERISTICS (Ta=25°C)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
V(BR)/DSS	Drain-source breakdown voltage	I _D =100μA, V _{GS} =0V	30	-	-	V
I _{GSS}	Gate-source leak current	V _{GS} =±5V, V _{DS} =0V	-	-	±0.5	μA
I _{DSS}	Zero gate voltage drain current	V _{DS} =30V, V _{GS} =0V	-	-	1.0	μA
V _{th}	Gate threshold voltage	I _D =250μA, V _{DS} =V _{GS}	0.6	-	1.2	V
Y _{fs}	Forward transfer admittance	V _{DS} =10V, I _D =0.1A	-	300	-	mS
R _{DS(ON)}	Static drain-source on-state resistance	I _D =100mA, V _{GS} =4.0V	-	1.1	-	Ω
C _{iss}	Input capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	33	-	pF
C _{oss}	Output capacitance		-	6.8	-	
t _{on}	Switching time	V _{DD} =5V, I _D =10mA	-	12	-	ns
t _{off}		V _{GS} =0~5V	-	80	-	

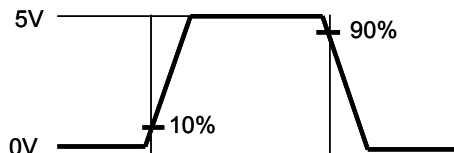
Switching time test condition

Test circuit

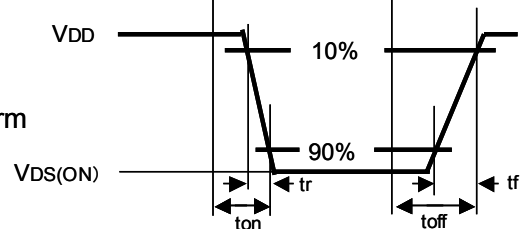


V_{DD}=5V
Duty ≤ 1%
Common source
Ta=25°C

Input Waveform



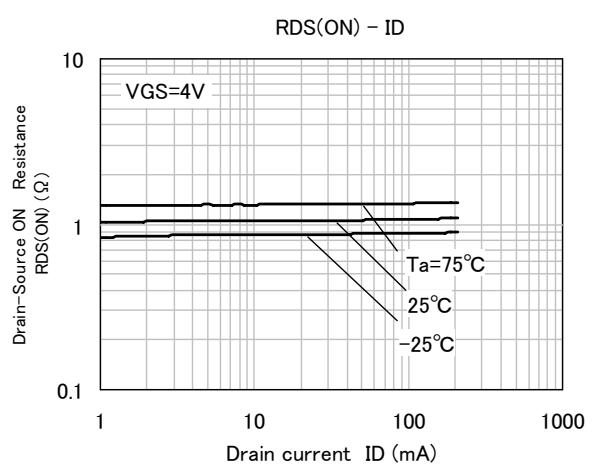
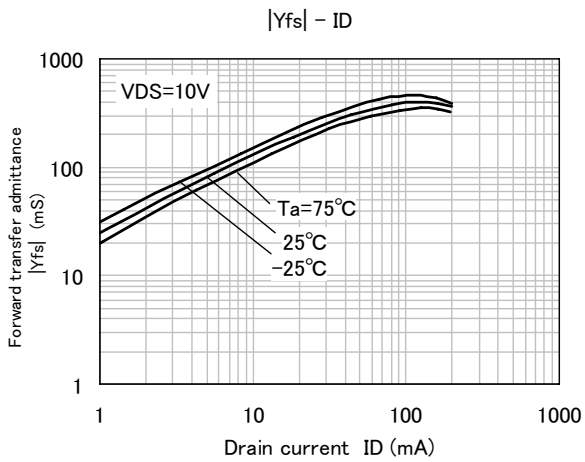
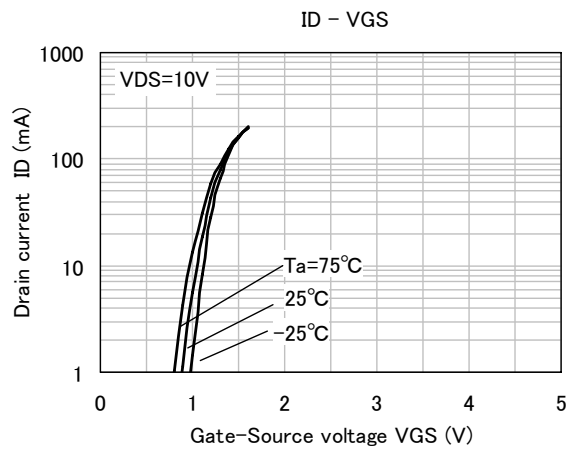
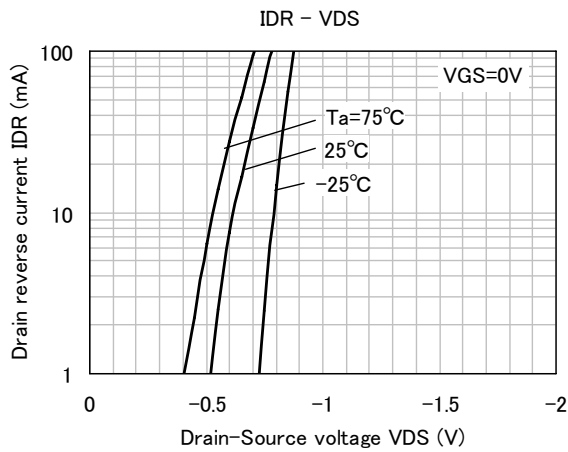
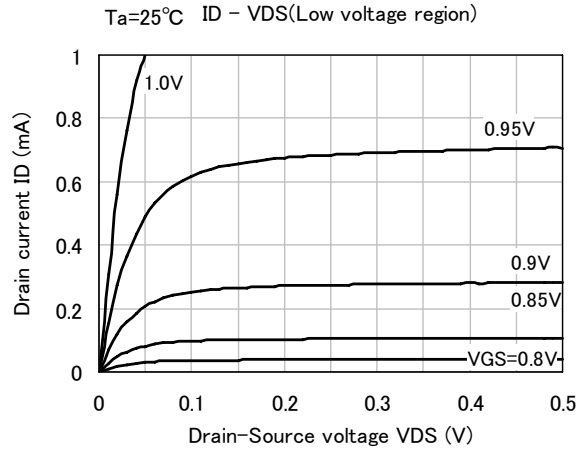
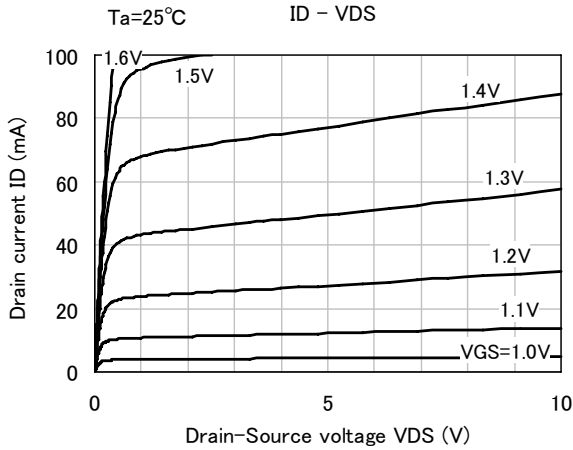
Output Waveform



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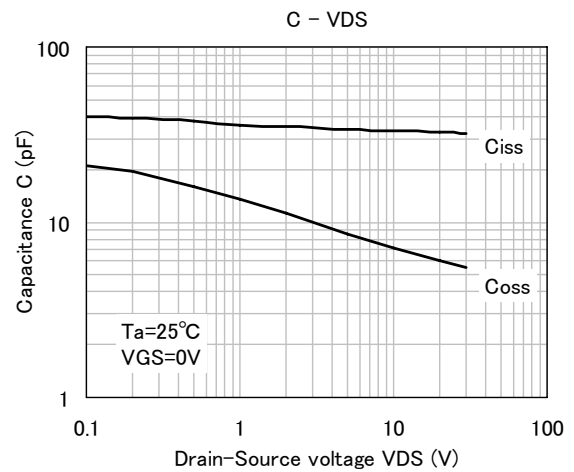
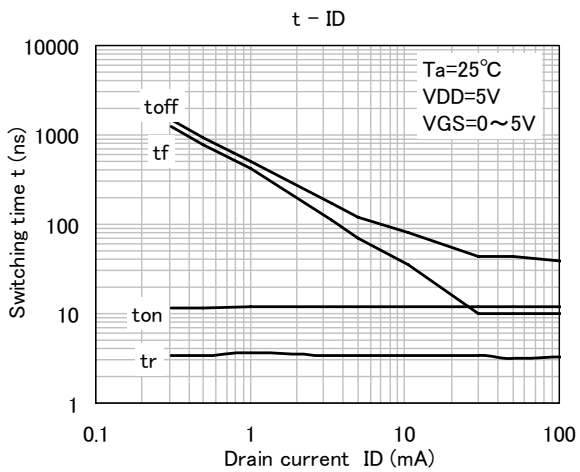
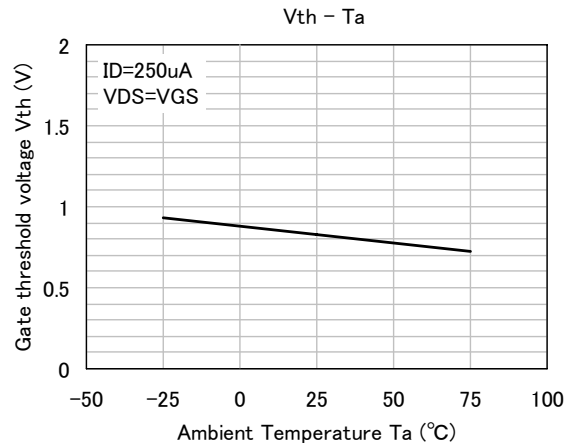
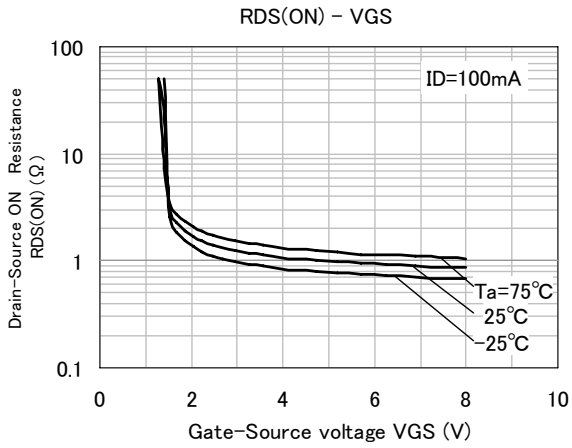
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TYPICAL CHARACTERISTICS



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