

INK0012AX SERIES

High speed switching
Silicon N-channel MOSFET

DESCRIPTION

INK0012AX is a Silicon N-channel MOSFET.

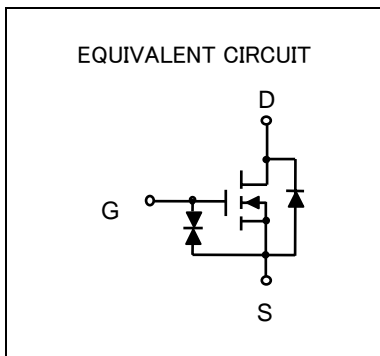
This product is most suitable for low voltage use such as portable machinery, because of low voltage drive and low on resistance.

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.
 $V_{th}=1.0\sim 2.0V$
- Low on Resistance.
 $R_{ds(on)}=1.7\Omega$ (TYP) @ $I_D=100mA$, $V_{GS}=4.0V$
 $R_{ds(on)}=1.0\Omega$ (TYP) @ $I_D=100mA$, $V_{GS}=10V$
- High speed switching.
- Small package for easy mounting.

APPLICATION

High speed switching, Analog switching



OUTLINE DRAWING

Unit : mm

INK0012AT2(PRELIMINARY)	INK0012AM1
<p>JEITA, JEDEC : — ISAHAYA : T-USM</p> <p>TERMINAL CONNECTOR ① : GATE ② : SOURCE ③ : DRAIN</p>	<p>JEITA : SC-70 JEDEC : —</p> <p>TERMINAL CONNECTOR ① : GATE ② : SOURCE ③ : DRAIN</p>
<p>JEITA : SC-75A JEDEC : —</p> <p>TERMINAL CONNECTOR ① : GATE ② : SOURCE ③ : DRAIN</p>	<p>JEITA : SC-59 JEDEC : Similar to TO-236</p> <p>T TERMINAL CONNECTOR ① : GATE ② : SOURCE ③ : DRAIN</p>

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MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING				UNIT
		INK0012AT2	INK0012AU1	INK0012AM1	INK0012AC1	
V _{DSS}	Drain-source voltage	30				V
V _{GSS}	Gate-source voltage	±20				V
I _D	Drain current	200				mA
P _D	Total power dissipation (Ta=25°C)	125(※)	150	200		mW
T _{ch}	Channel temperature	+125	+150			°C
T _{stg}	Range of Storage temperature	-55~+125	-55~+150			°C

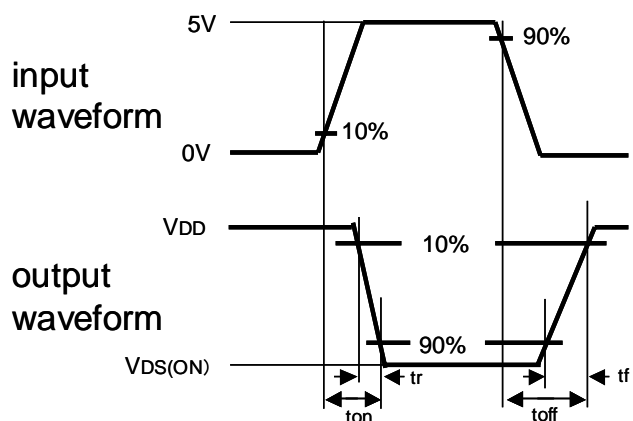
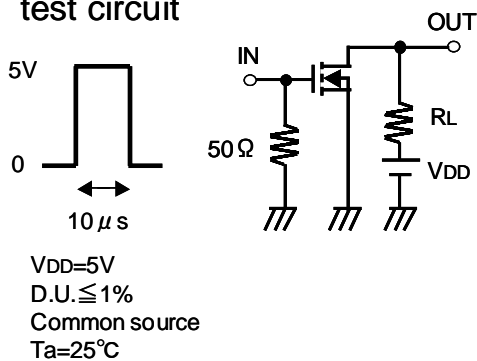
ELECTRICAL CHARACTERISTICS (Ta=25°C)

※package mounted on 9mm × 19mm × 1mm glass-epoxy substrate.

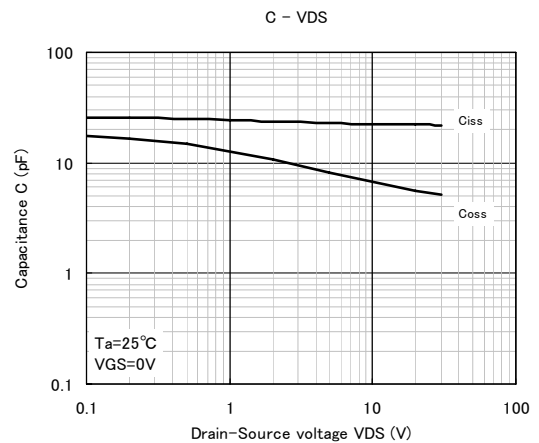
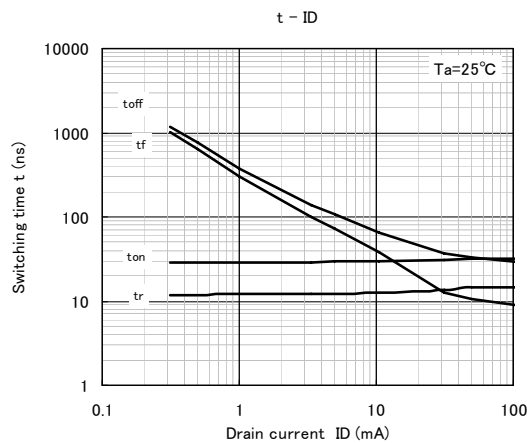
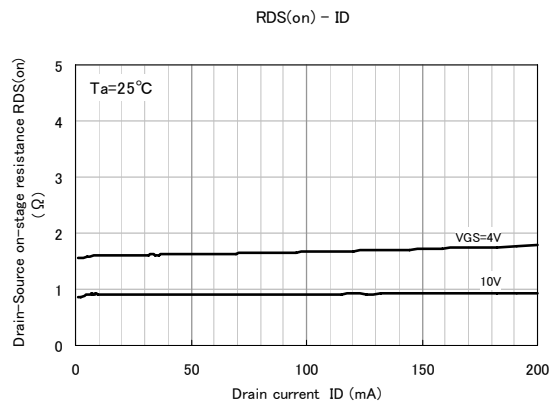
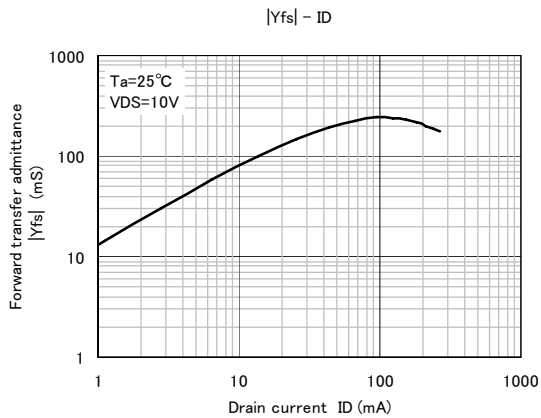
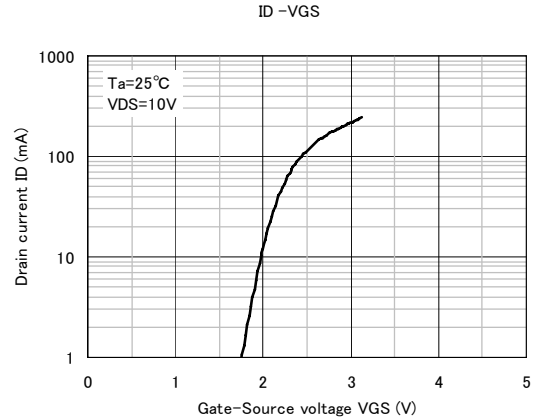
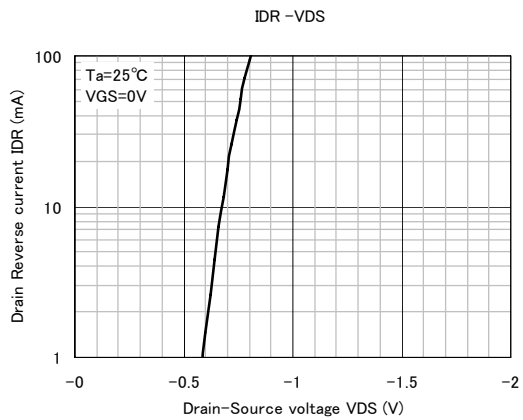
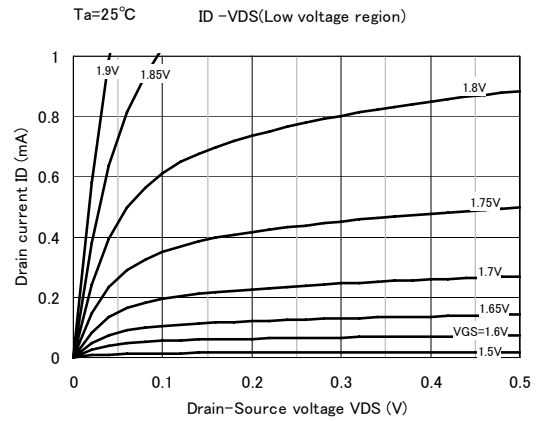
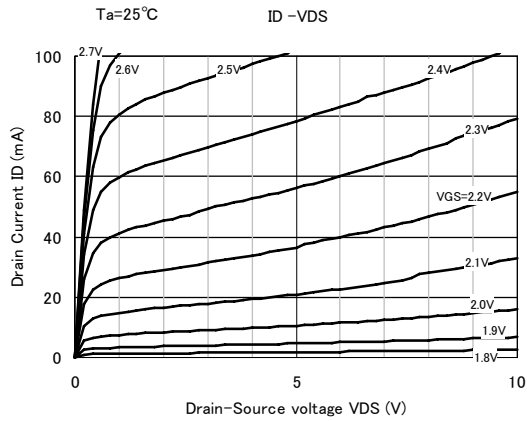
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
V _{(BR)DSS}	Drain-source breakdown voltage	I _D =100 μA, V _{GS} =0V	30	-	-	V
I _{GSS}	Gate-source leak current	V _{GS} =±15V, V _{DS} =0V	-	-	±1.0	μA
I _{DSS}	Zero gate voltage drain current	V _{DS} =30V, V _{GS} =0V	-	-	1.0	μA
V _{th}	Gate threshold voltage	I _D =250 μA, V _{DS} =V _{GS}	1.0	-	2.0	V
Y _{fs}	Forward transfer admittance	V _{DS} =10V, I _D =100mA	-	245	-	mS
R _{DS(on)}	Static drain-source on-state resistance	I _D =100mA, V _{GS} =4.0V	-	1.7	-	Ω
		I _D =100mA, V _{GS} =10.0V	-	1.0	-	
C _{iss}	Input capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	23	-	pF
C _{oss}	Output capacitance	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	7.0	-	pF
t _{ON}	Switching time	V _{DD} =5V, I _D =10mA V _{GS} =0~5V	-	30	-	ns
t _{OFF}			-	66	-	

Switching time test condition

test circuit



TYPICAL CHARACTERISTICS





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