

# INK0210CC1

High Speed Switching  
Silicon N-channel MOSFET

## DESCRIPTION

INK0210CC1 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.
- High drain current  $I_D=2.0A$
- Drive voltage 4.0V
- Low on Resistance.  $R_{DS(ON)}=167m\Omega$  typ(@VGS=10V)  
 $R_{DS(ON)}=220m\Omega$  typ(@VGS=4.5V)
- High speed switching.

## APPLICATION

High speed switching, Analog switching

## MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V <sub>DSS</sub>	60	V
Gate-Source Voltage	V <sub>GSS</sub>	±20	V
Drain Current(DC)(※1)	I <sub>D</sub>	2.0	A
Drain Current(Pulse)(※2)	I <sub>DP</sub>	7.0	A
Total Power Dissipation(※1)	P <sub>D</sub>	0.9	W
Channel Temperature	T <sub>ch</sub>	+150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C

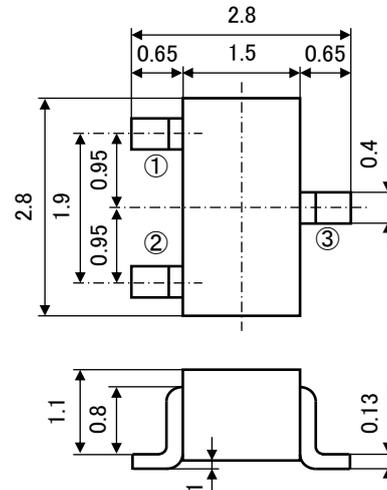
※1 package mounted on glass-epoxy substrate.

(39mm × 39mm × 1.6mm, Cu pad 1500mm<sup>2</sup>)

※2 Pw ≤ 1ms, Duty cycle ≤ 1%

## OUTLINE DRAWING

Unit: mm



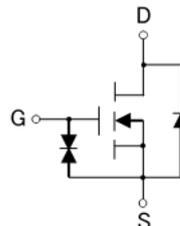
TERMINAL CONNECTOR

- ①: GATE
- ②: SOURCE
- ③: DRAIN

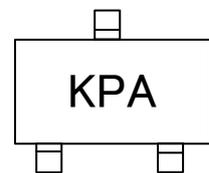
JEITA: SC-59

JEDEC: Similar to TO-236

## EQUIVALENT CIRCUIT



## MARKING



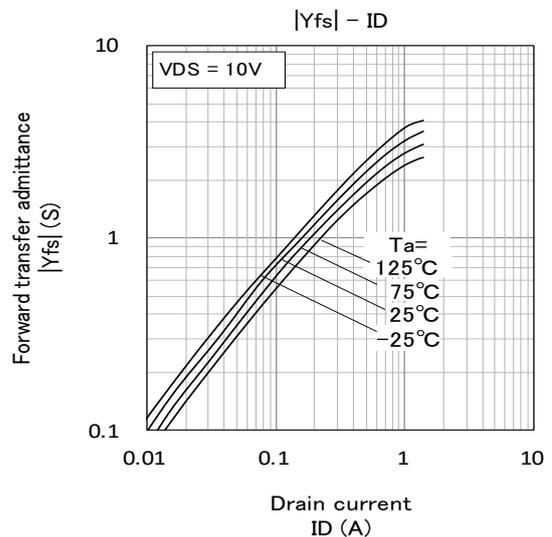
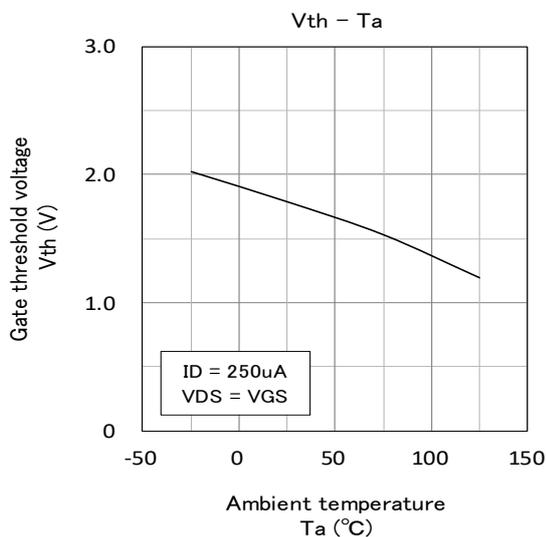
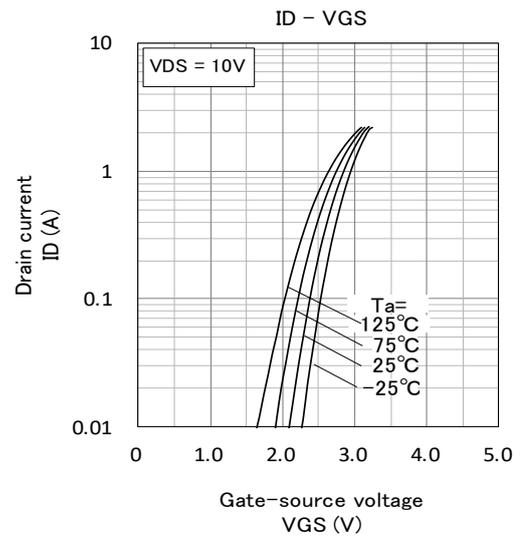
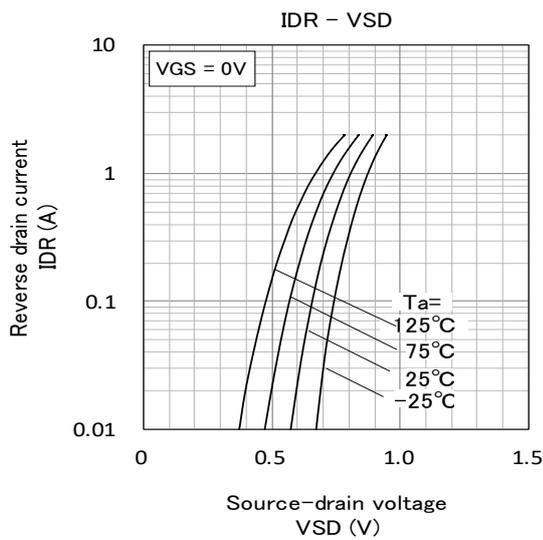
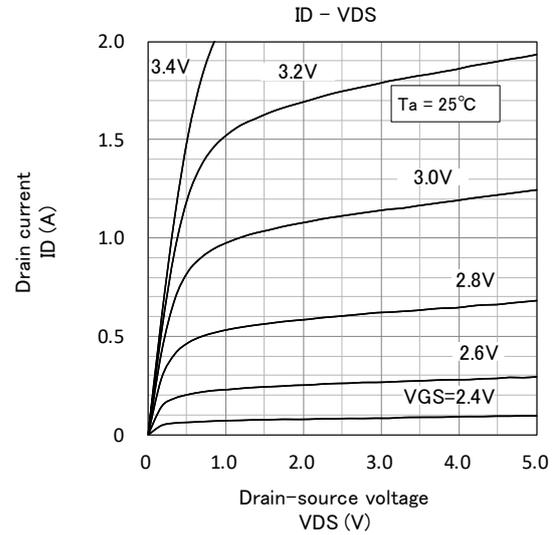
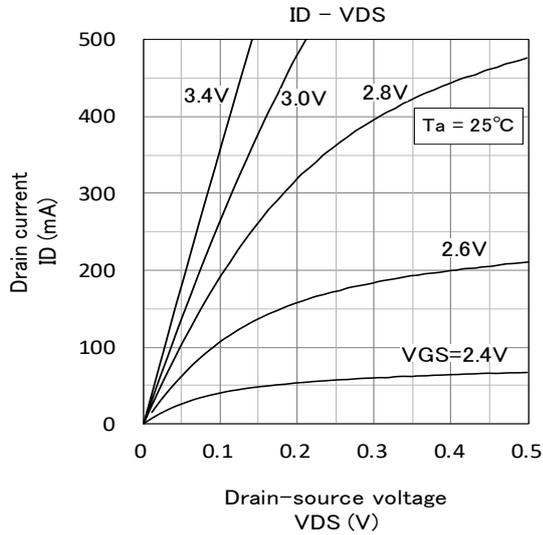
## ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =250μA, 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	-	-	1.0	μA
Gate Threshold Voltage	V <sub>th</sub>	I <sub>D</sub> =250μA, V <sub>Ds</sub> =V <sub>Gs</sub>	1.0	-	2.5	V
Static Drain-Source On-State Resistance	R <sub>DS(ON)</sub>	I <sub>D</sub> =2.0A, V <sub>Gs</sub> =10V	-	167	233	mΩ
		I <sub>D</sub> =2.0A, V <sub>Gs</sub> =4.5V	-	220	308	
Input Capacitance	C <sub>iss</sub>	V <sub>Ds</sub> =10V, V <sub>Gs</sub> =0V, f=1MHz	-	176	-	pF
Output Capacitance	C <sub>oss</sub>		-	31	-	
Feedback Capacitance	C <sub>rss</sub>		-	21	-	
Switching Time	t <sub>on</sub>	V <sub>DD</sub> =20V, I <sub>D</sub> =200mA, V <sub>Gs</sub> =5V	-	16	-	ns
	t <sub>off</sub>		-	57	-	

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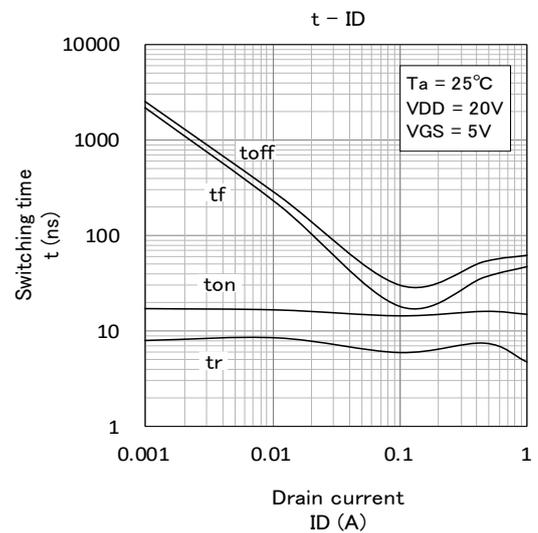
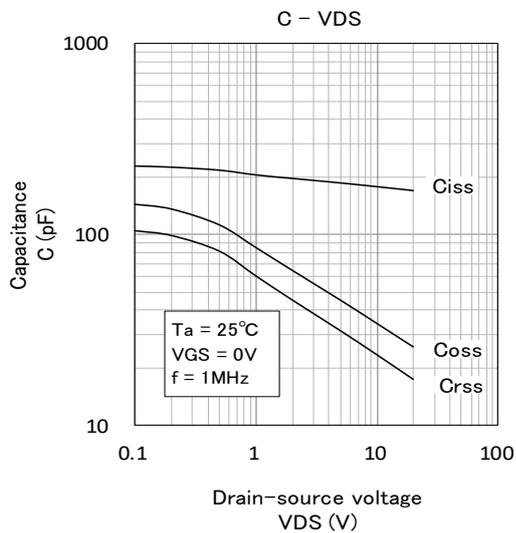
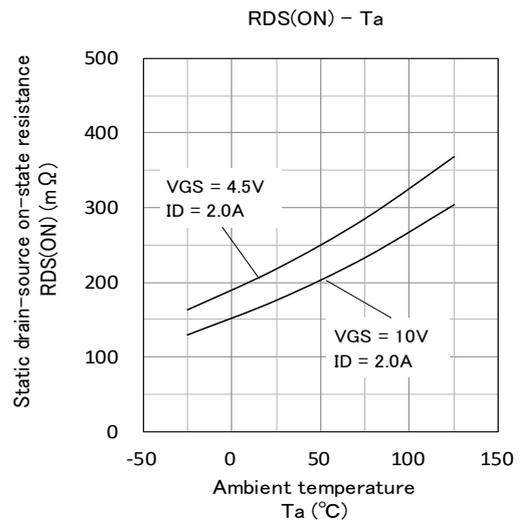
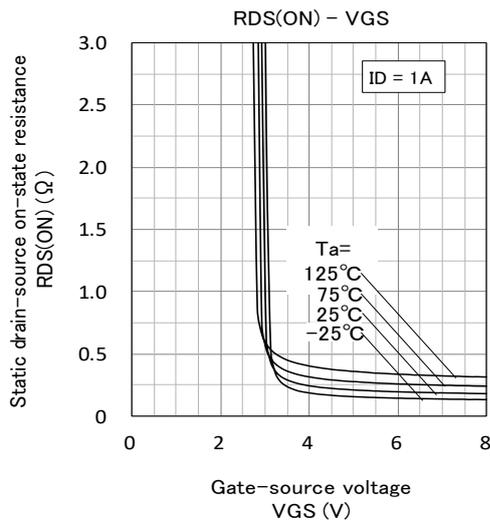
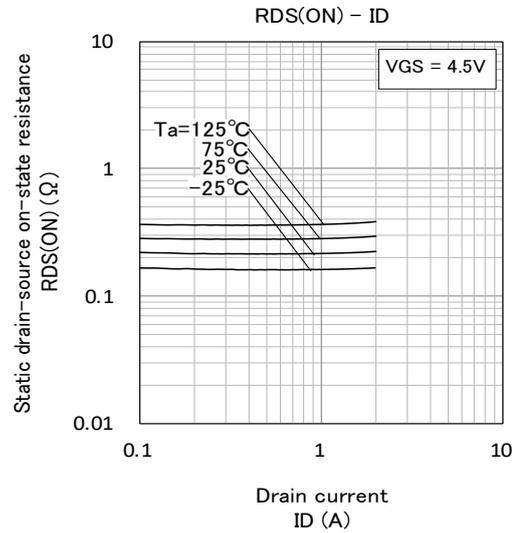
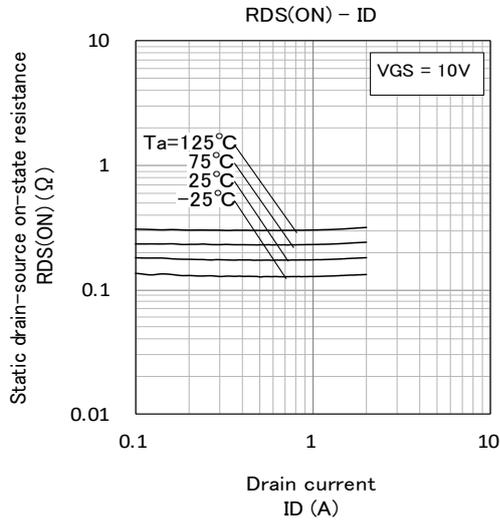
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## TYPICAL CHARACTERISTICS



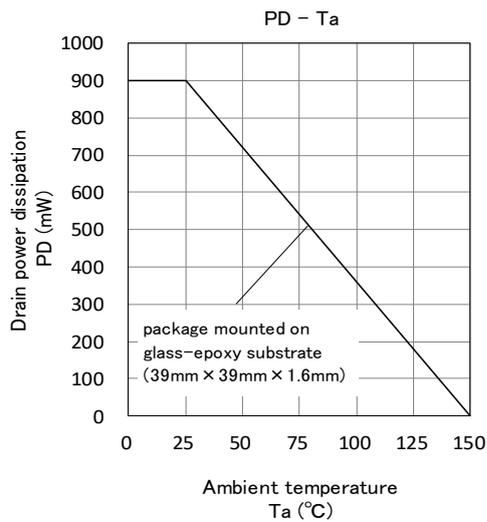
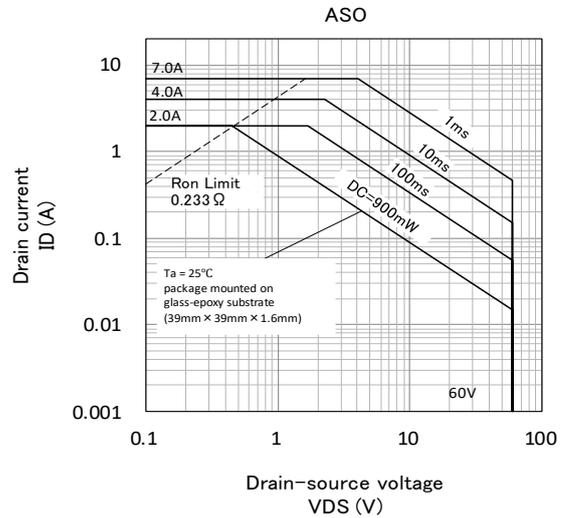
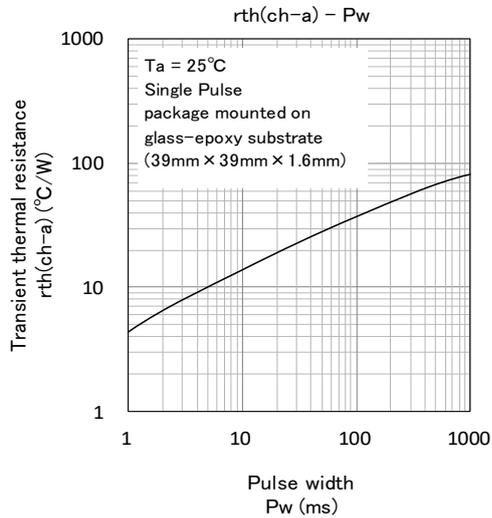
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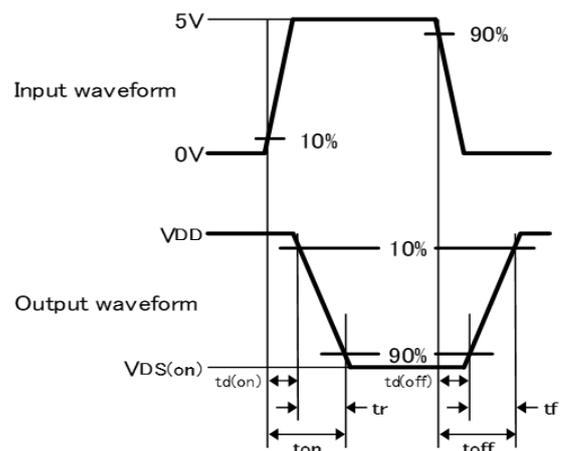
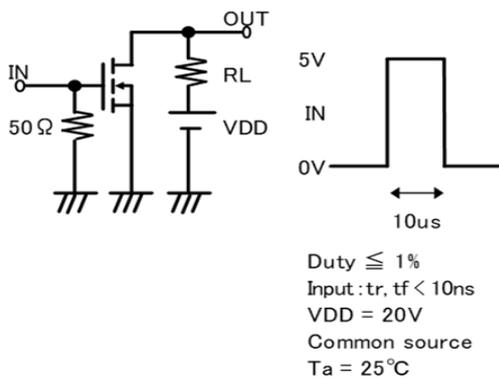


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### Switching time test condition



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