

INK0110AC1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK0110AC1 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

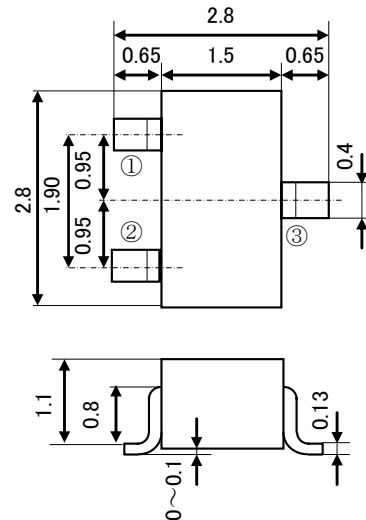
MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source voltage	V _{DSS}	60	V
Gate-Source voltage	V _{GS}	±20	V
Drain current(DC)	I _D	0.5	A
Drain current(Pulse) ※1	I _{DP}	1	A
Total power dissipation	P _D	200	mW
Channel temperature	T _{ch}	+150	°C
Storage temperature	T _{stg}	-55~+150	°C

※1: Pw ≤ 10 μs, Duty cycle ≤ 1%

OUTLINE DRAWING

UNIT:mm



JEITA: SC-59

JEDEC: Similar to TO-236

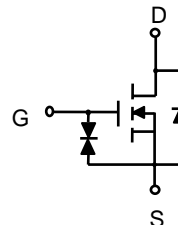
TERMINAL CONNECTOR

①: GATE

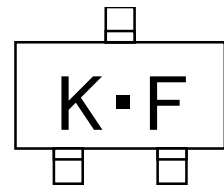
②: SOURCE

③: DRAIN

EQUIVALENT CIRCUIT



MARKING



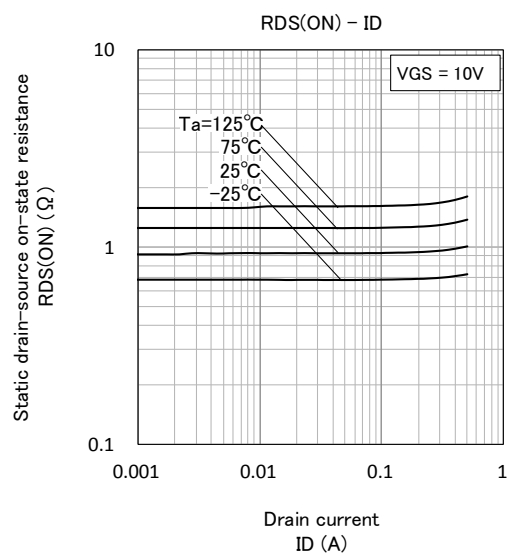
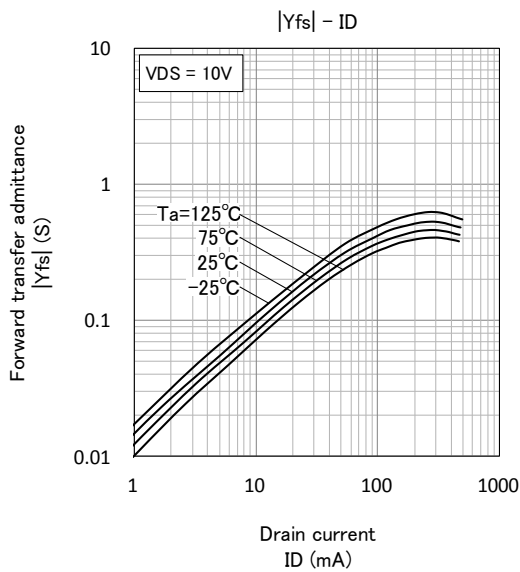
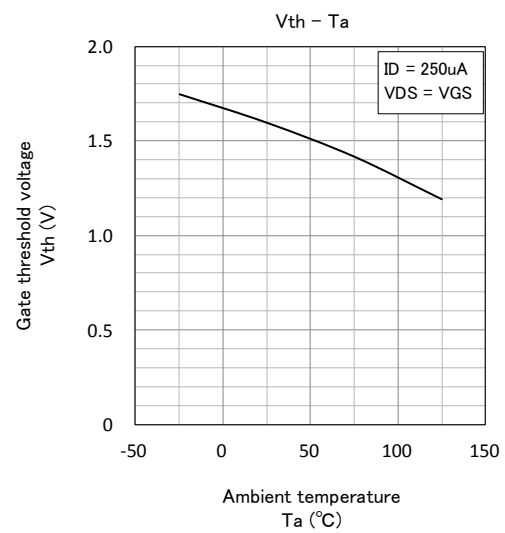
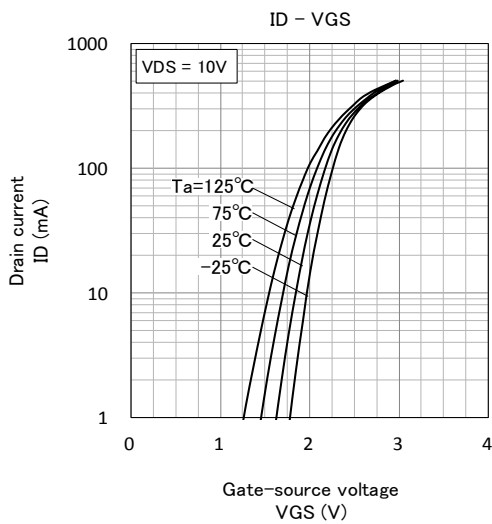
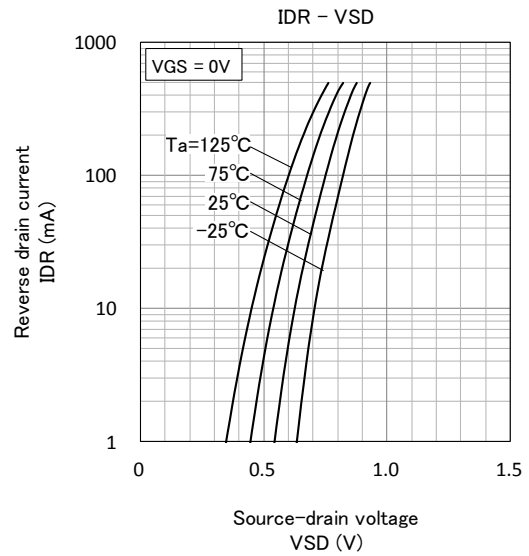
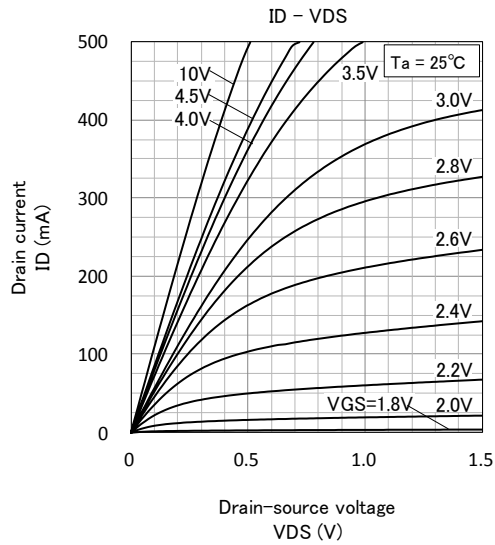
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

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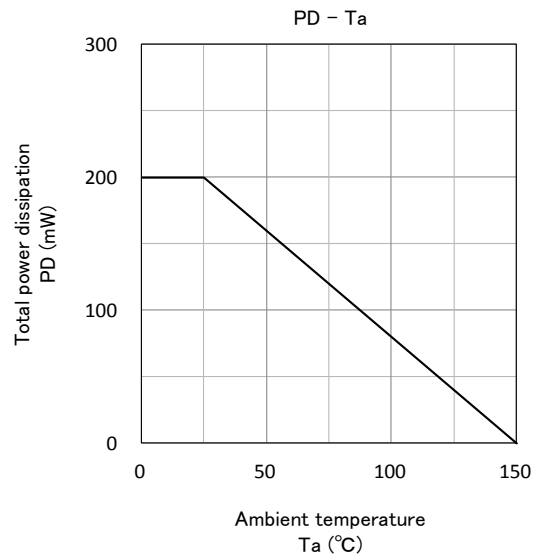
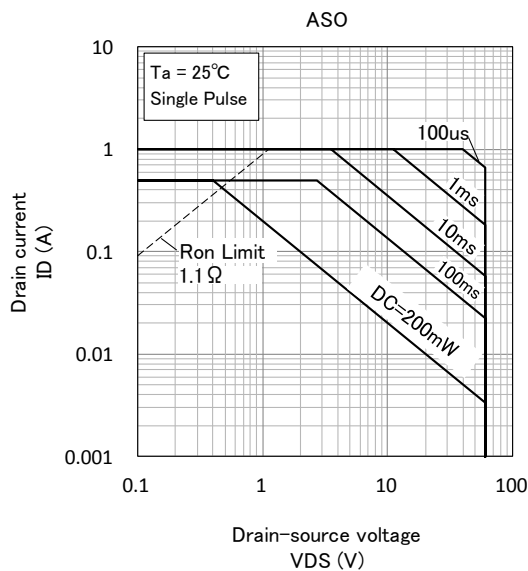
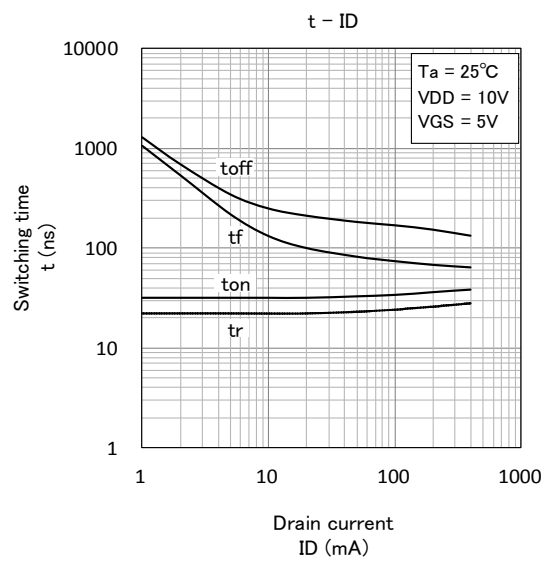
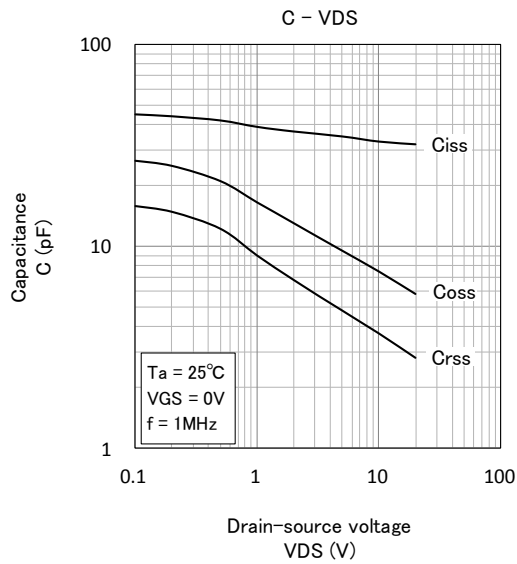
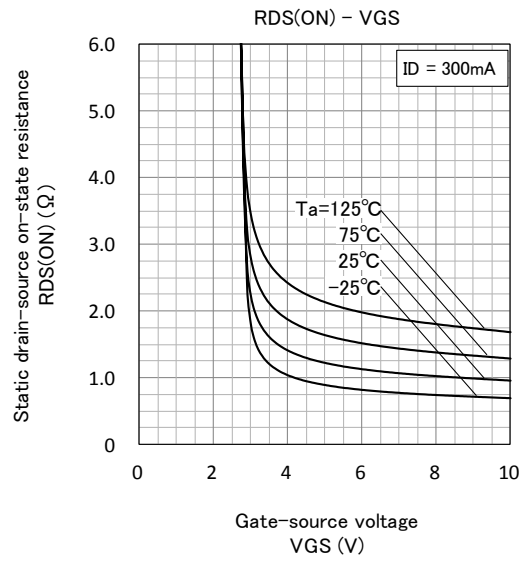
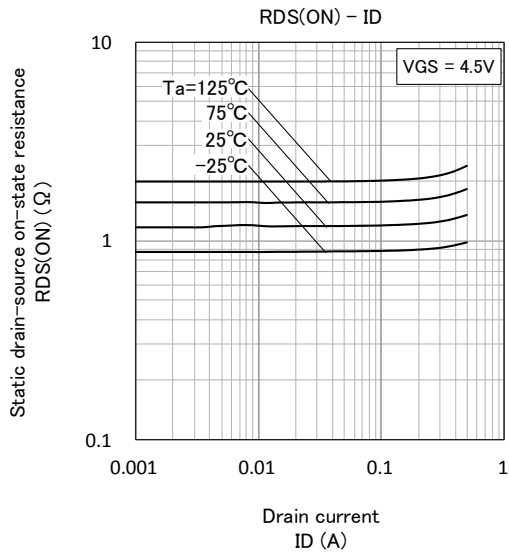
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TYPICAL CHARACTERISTICS



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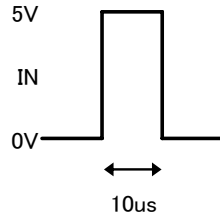
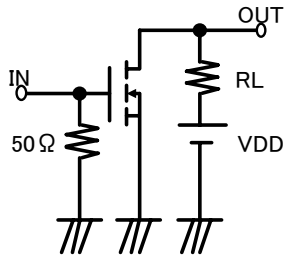
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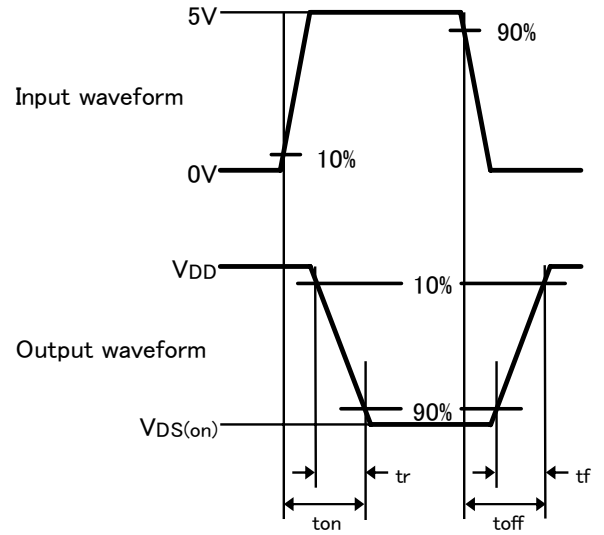
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Switching time test condition



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



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