

INK0010AC1-T150

High Speed Switching
Silicon N-channel MOSFET

AEC-Q101 COMPLIANCE

DESCRIPTION

INK0010AC1 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

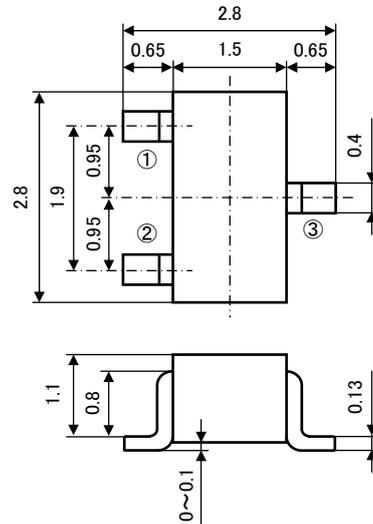
- Input impedance is high, and not necessary to consider a drive electric current.
- Drive voltage 4V
- Low on Resistance.
 $R_{DS(ON)}=4.0\ \Omega$ (TYP) @ $I_D=100\text{mA}$, $V_{GS}=4.0\text{V}$
 $R_{DS(ON)}=3.0\ \Omega$ (TYP) @ $I_D=100\text{mA}$, $V_{GS}=10\text{V}$
- High speed switching.
- Small package for easy mounting.

APPLICATION

High speed switching , Analog switching

OUTLINE DRAWING

UNIT : mm



JEITA : SC-59

JEDEC : Similar to TO-236

TERMINAL CONNECTOR

① : Gate

② : SOURCE

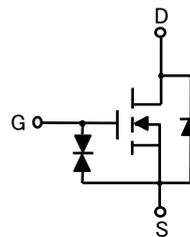
③ : DRAIN

MAXIMUM RATING (Ta=25°C)

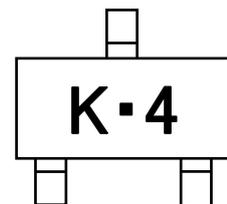
SYMBOL	PARAMETER	RATING	UNIT
VDSS	Drain-source voltage	60	V
VGSS	Gate-source voltage	±20	V
ID	Drain current(DC)	260	mA
IDP	Drain current(Pulse) ※1	800	mA
PD	Total power dissipation	200	mW
Tch	Channel temperature	+150	°C
Tstg	Range of Storage temperature	-55~+150	°C

※1: Pw ≤ 10 μs, Duty cycle ≤ 1%

EQUIVALENT CIRCUIT



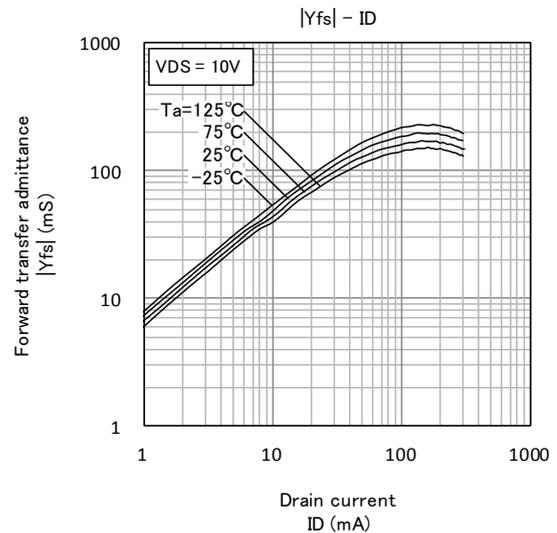
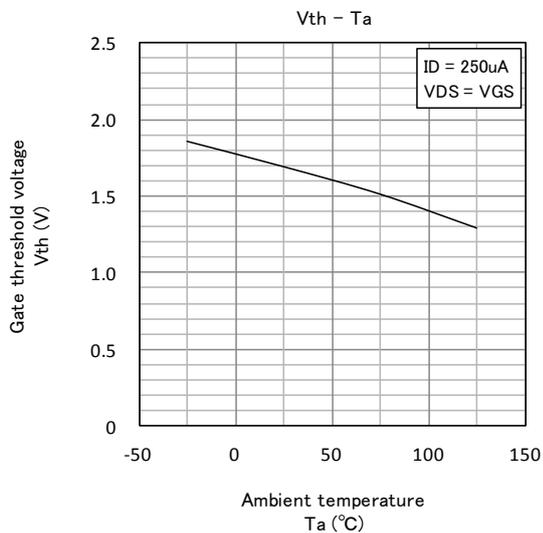
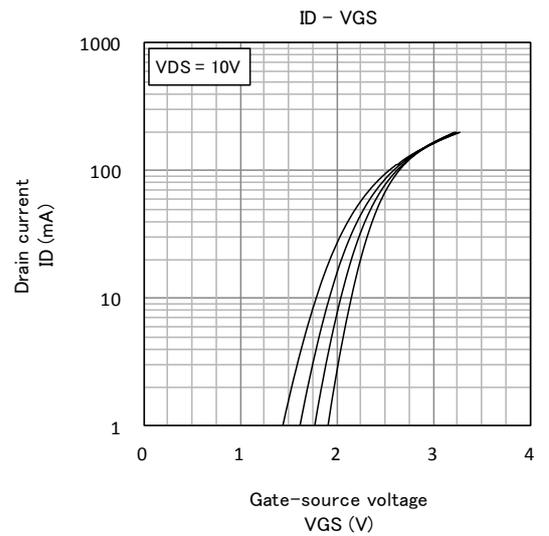
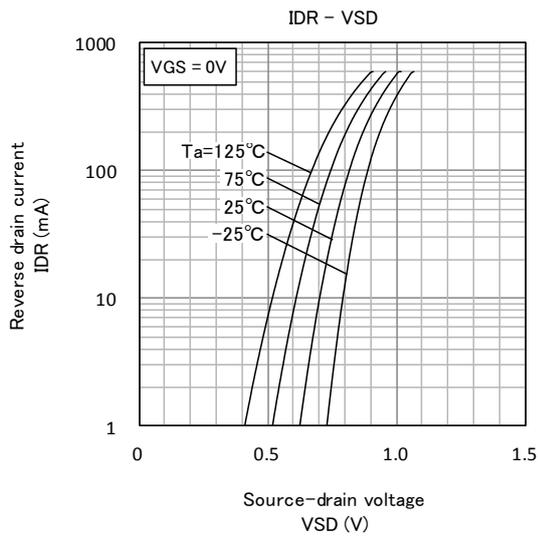
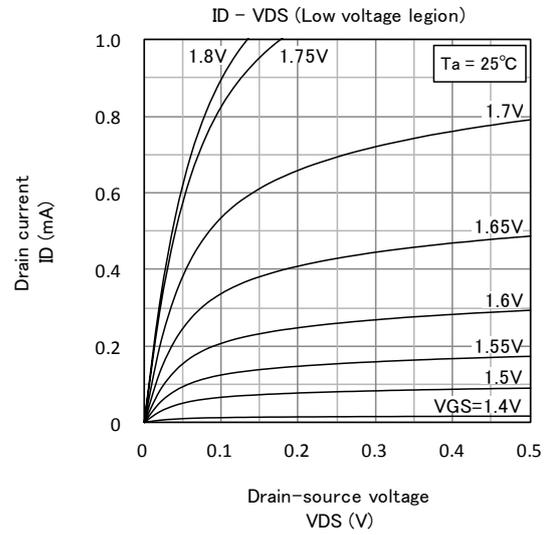
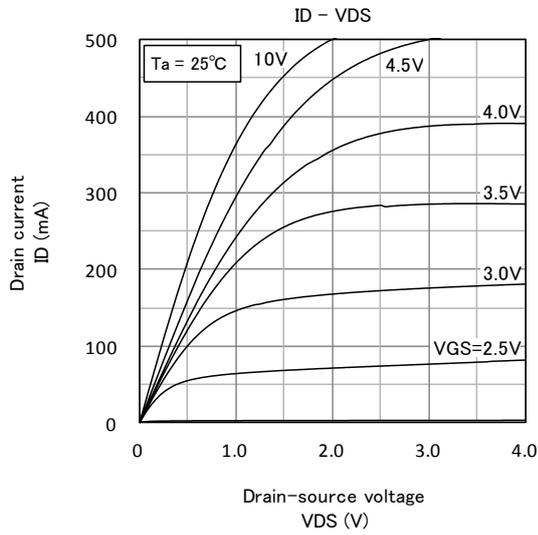
MARKING



ELECTRICAL CHARACTERISTICS (Ta=25°C)

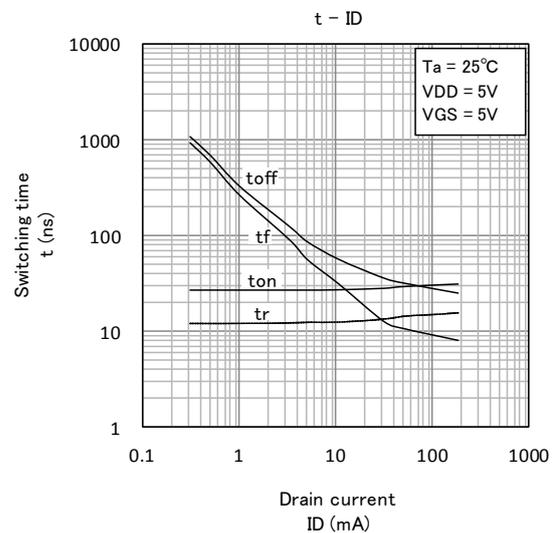
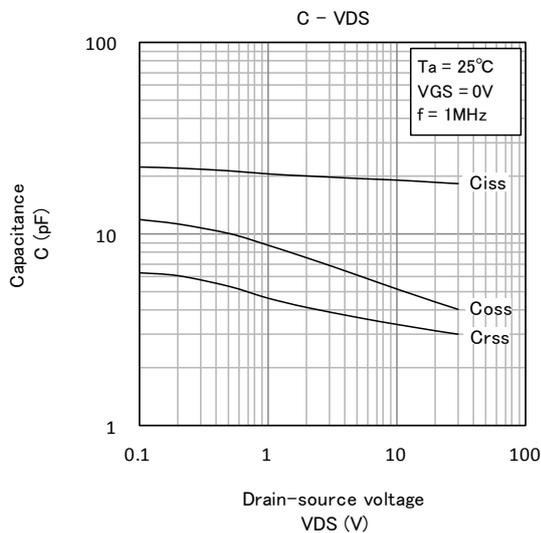
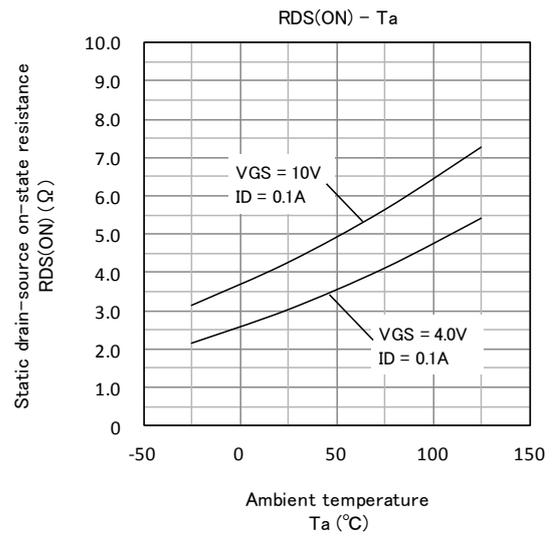
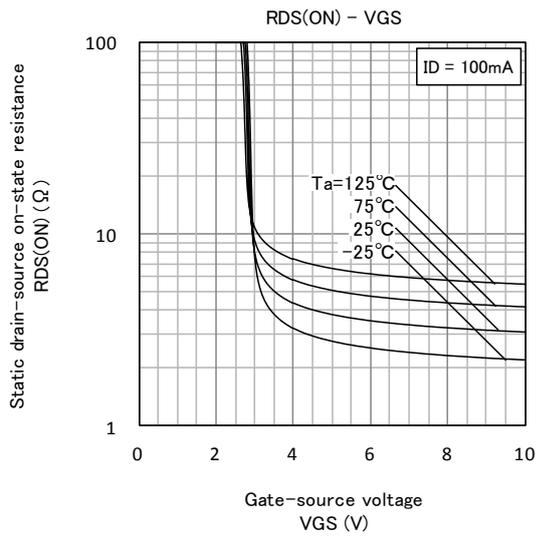
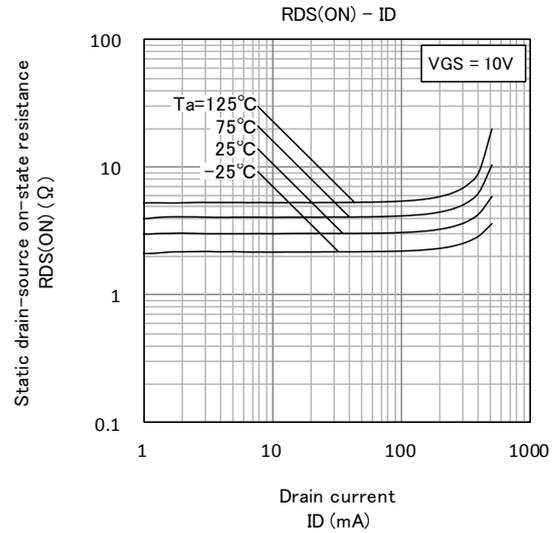
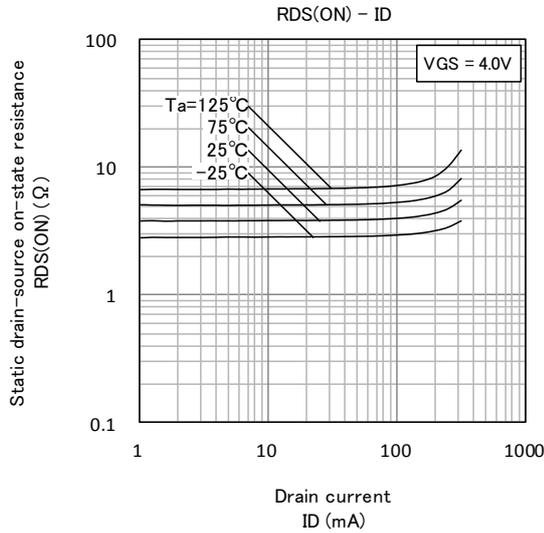
PARAMETER	SYMBOL	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
Drain-source breakdown voltage	V(BR)DSS	$I_D=100\ \mu\text{A}$, $V_{GS}=0\text{V}$	60	-	-	V
Gate-source leak current	IGSS	$V_{GS}=\pm 15\text{V}$, $V_{DS}=0\text{V}$	-	-	±1.0	μA
Zero gate voltage drain current	IDSS	$V_{DS}=60\text{V}$, $V_{GS}=0\text{V}$	-	-	1.0	μA
Gate threshold voltage	Vth	$I_D=250\ \mu\text{A}$, $V_{DS}=V_{GS}$	1.0	-	2.0	V
Forward transfer admittance	Yfs	$V_{DS}=10\text{V}$, $I_D=100\text{mA}$	-	200	-	mS
Static drain-source on-state resistance	RDS(ON)	$I_D=100\text{mA}$, $V_{GS}=4.0\text{V}$	-	4.0	-	Ω
		$I_D=100\text{mA}$, $V_{GS}=10\text{V}$	-	3.0	-	
Input capacitance	Ciss	$V_{DS}=10\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	-	20	-	pF
Output capacitance	Coss		-	5.0	-	pF
Switching time	ton	$V_{DD}=5\text{V}$, $I_D=10\text{mA}$	-	27	-	ns
	toff	$V_{GS}=0\sim 5\text{V}$	-	58	-	ns

TYPICAL CHARACTERISTICS



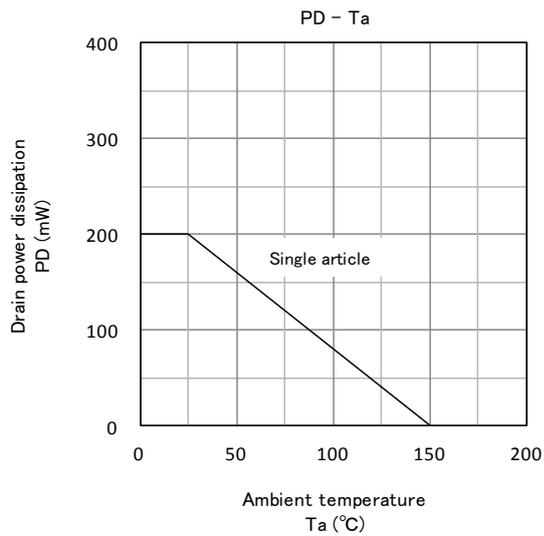
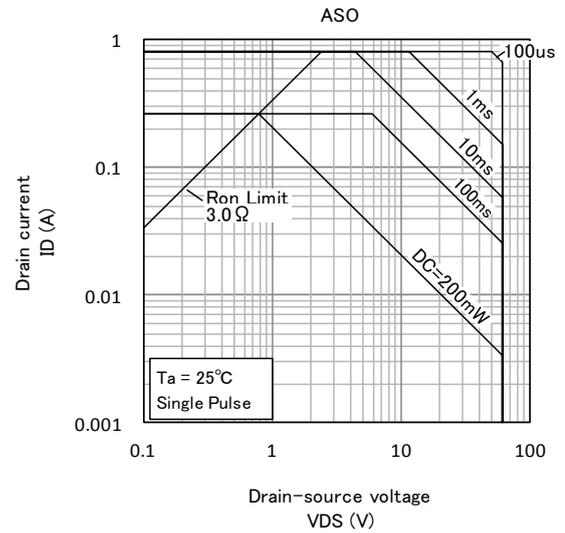
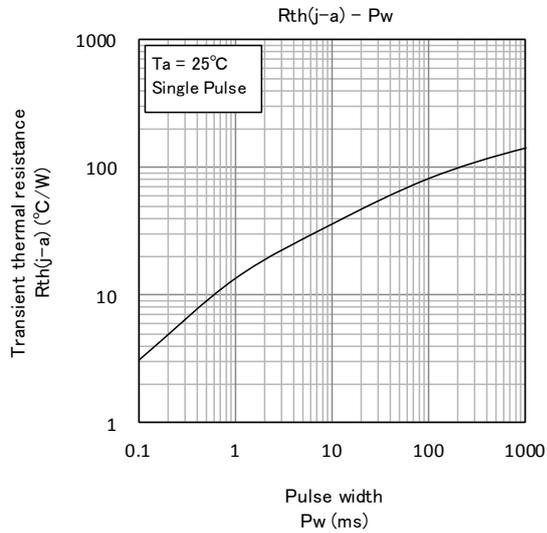
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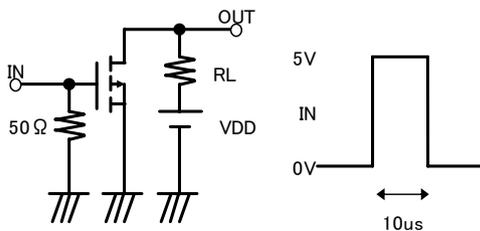


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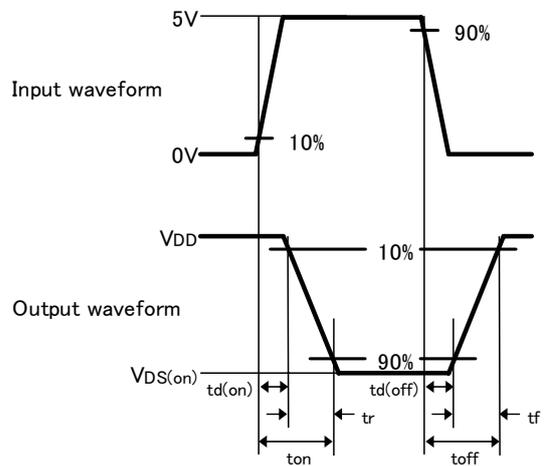
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Switching time test condition



Duty $\leq 1\%$
Input: $t_r, t_f < 10\text{ns}$
VDD = 5V
Common source
 $T_a = 25^{\circ}\text{C}$





Keep safety first in your circuit designs!

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