

INK0012AM1-T150

High Speed Switching
Silicon N-channel MOSFET

AEC-Q101 COMPLIANCE

DESCRIPTION

INK0012AM1 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

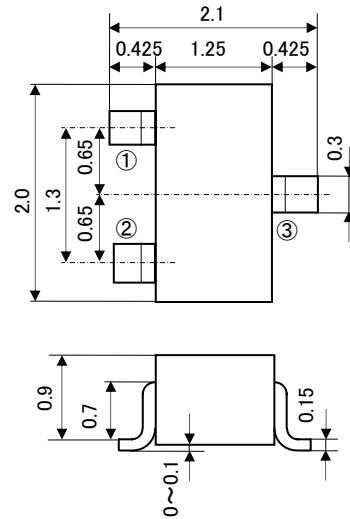
- Input impedance is high, and not necessary to consider a drive electric current.
- Drive voltage 4V
- Low on Resistance.
 $R_{DS(ON)}=1.7\ \Omega$ (TYP) @ $I_D=100\text{mA}$, $V_{GS}=4.0\text{V}$
 $R_{DS(ON)}=1.0\ \Omega$ (TYP) @ $I_D=100\text{mA}$, $V_{GS}=10\text{V}$
- High speed switching.
- Small package for easy mounting.

APPLICATION

High speed switching , Analog switching

OUTLINE DRAWING

UNIT: mm



JEITA: SC-70

JEDEC: -

TERMINAL CONNECTOR

①: Gate

②: SOURCE

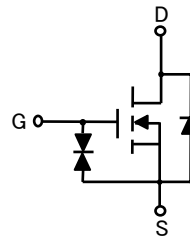
③: DRAIN

MAXIMUM RATING ($T_a=25^\circ\text{C}$)

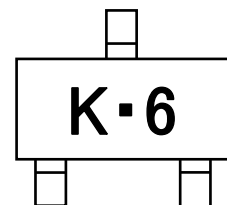
SYMBOL	PARAMETER	RATING	UNIT
VDSS	Drain-source voltage	30	V
VGSS	Gate-source voltage	± 20	V
ID	Drain current(DC)	200	mA
IDP	Drain current(Pulse) ※1	400	mA
PD	Total power dissipation	200	mW
Tch	Channel temperature	+150	$^\circ\text{C}$
Tstg	Range of Storage temperature	-55~+150	$^\circ\text{C}$

※1: $P_w \leq 10\ \mu\text{s}$, Duty cycle $\leq 1\%$

EQUIVALENT CIRCUIT



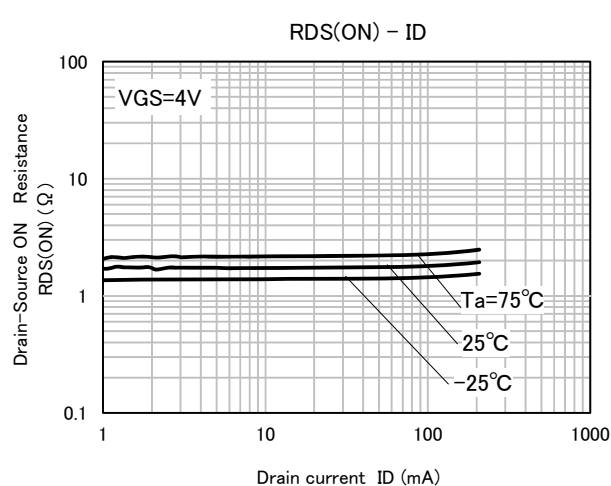
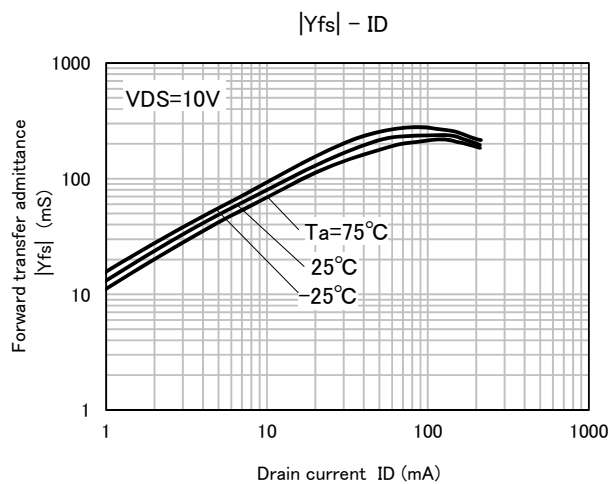
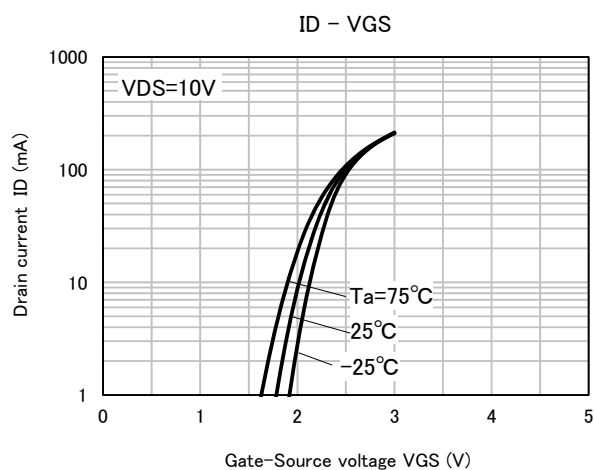
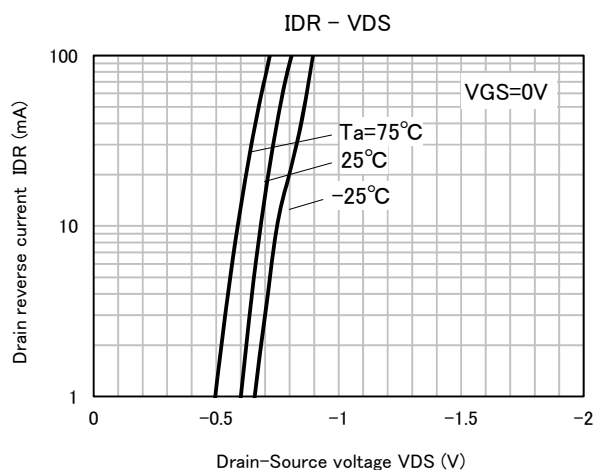
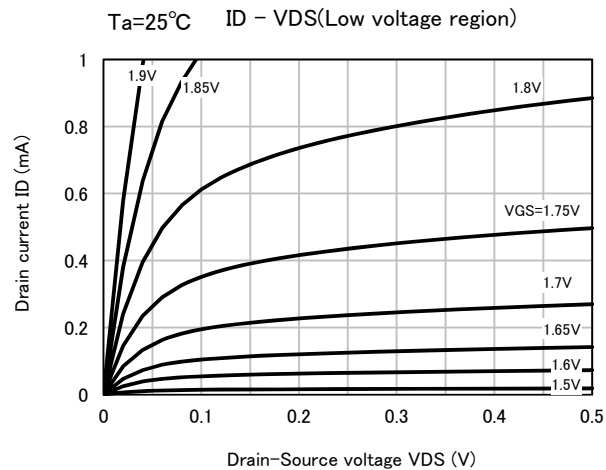
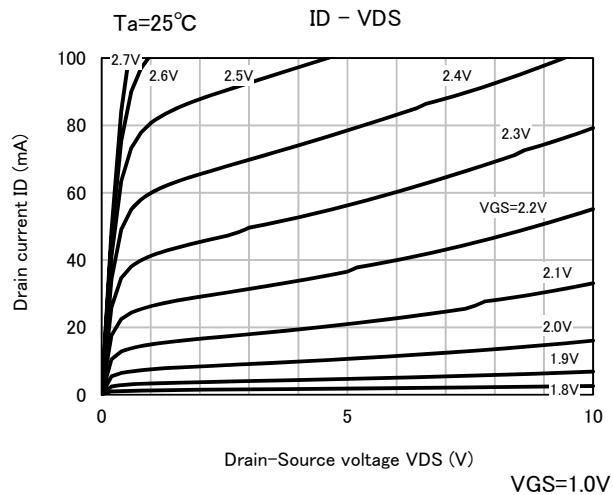
MARKING



ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

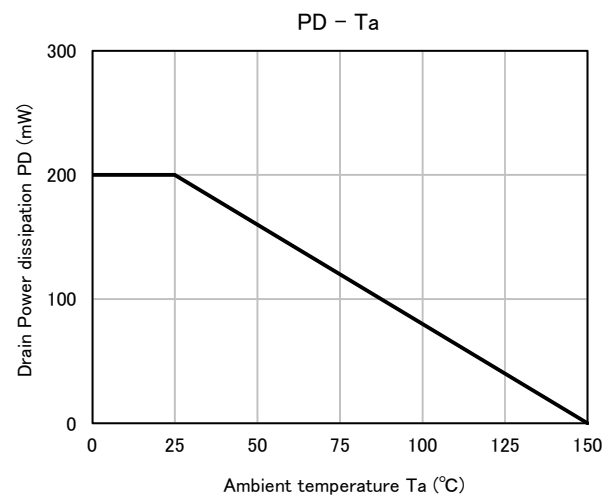
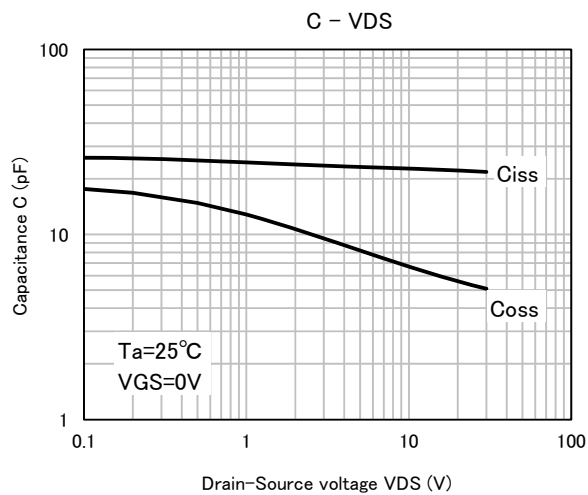
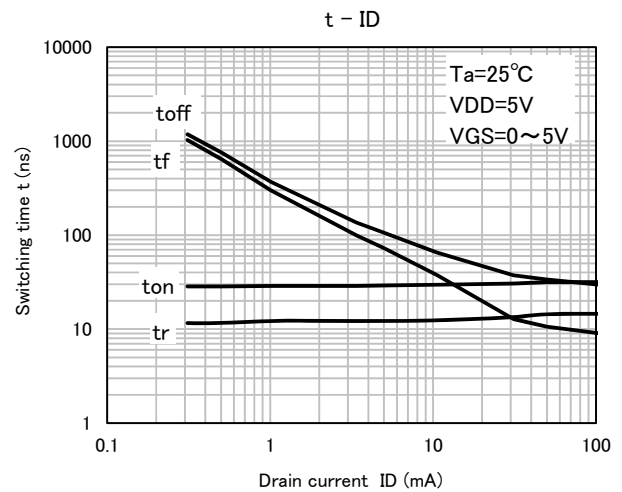
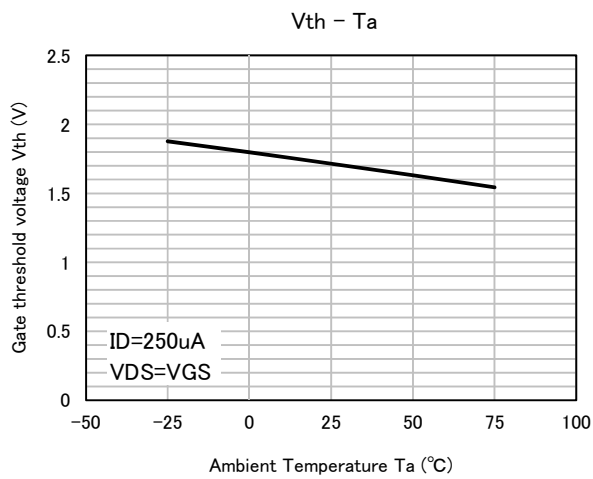
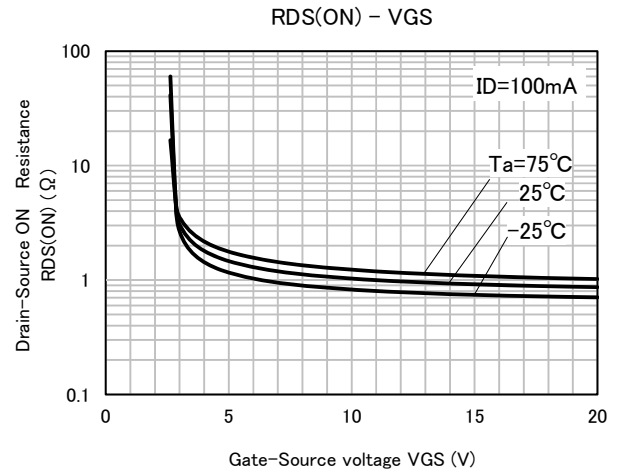
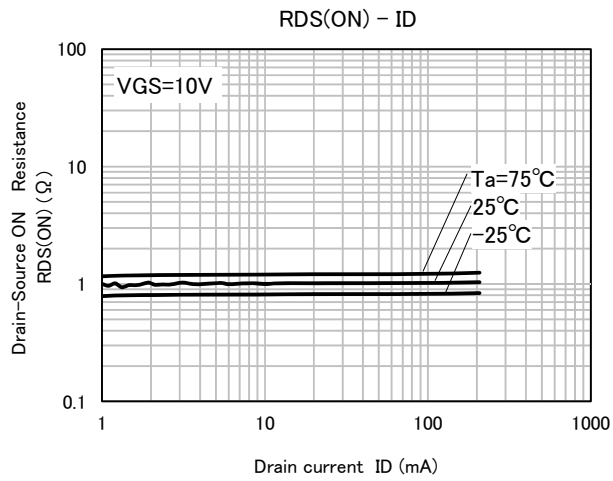
PARAMETER	SYMBOL	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
Drain-source breakdown voltage	$V_{(BR)DSS}$	$I_D=100\ \mu\text{A}$, $V_{GS}=0\text{V}$	30	-	-	V
Gate-source leak current	I_{GSS}	$V_{GS}=\pm 15\text{V}$, $V_{DS}=0\text{V}$	-	-	± 1.0	μA
Zero gate voltage drain current	I_{DSS}	$V_{DS}=30\text{V}$, $V_{GS}=0\text{V}$	-	-	1.0	μA
Gate threshold voltage	V_{th}	$I_D=250\ \mu\text{A}$, $V_{DS}=V_{GS}$	1.0	-	2.0	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS}=10\text{V}$, $I_D=100\text{mA}$	-	245	-	mS
Static drain-source on-state resistance	$R_{DS(ON)}$	$I_D=100\text{mA}$, $V_{GS}=4.0\text{V}$	-	1.7	-	Ω
		$I_D=100\text{mA}$, $V_{GS}=10\text{V}$	-	1.0	-	
Input capacitance	C_{iss}	$V_{DS}=10\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$	-	23	-	pF
Output capacitance	C_{oss}		-	7.0	-	pF
Switching time	t_{on}	$V_{DD}=5\text{V}$, $I_D=10\text{mA}$	-	30	-	ns
	t_{off}	$V_{GS}=0\sim 5\text{V}$	-	66	-	ns

TYPICAL CHARACTERISTICS

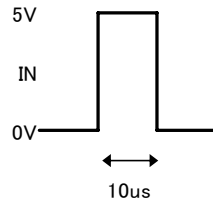
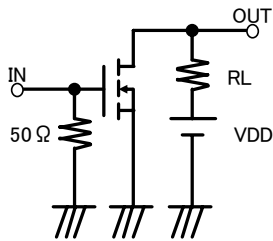


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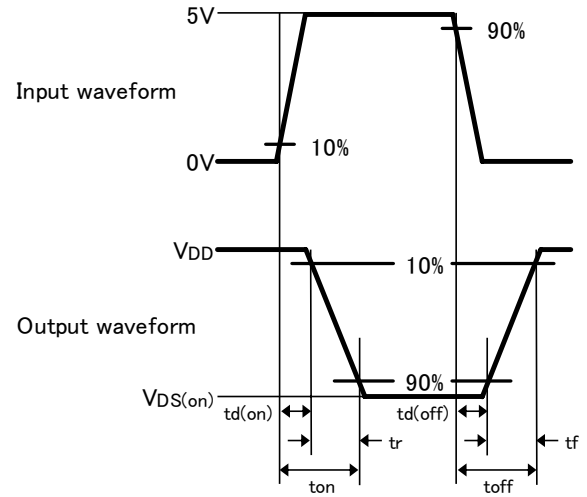
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Switching time test condition



Duty $\leq 1\%$
VDD = 5V
Common source
Ta = 25°C





Keep safety first in your circuit designs!

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