

INK0310AP1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK0310AP1 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

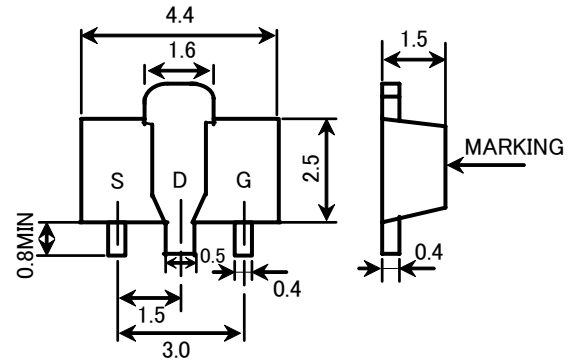
- Input impedance is high, and not necessary to consider a drive electric current.
- High drain current $I_D=2.5A$
- Drive voltage 4.0V
- Low on Resistance. $R_{DS(on)}=100m\Omega(TYP)$.
- High speed switching.
- Small package for easy mounting.

APPLICATION

Switching

OUTLINE DRAWING

UNIT:mm



TERMINAL CONNECTOR

S: SOURCE
D: DRAIN
G: GATE

JEITA: SC-62

JEDEC: SOT-89

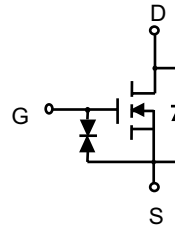
MAXIMUM RATINGS(Ta=25°C)

Symbol	Parameter	Rating	Unit
VDSS	Drain-Source Voltage	60	V
VGSS	Gate-Source Voltage	±20	V
ID	Drain Current(DC)	2.5	A
IDP	Drain current(Pulse) ※1	5	A
PD	Total Power Dissipation	500(※2)	mW
Tch	Channel Temperature	+150	°C
Tstg	Storage temperature	-55~+150	°C

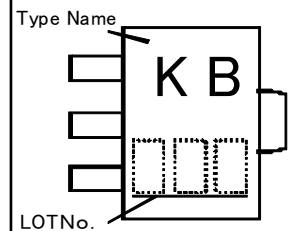
※1: $P_w \leq 10 \mu s$, Duty cycle $\leq 1\%$

※2: package mounted on glass-epoxy substrate
(19mm × 9mm × 1mm).

EQUIVALENT CIRCUIT



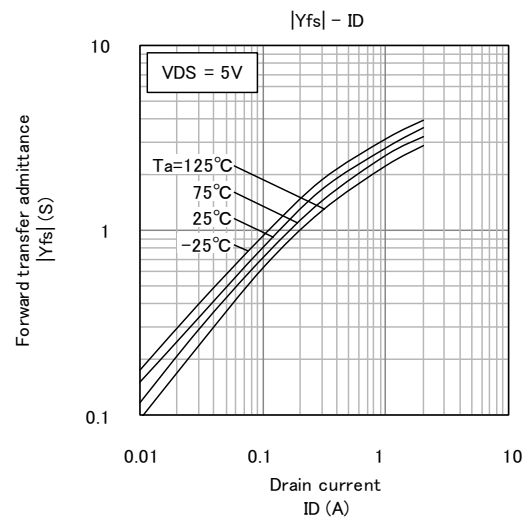
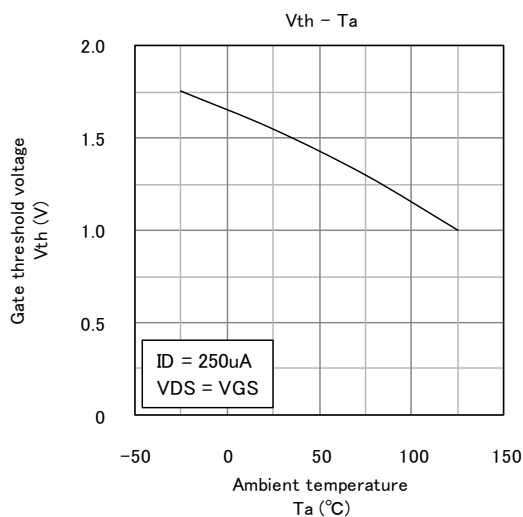
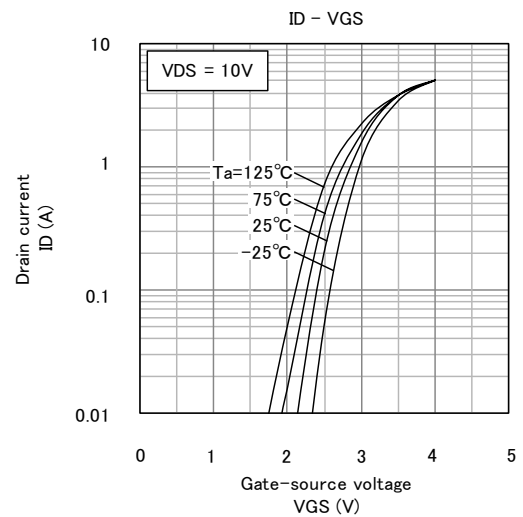
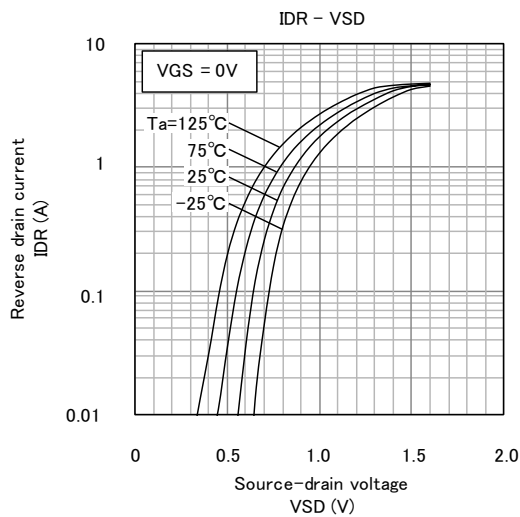
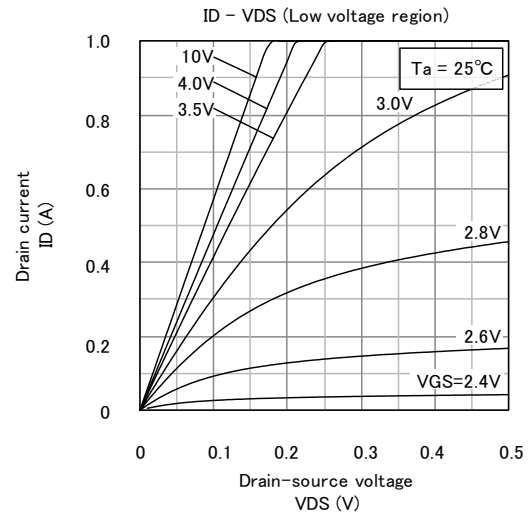
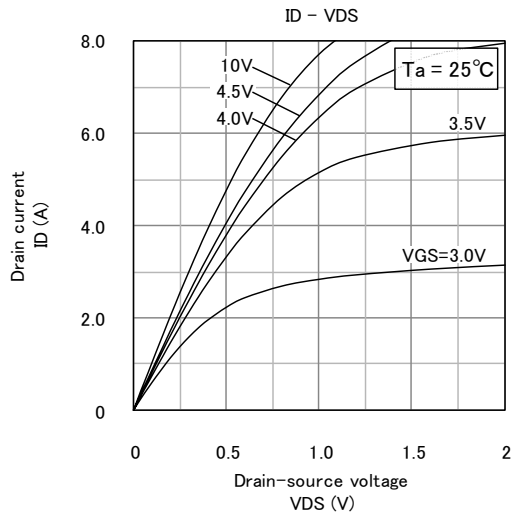
MARKING



ELECTRICAL CHARACTERISTICS(Ta=25°C)

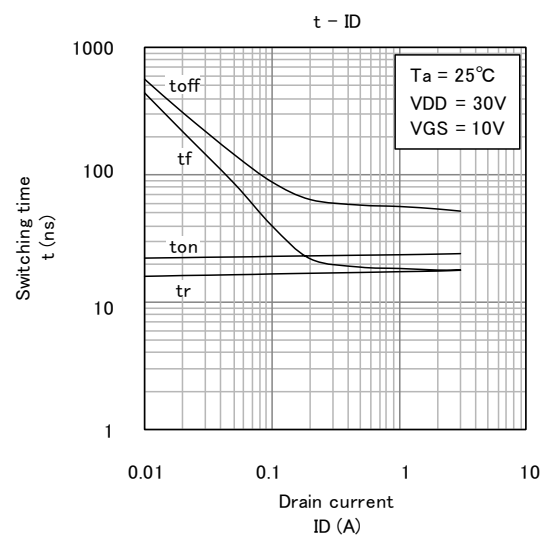
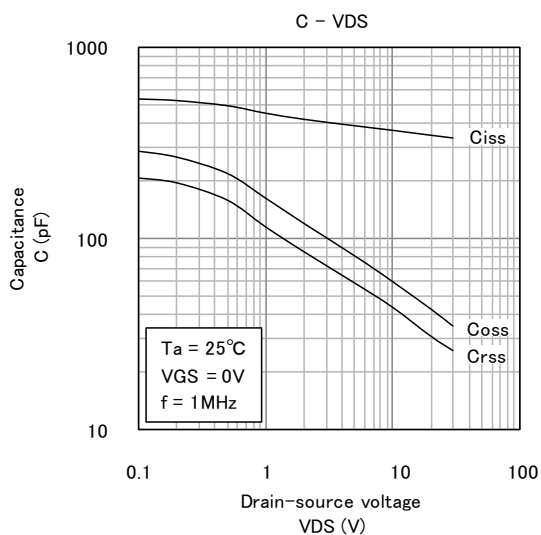
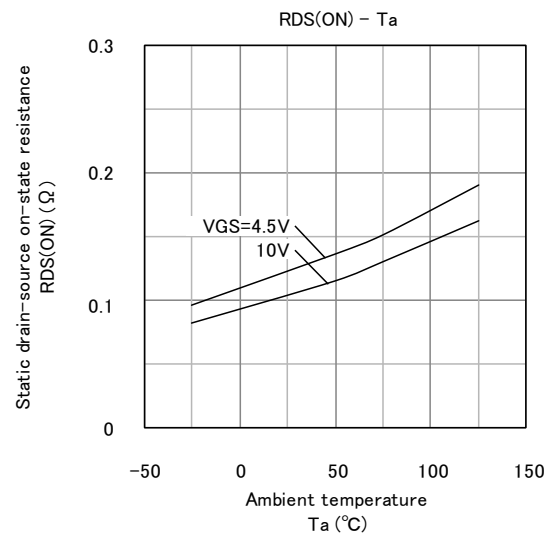
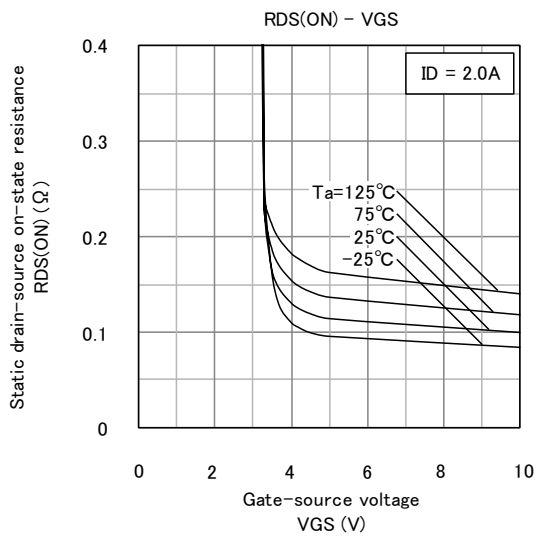
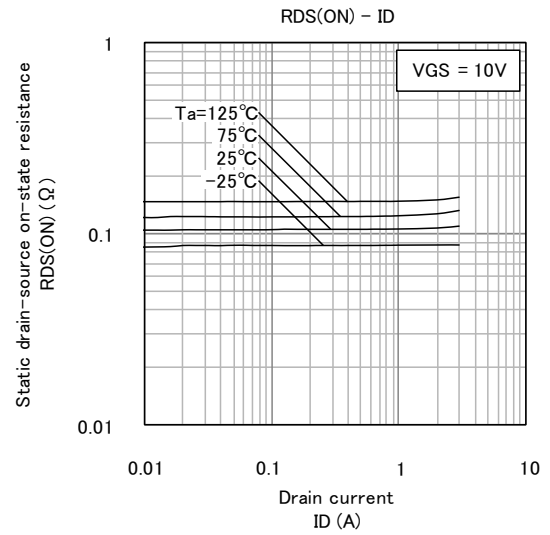
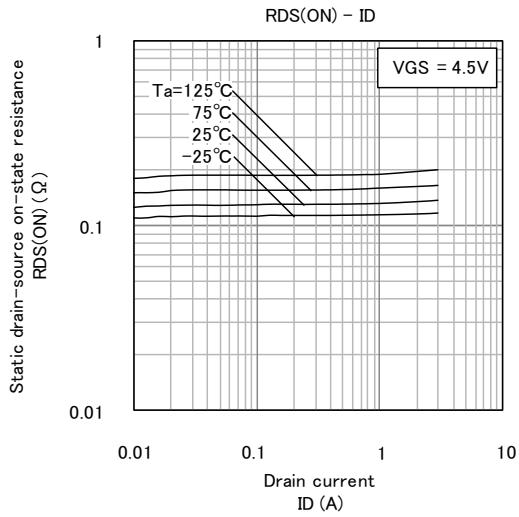
Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	V(BR)DSS	$I_D=100 \mu A, V_{GS}=0V$	60	-	-	V
Gate-Source Leak current	IGSS	$V_{GS}=\pm 20V, I_{DS}=0A$	-	-	±10	μA
Zero Gate Voltage Drain Current	IDSS	$V_{DS}=60V, V_{GS}=0V$	-	-	1.0	μA
Gate Threshold Voltage	Vth	$I_D=250 \mu A, V_{DS}=V_{GS}$	1.0	-	2.5	V
Forward Transfer Admittance	Yfs	$V_{DS}=5V, I_D=2A$	-	4.0	-	S
Static Drain-Source On-State Resistance	RDS(ON)	$I_D=2A, V_{GS}=4.5V$	-	120	-	mΩ
		$I_D=2A, V_{GS}=10V$	-	100	-	
Input Capacitance	Ciss	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	-	370	-	pF
Output Capacitance	Coss		-	65	-	
Switching Time	ton	$V_{DD}=30V, I_D=1A, V_{GS}=0\sim 10V$	-	25	-	ns
	toff		-	60	-	

TYPICAL CHARACTERISTICS



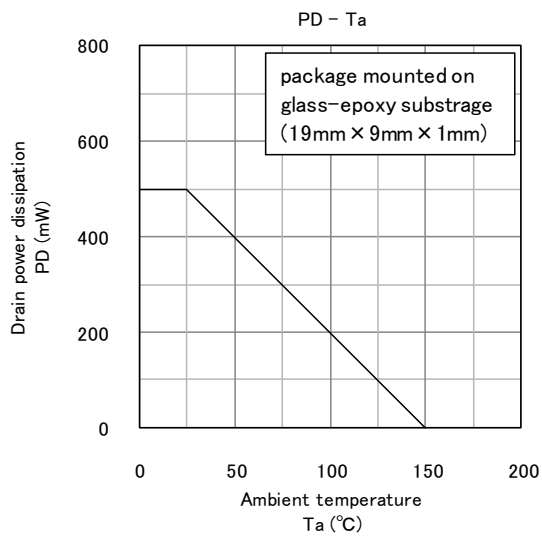
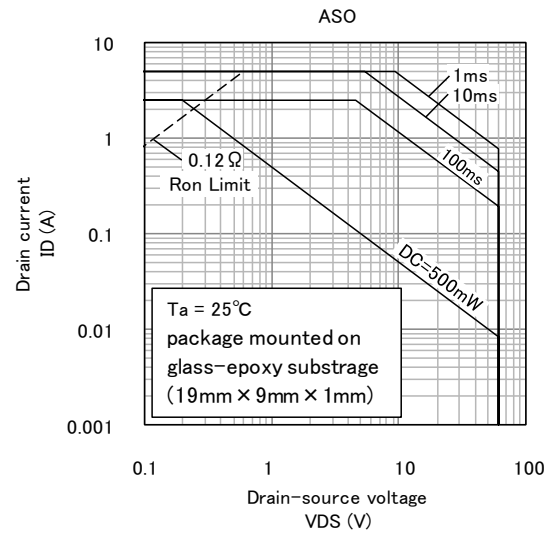
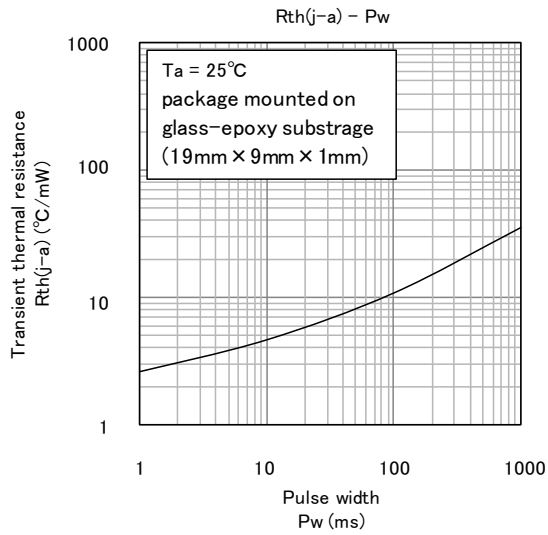
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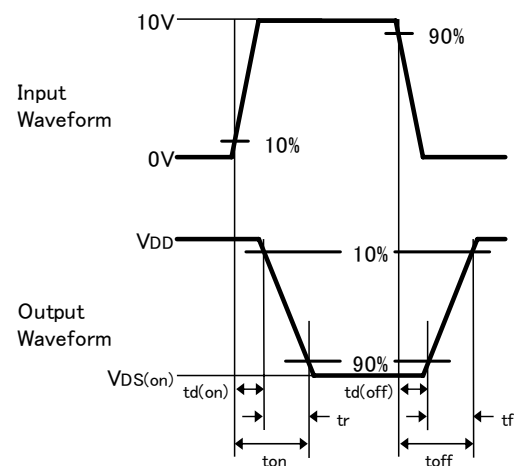
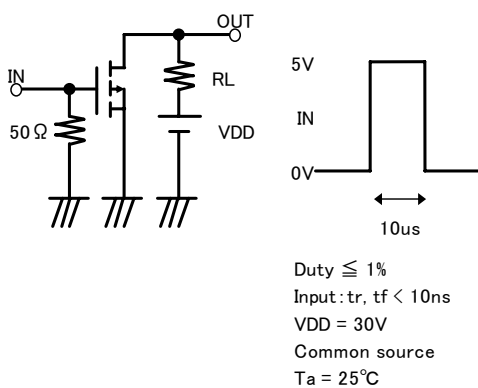


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Switching time test circuit





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