

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

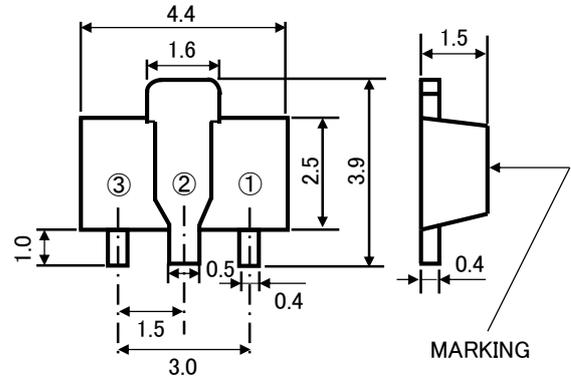
- Input impedance is high, and not necessary to consider a drive electric current.
- High drain current $I_D=2.5A$
- Drive voltage 4.0V
- Low on Resistance. $R_{DS(on)}=100m\Omega$ (TYP).
- High speed switching.
- Small package for easy mounting.

APPLICATION

Switching

OUTLINE DRAWING

UNIT: mm



TERMINAL CONNECTOR

JEITA: SC-62

①: GATE

JEDEC: SOT-89

②: DRAIN

③: SOURCE

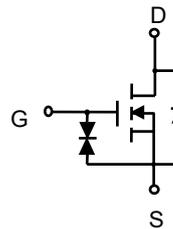
MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V _{DSS}	60	V
Gate-Source Voltage	V _{GS}	±20	V
Drain Current(DC)	I _D	2.5	A
Drain Current(Pulse) (※1)	I _{DP}	5	A
Total Power Dissipation (※2)	P _D	500	mW
Channel Temperature	T _{ch}	+150	°C
Storage Temperature	T _{stg}	-55~ +150	°C

※1: Pw ≤ 10 μs, Duty cycle ≤ 1%

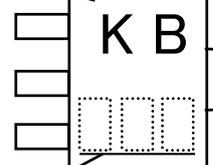
※2: package mounted on glass-epoxy substrate (19mm × 9mm × 1mm).

EQUIVALENT CIRCUIT



MARKING

Type Name



LOTNo.

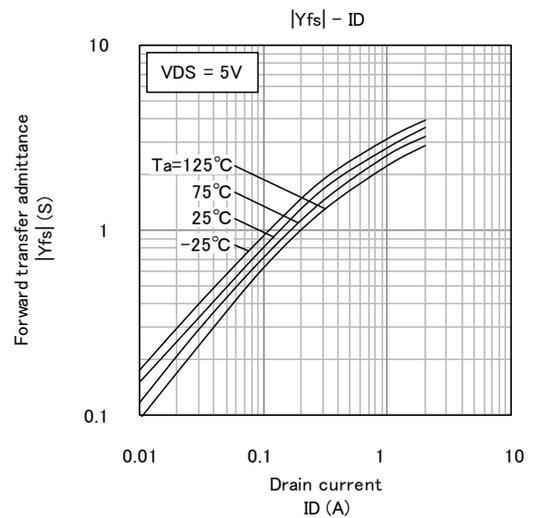
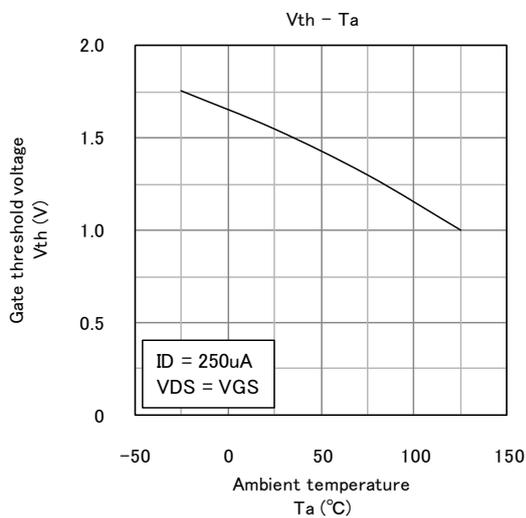
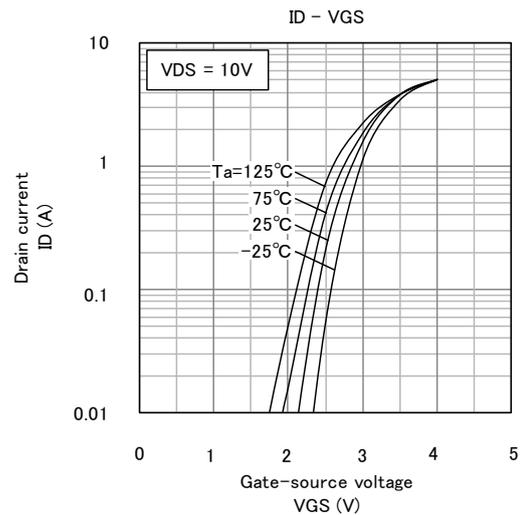
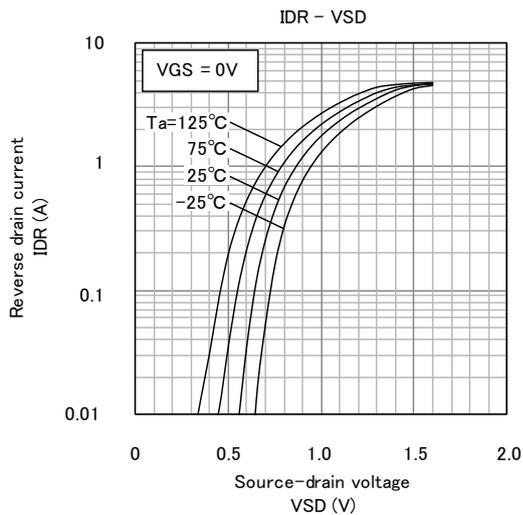
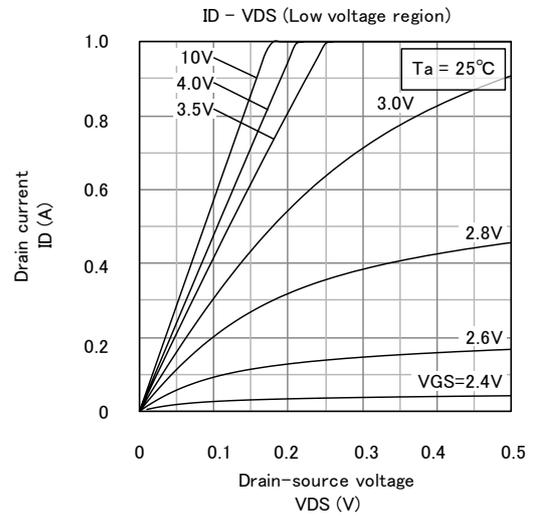
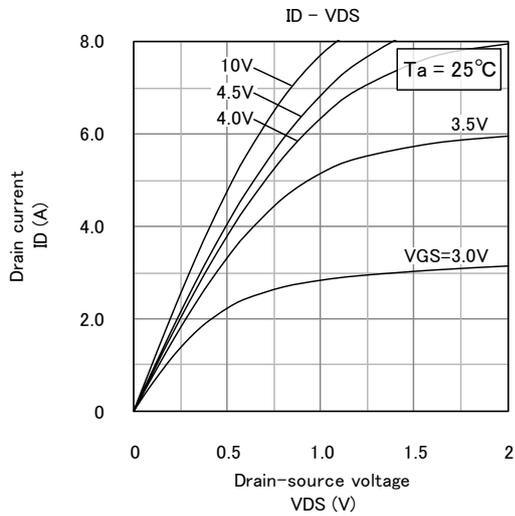
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	-	-	1.0	μA
Gate Threshold Voltage	V _{th}	I _D =250 μA, V _{DS} =V _{GS}	1.0	-	2.5	V
Forward Transfer Admittance	Y _{fs}	V _{DS} =10V, I _D =2A	-	4.0	-	S
Static Drain-Source On-State Resistance	R _{DS(ON)}	I _D =2A, V _{GS} =4.5V	-	120	-	mΩ
		I _D =2A, V _{GS} =10V	-	100	-	
Input Capacitance	C _{iss}	V _{DS} =10V, V _{GS} =0V, f=1MHz	-	370	-	pF
Output Capacitance	C _{oss}		-	65	-	
Switching Time	t _{on}	V _{DD} =30V, I _D =1A, V _{GS} =0~5V	-	25	-	ns
	t _{off}		-	60	-	

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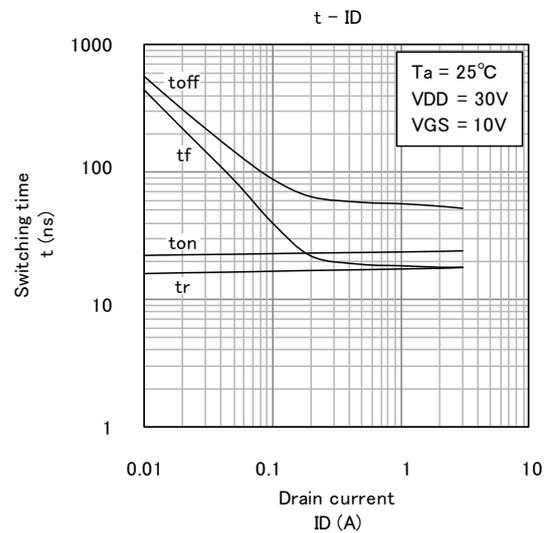
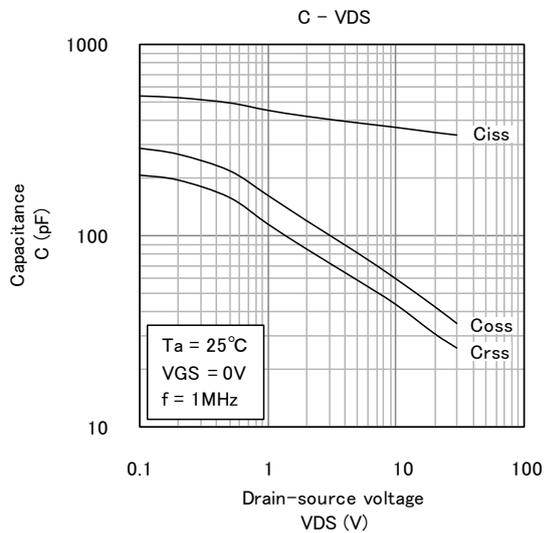
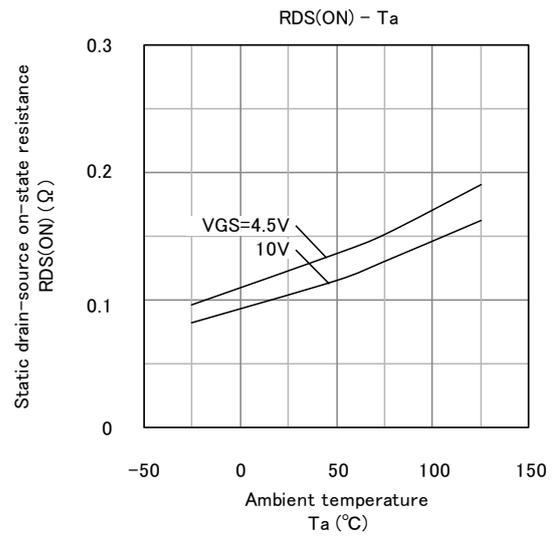
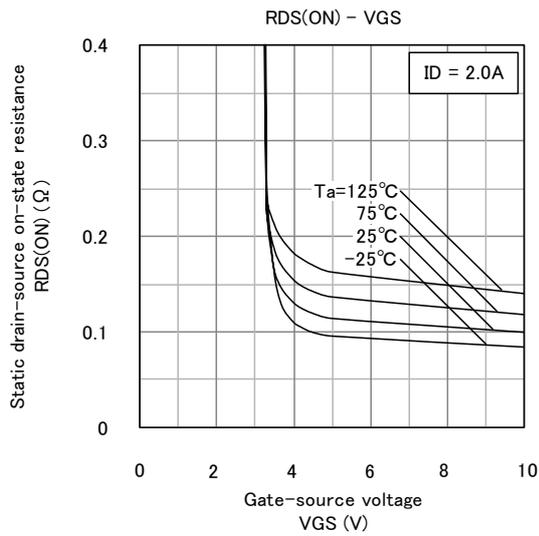
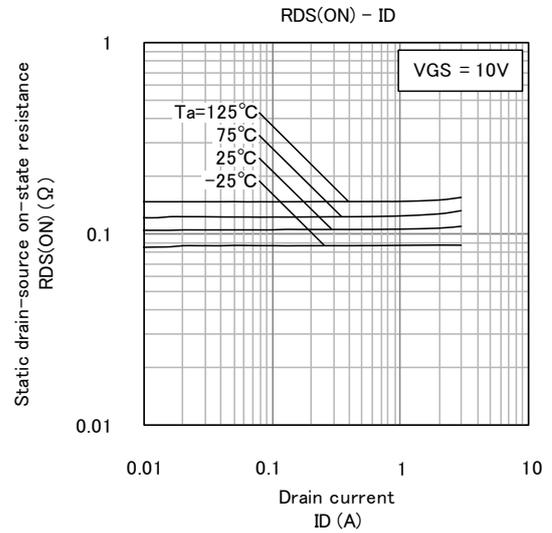
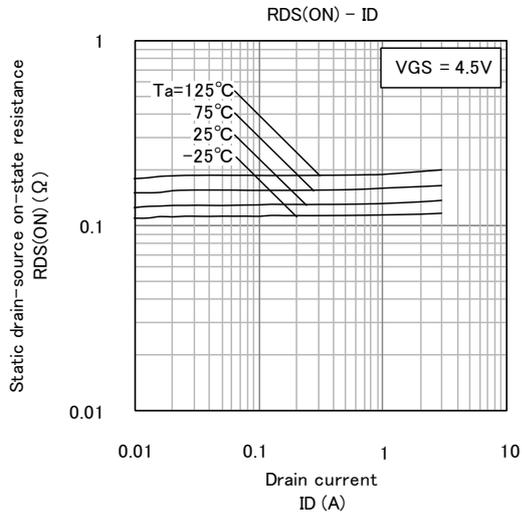
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TYPICAL CHARACTERISTICS



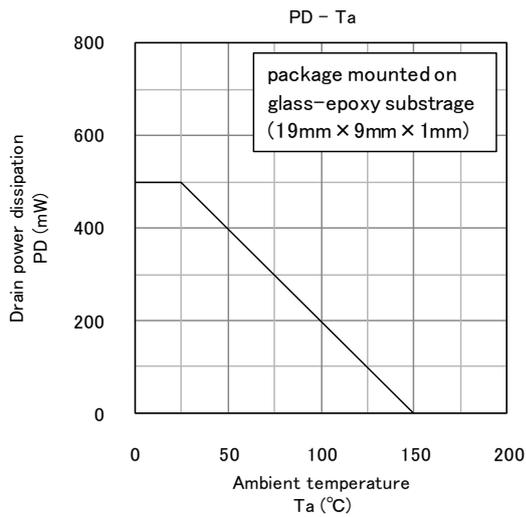
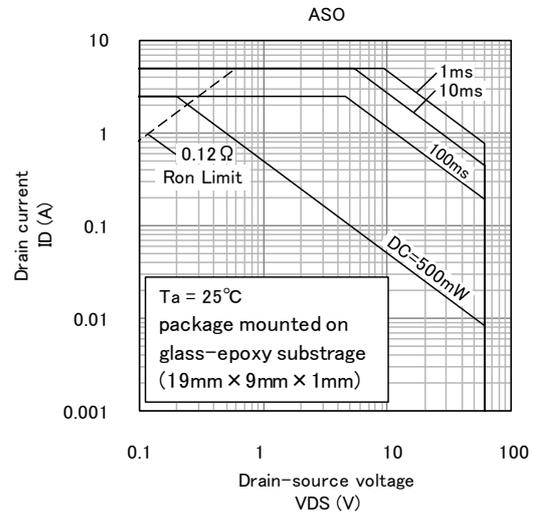
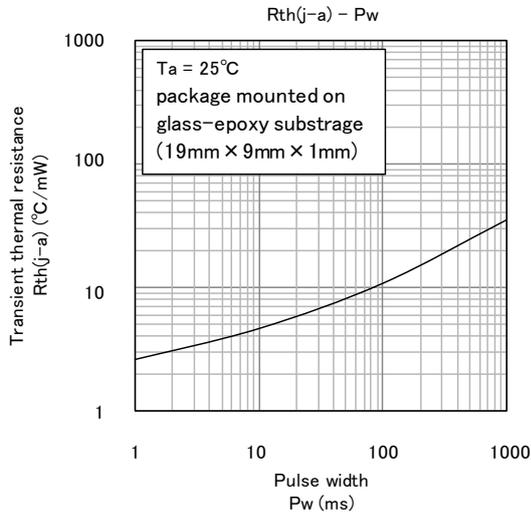
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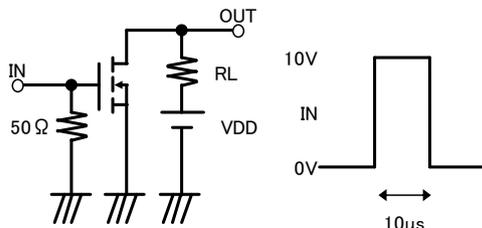


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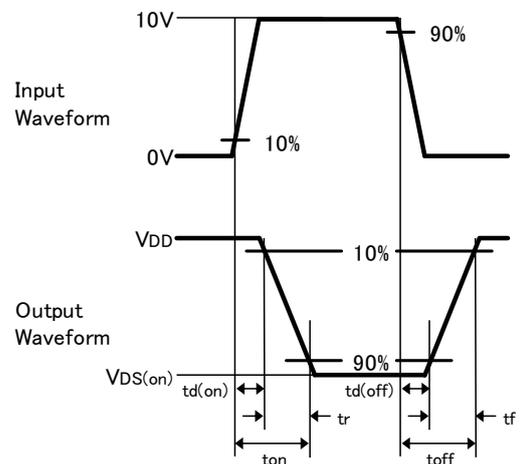
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Switching time test circuit



Duty $\leq 1\%$
Input: $t_r, t_f < 10\text{ns}$
VDD = 30V
Common source
 $T_a = 25^{\circ}\text{C}$



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