

INK021ABP1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK021ABP1 is a Silicon N-channel MOSFET.

This product is most suitable for use such as portable machinery, because voltage drive and low on resistance.

FEATURE.

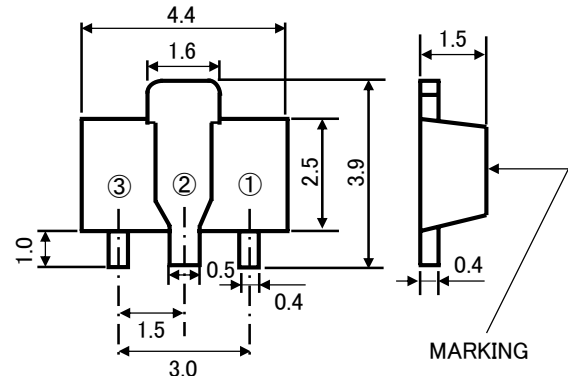
- High drain current $I_D=1.8A$
- Low on Resistance. $R_{DS(on)}=0.2\Omega$ (TYP).
- Built-in G-S Protection Diode
- High speed switching.
- High power Dissipation. $P_D=1.0W$ (mounted on substrate)

FEATURE

Switching

OUTLINE DRAWING

UNIT:mm



TERMINAL CONNECTOR

- ①: GATE
- ②: DRAIN
- ③: SOURCE

JEITA: SC-62

JEDEC: SOT-89

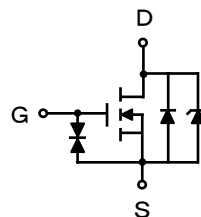
MAXIMUM RATINGS (Ta=25°C)

Symbol	Parameter	Rating	Unit
V _{DSS}	Drain-Source Voltage	100	V
V _{GSS}	Gate-Source Voltage	±20	V
I _D	Drain Current(DC)	1.8	A
I _{DP}	Drain current(Pulse) ※1	8	A
P _D	Total Power Dissipation	0.5	W
		1.0(※2)	
T _{ch}	Channel Temperature	+150	°C
T _{stg}	Storage temperature	-55~+150	°C

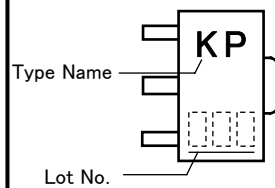
※1: Single pulse, $P_w \leq 1ms$

※2: package mounted on glass-epoxy substrate(20mm × 20mm × 1mm, Cu pad 257mm²).

EQUIVALENT CIRCUIT



MARKING



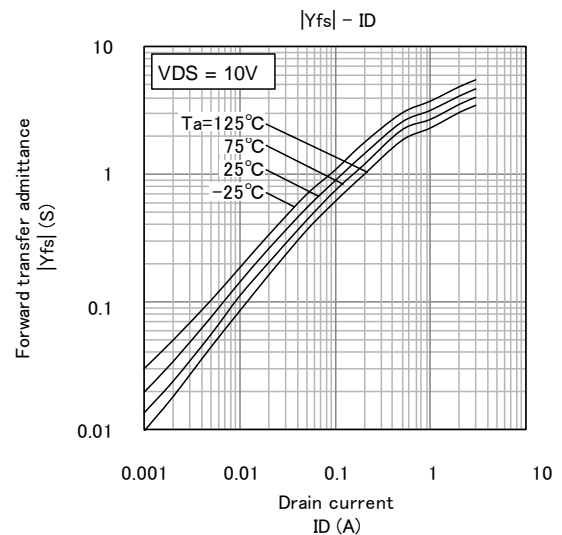
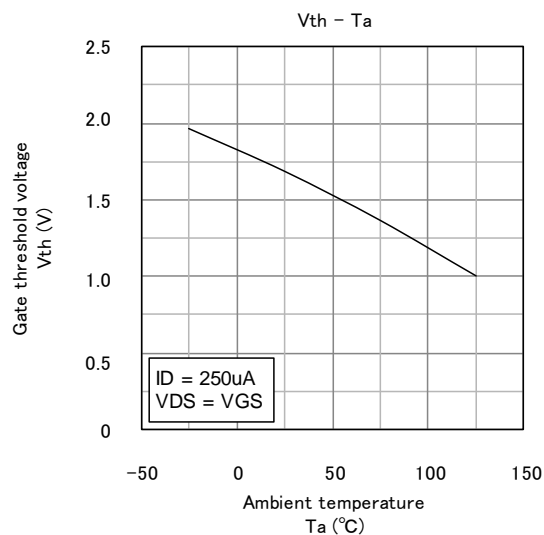
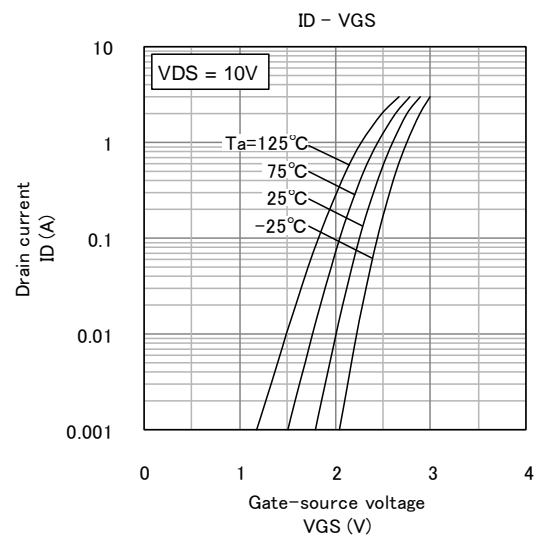
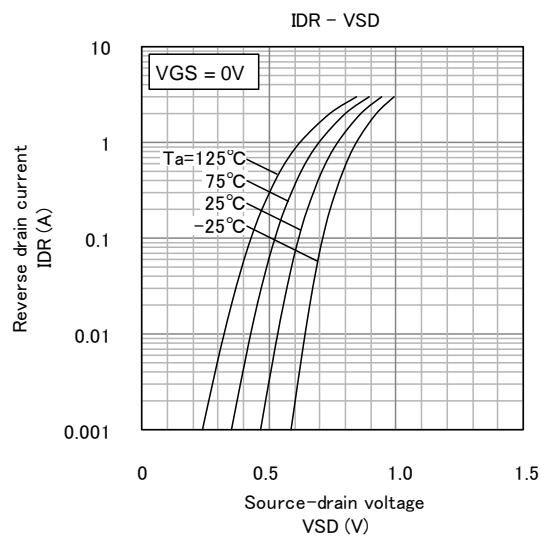
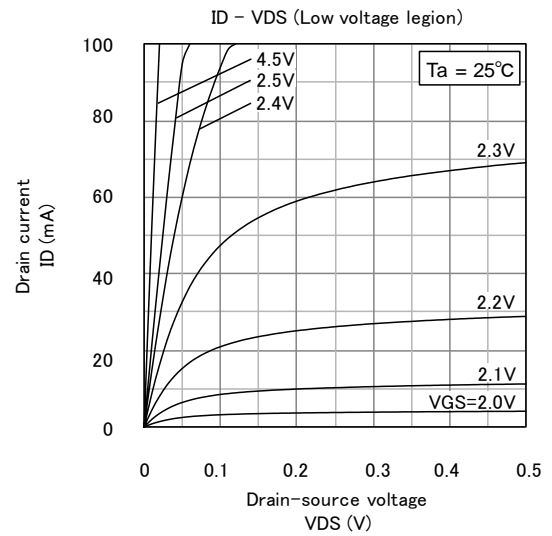
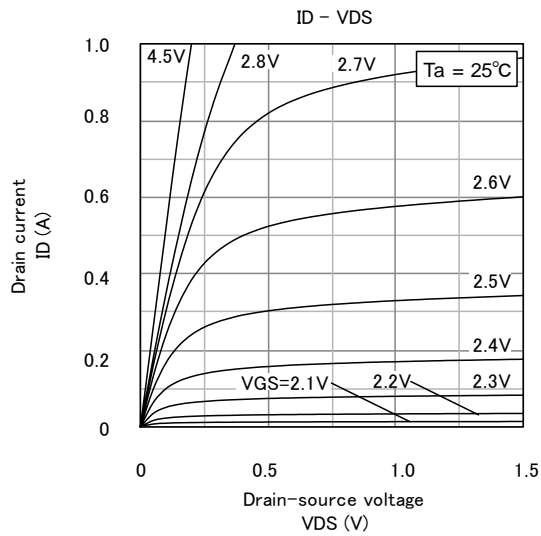
ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	V(BR)DSS	$I_D=100\mu A, V_{GS}=0V$	100	-	-	V
Gate-Source Leak current	I _{GSS}	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	±10	μA
Zero Gate Voltage Drain Current	I _{DSS}	$V_{DS}=100V, V_{GS}=0V$	-	-	1	μA
Gate Threshold Voltage	V _{th}	$I_D=250\mu A, V_{DS}=V_{GS}$	1.0	-	2.5	V
Forward Transfer Admittance	Y _{fs}	$V_{DS}=10V, I_D=1A$	-	3.6	-	S
Static Drain-Source On-State Resistance	R _{DS(ON)}	$I_D=1A, V_{GS}=4.5V$	-	0.2	-	Ω
Input Capacitance	C _{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$	-	660	-	pF
Output Capacitance	C _{oss}		-	80	-	pF
Switching Time	t _{on}	$V_{DD}=30V, I_D=1A$	-	580	-	ns
	t _{off}	$V_{GS}=0\sim 5V$	-	910	-	ns

[D-S] ELECTRICAL CHARACTERISTICS (Ta=25°C)

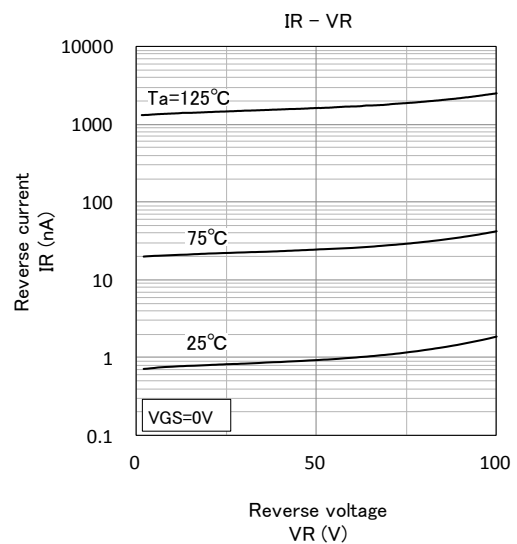
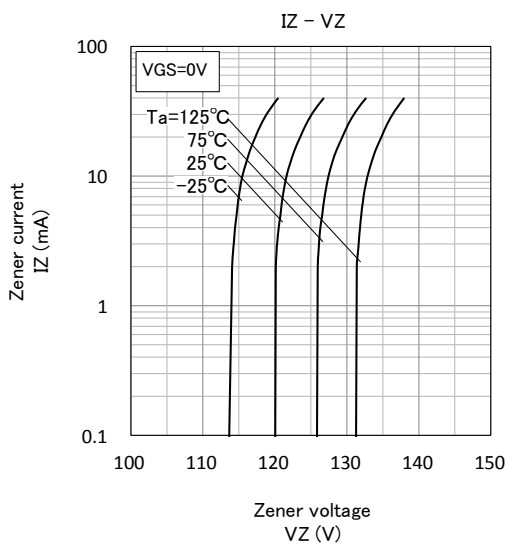
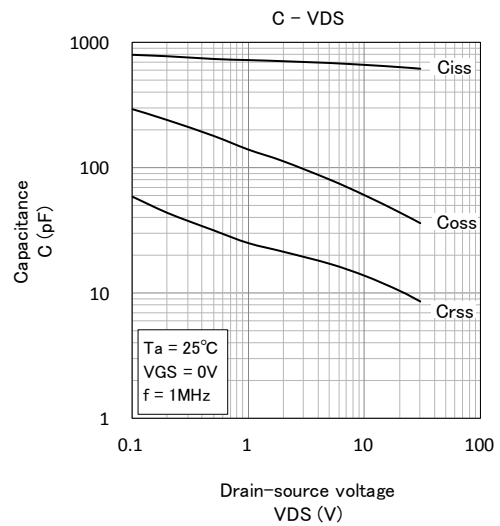
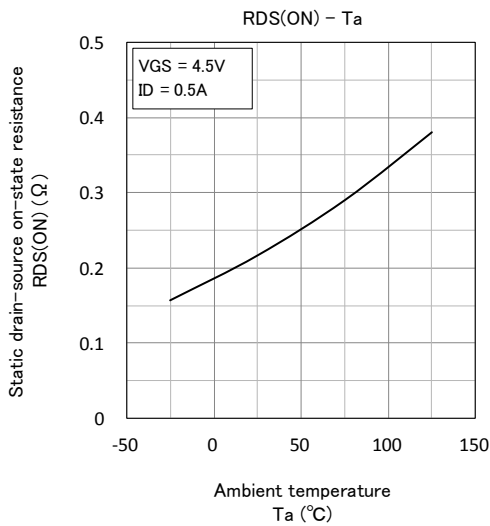
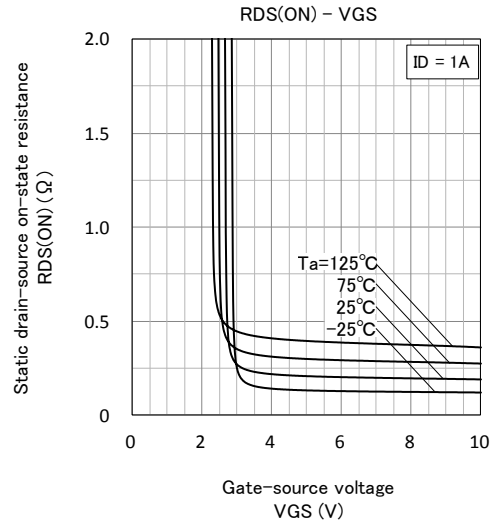
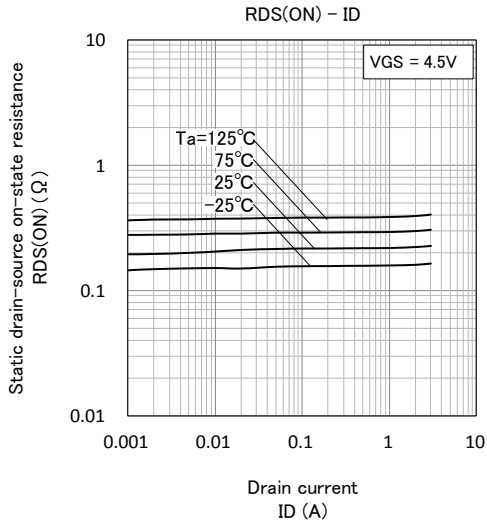
Zener Voltage Vz(V)			Reverse current	
MIN	MAX	I _Z (mA)	MAX	V _R (V)
100	130	0.1	1.0	100

TYPICAL CHARACTERISTICS



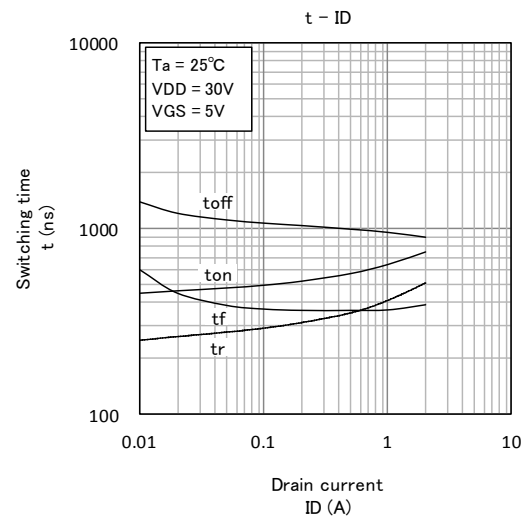
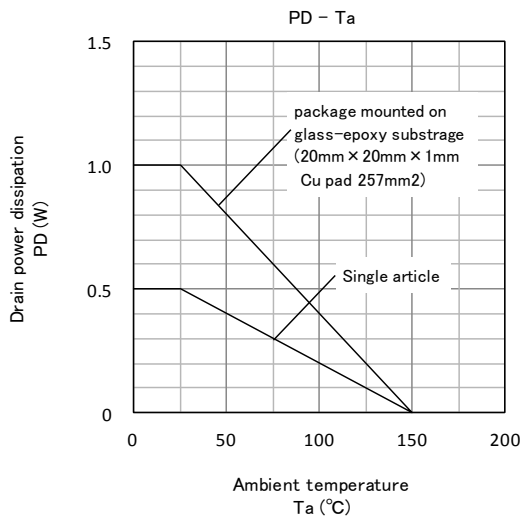
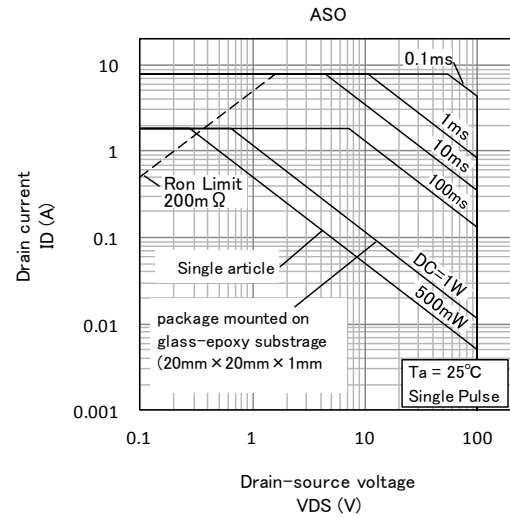
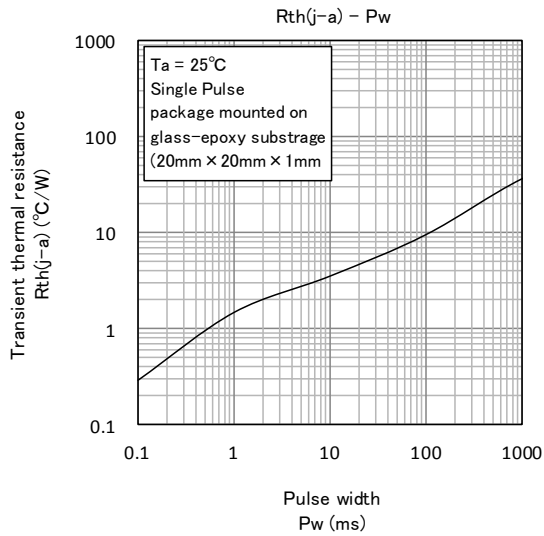
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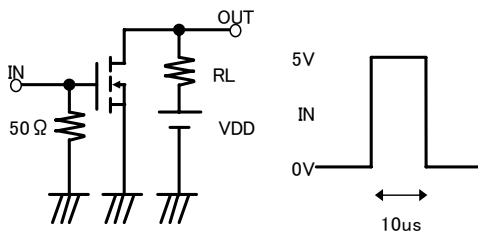


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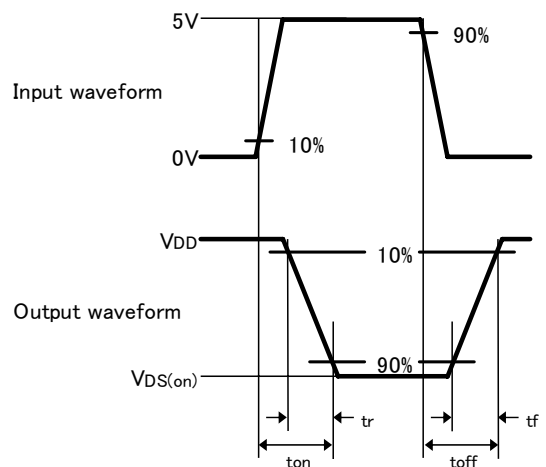
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Switching time test condition



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



Keep safety first in your circuit designs!

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