INK021ABS1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK021ABS1 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

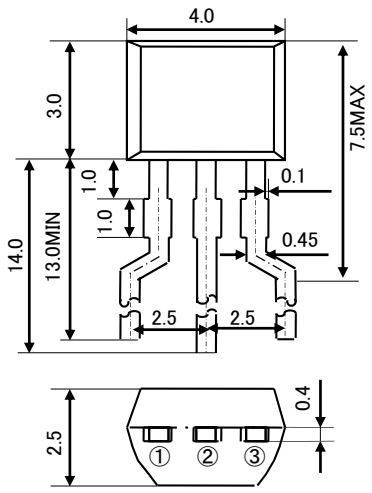
・Input impedance is high, and not necessary to consider a drive electric current.
・High drain current. I_D=1.4A
・V_{th} is low, and drive by low voltage is possible. V_{th}=1.0～2.5V
・Low on Resistance. $R_{DS(on)}$=0.2Ω(TYP)
・High power Dissipation. P_D=600mW

APPLICATION

Switching

OUTLINE DRAWING

Unit:mm



TERMINAL CONNECTOR
①:SOURCE
②:DRAIN
③:GATE

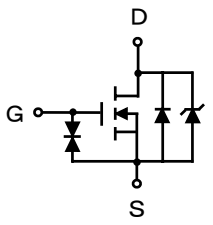
JEITA:
JEDEC:

MAXIMUM RATINGS(Ta=25℃)

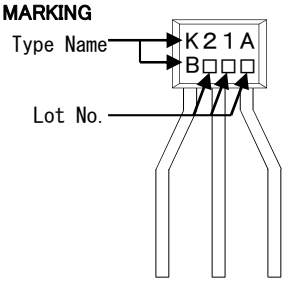
Symbol	Parameter	Rating	Unit
V_{DSS}	Drain-Source Voltage	100	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Drain Current(DC)	1.4	A
I_{DP}	Drain current(Pulse)	2(※1)	A
		8(※2)	
P_D	Total Power Dissipation	600	mW
T_{ch}	Channel Temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

※1 Single pulse Pw≦3s　　※2 Single pulse Pw≦1ms

EQUIVALENT CIRCUIT



MARKING

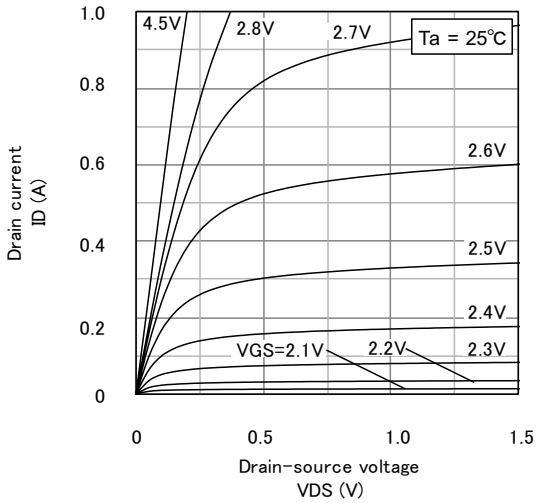


ELECTRICAL CHARACTERISTICS(Ta=25℃)

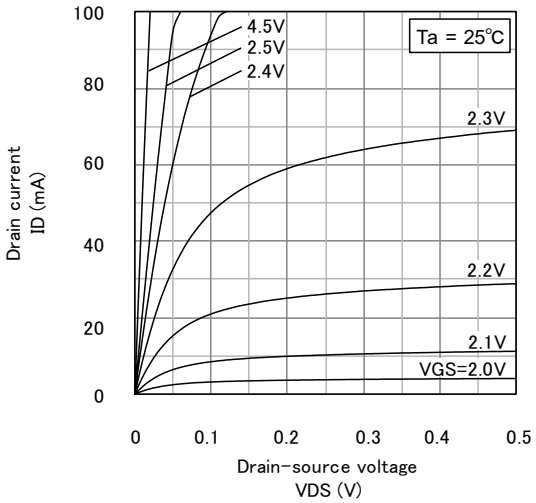
Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=100μA, V_{GS}=0V	100	−	130	V
Gate-Source Leak current	I_{GSS}	V_{GS}=±20V, I_{DS}=0A	−	−	±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V ,V_{GS}=0V	−	−	1	μA
Gate Threshold Voltage	V_{th}	I_D=250μA, 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	0.3	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}=0～5V	−	910	−	ns

TYPICAL CHARACTERISTICS

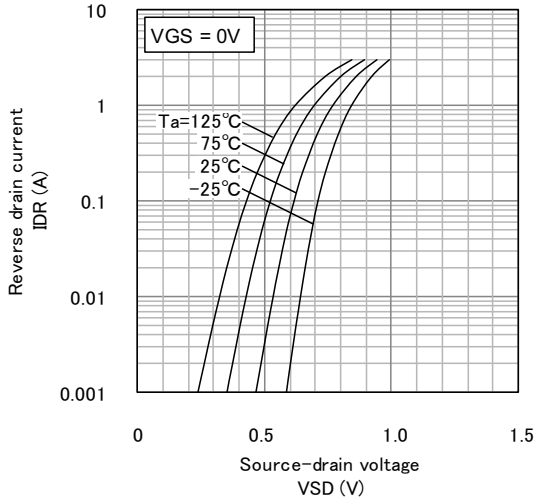
ID – VDS



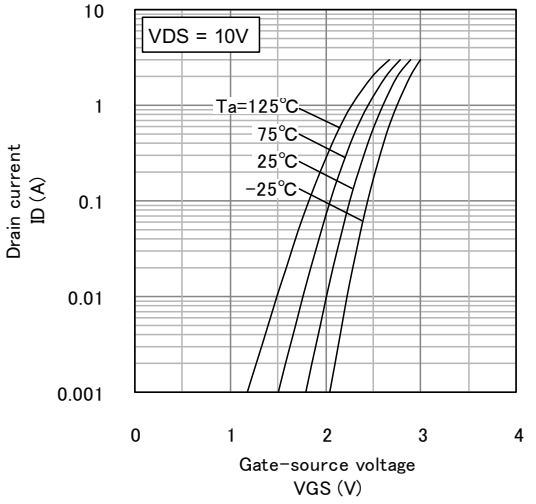
ID – VDS (Low voltage legion)



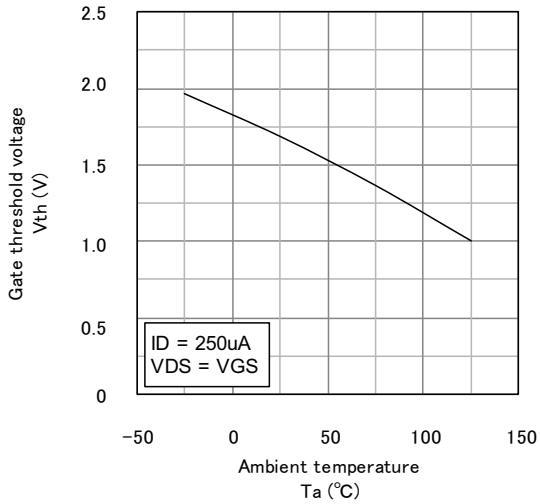
IDR – VSD



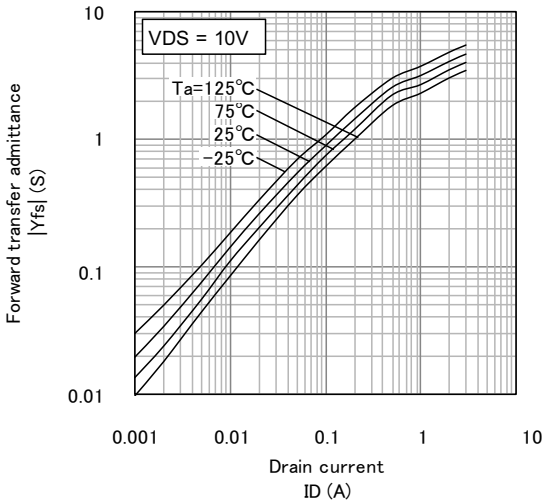
ID – VGS



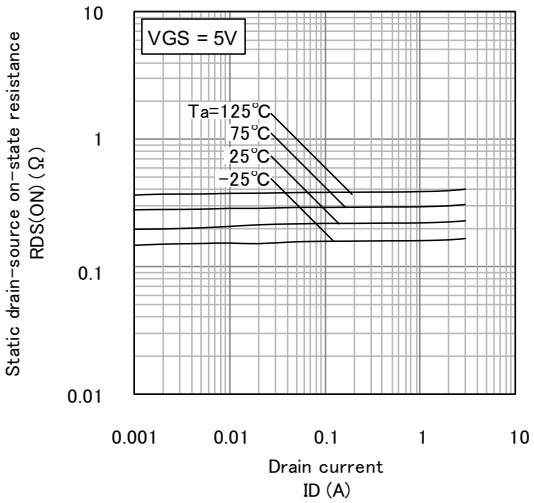
Vth – Ta



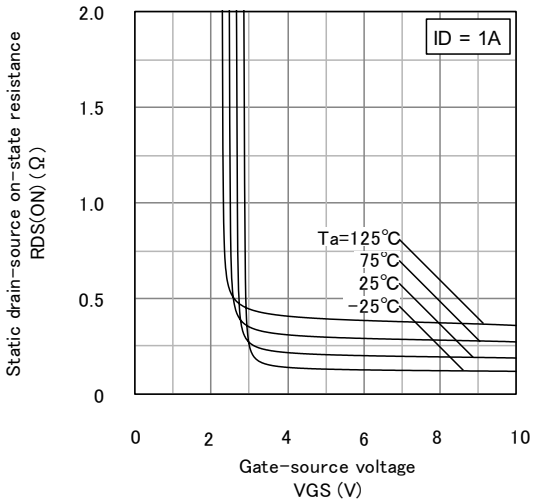
|Yfs| – ID



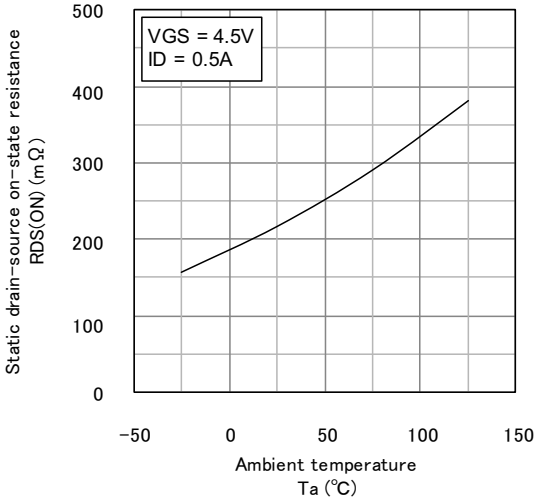
RDS(ON) – ID



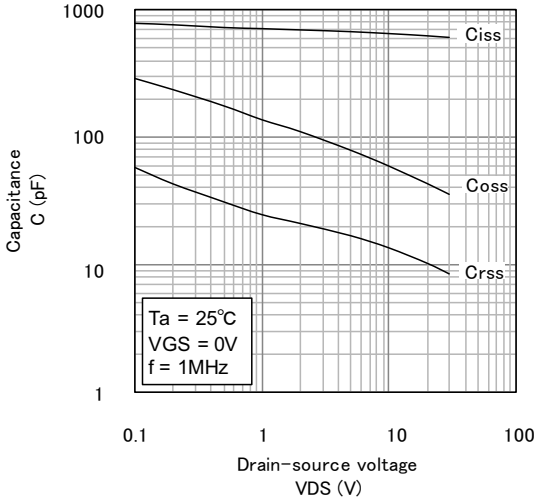
RDS(ON) – VGS



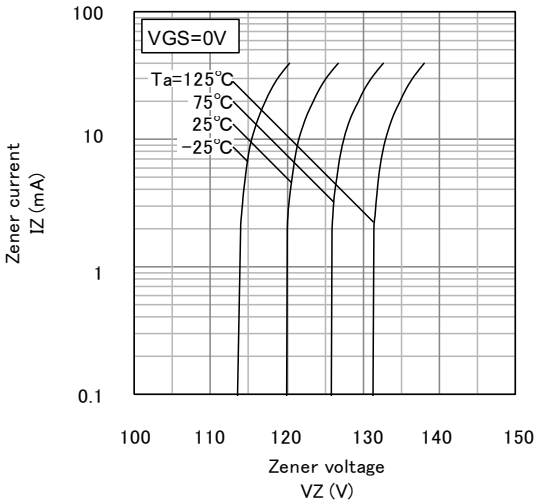
RDS(ON) – Ta



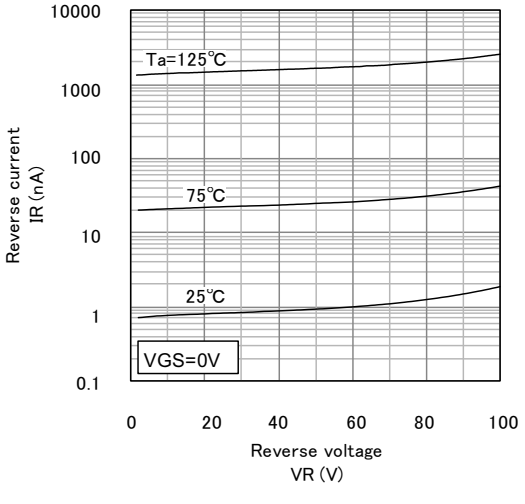
C – VDS



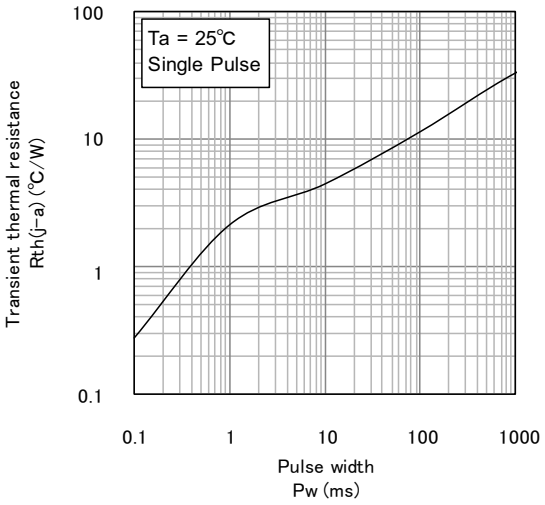
IZ – VZ



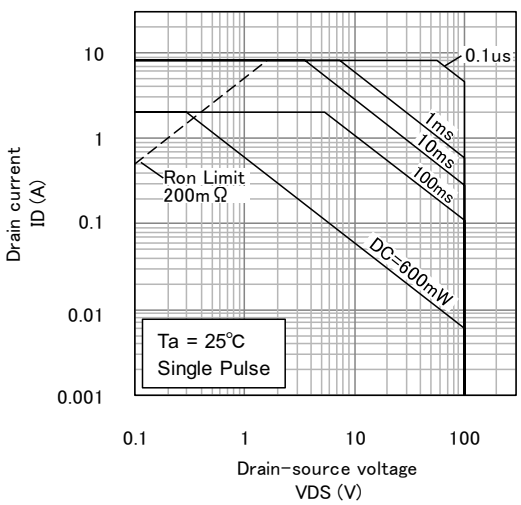
IR – VR



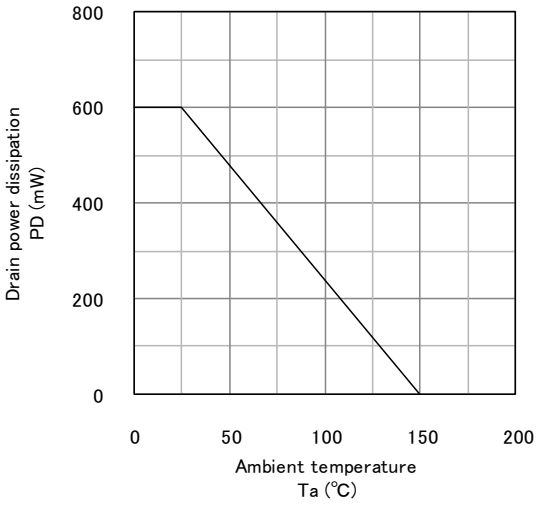
Rth(j-a) – Pw



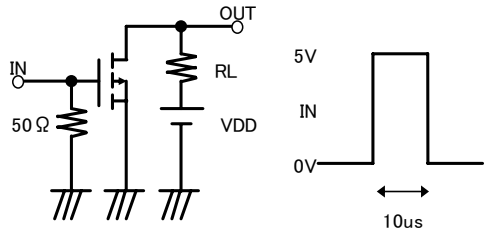
ASO



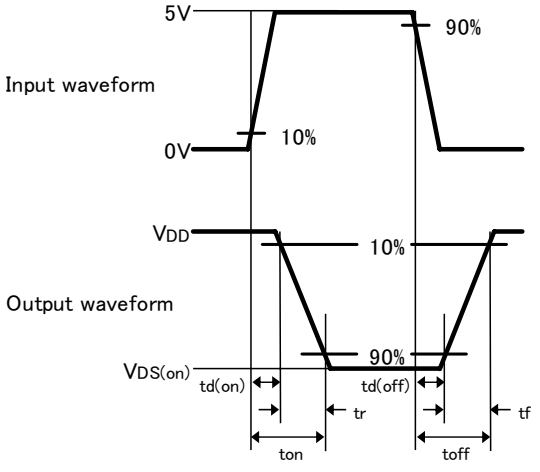
PD – Ta



Switching time test condition



Duty ≦ 1%
Input : tr, tf < 10ns
VDD = 30V
Common source
Ta = 25℃



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