INK0200AC1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK0200AC1 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

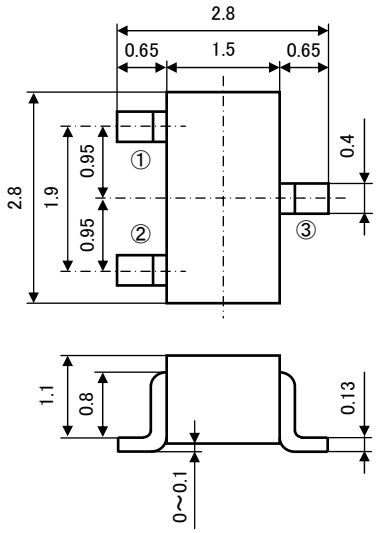
- Input impedance is high, and not necessary to consider a drive electric current.
- High drain current. I_D=1A
- Vth is low, and drive by low voltage is possible. V_{th}=0.4～1.3V
- Low on Resistance. $R_{DS(ON)}$=0.2Ω(Typ)
- High speed switching.
- Small package for easy mounting.

APPLICATION

Switching

OUTLINE DRAWING

UNIT : mm



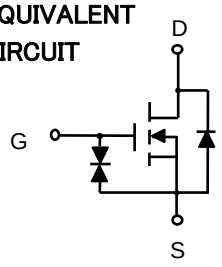
JEITA : SC-59
JEDEC : Similar to TO-236
TERMINAL CONNECTOR
① : GATE
② : SOURCE
③ : DRAIN

MAXIMUM RATINGS (Ta=25℃)

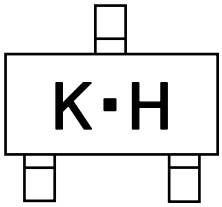
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Gate-Source Voltage	V_{GSS}	±10	V
Drain Current (DC)	I_D	1	A
Drain Current (Pulse) *	I_{DP}	4	A
Total Power Dissipation	P_D	200	mW
Channel Temperature	T_{ch}	+150	℃
Storage Temperature	T_{stg}	−55～+150	℃

* Pw≦10μs, Duty cycle≦1%

EQUIVALENT CIRCUIT



MARKING

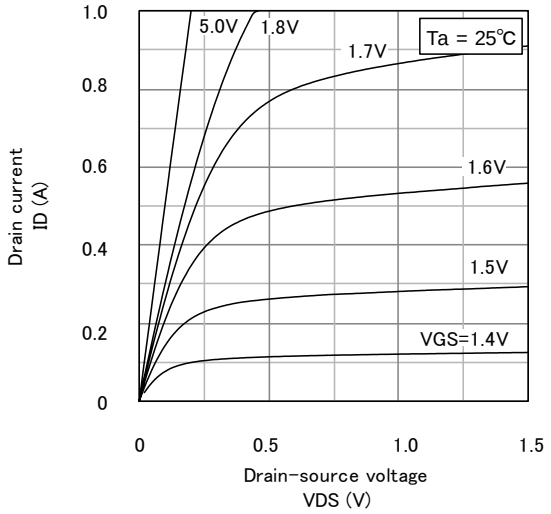


ELECTRICAL CHARACTERISTICS (Ta=25℃)

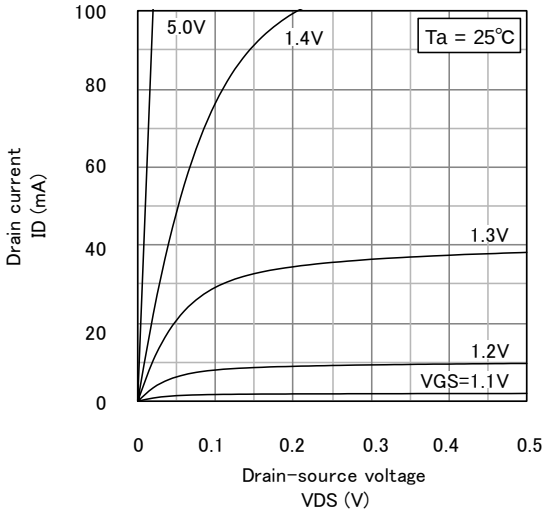
Parameter	Symbol	Test Condition	Limit			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=100μA, V_{GS}=0V	60	−	−	V
Gate-Source Leak Current	I_{GSS}	V_{GS}=±10V, V_{DS}=0V	−	−	±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V, V_{GS}=0V	−	−	1	μA
Gate Threshold Voltage	V_{th}	I_D=250μA, V_{DS}= V_{GS}	0.4	−	1.3	V
Forward Transfer Admittance	| Yfs |	V_{DS}=10V, I_D=1A	−	3.0	−	S
Static Drain-Source On-State Resisitance	$R_{DS(ON)}$	I_D=0.5A, V_{GS}=5.0V	−	0.20	−	Ω
Input Capacitance	C_{iss}	V_{DS}=10V, V_{GS}=0V, f=1MHz	−	230	−	pF
Output Capacitance	C_{oss}		−	30	−	pF
Swithing Time	t_{on}	V_{DD}=30V, I_D=1A V_{GS}=0～5V	−	25	−	ns
	t_{off}		−	35	−	ns

TYPICAL CHARACTERISTICS

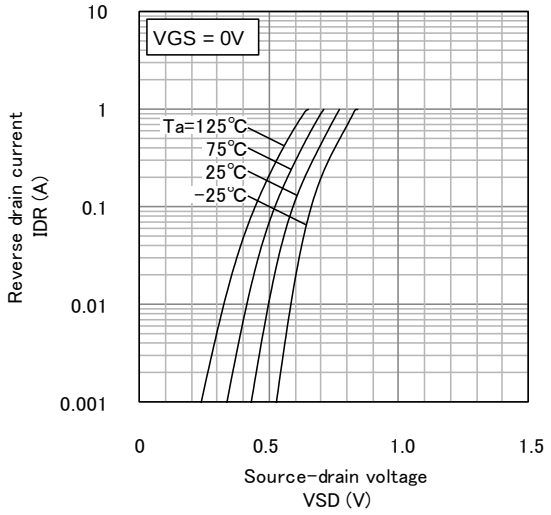
ID – VDS



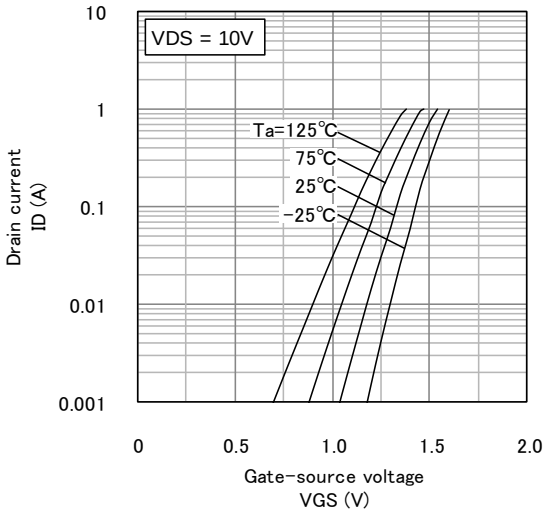
ID – VDS (Low voltage legion)



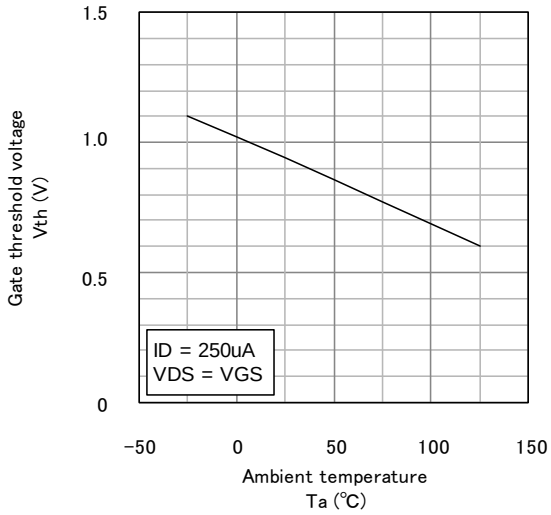
IDR – VSD



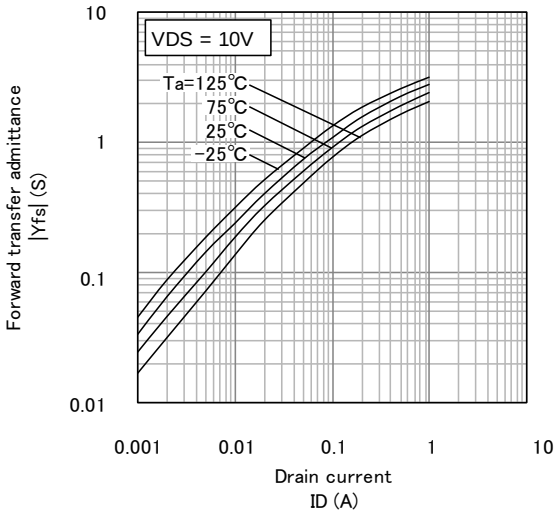
ID – VGS



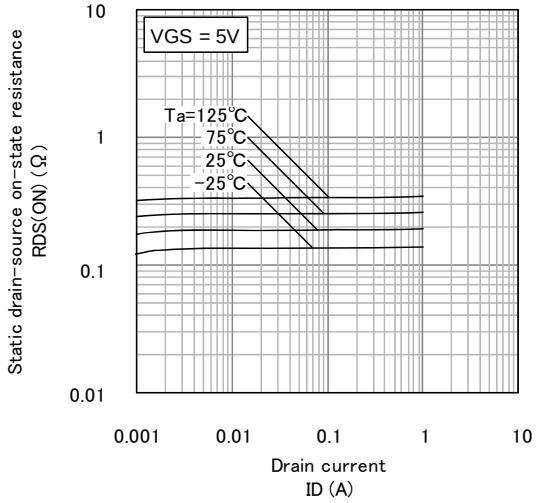
Vth – Ta



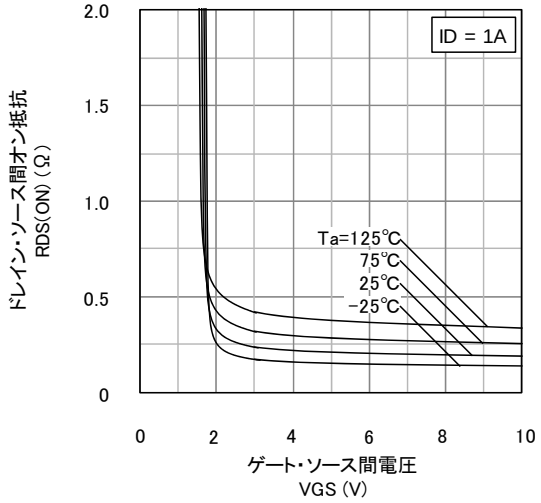
|Yfs| – ID



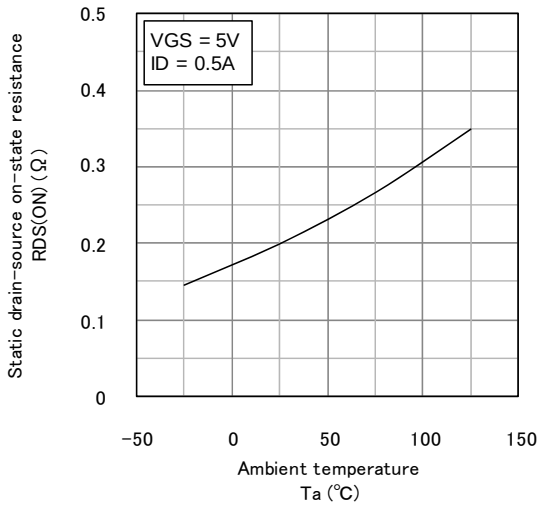
RDS(ON) – ID



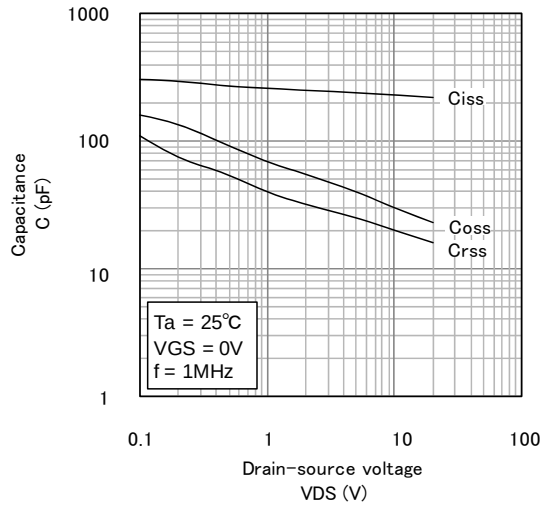
RDS(ON) – VGS



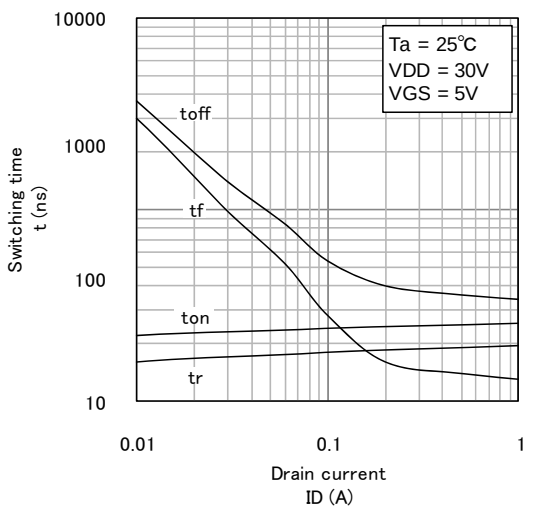
RDS(ON) – Ta



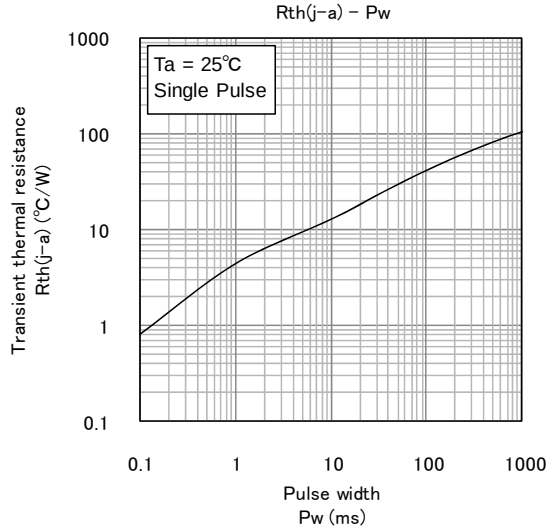
C – VDS



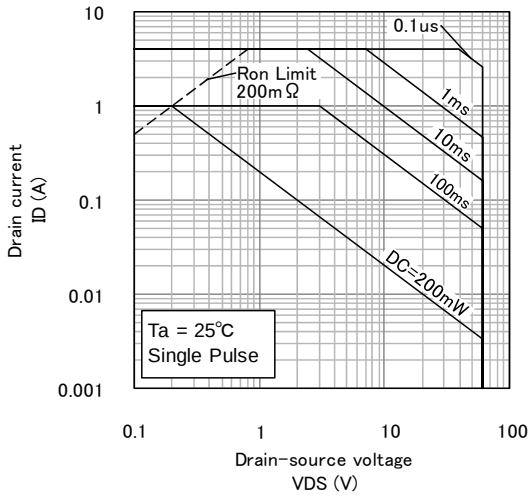
t – ID



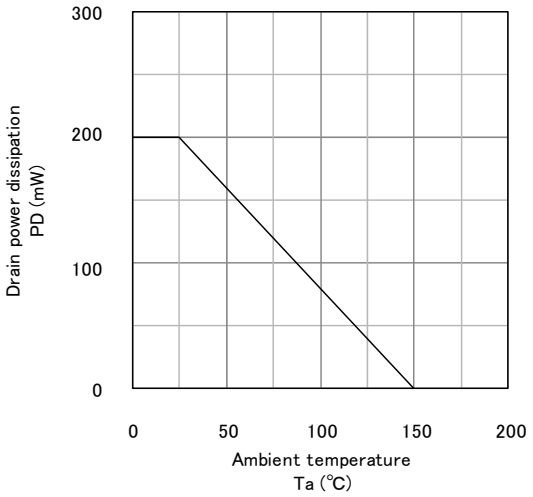
Rth(j-a) – Pw



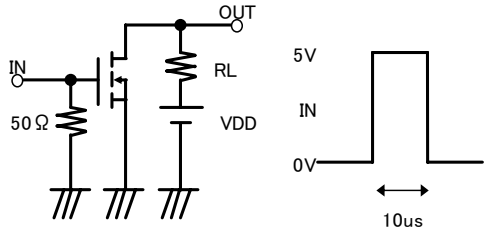
ASO



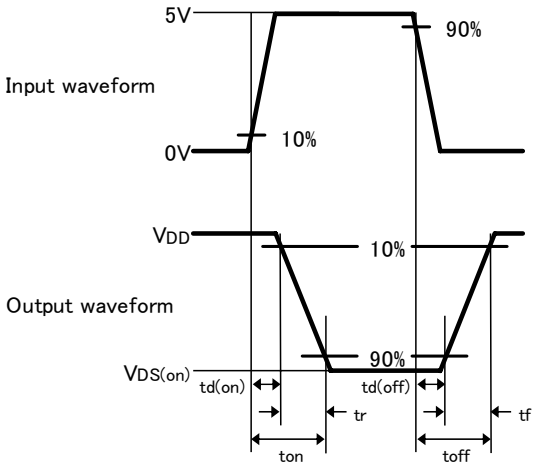
PD – Ta



Switching time test condition



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



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