INK011AAC1

High Speed Switching
Silicon N-channel MOSFET

DESCRIPTION

INK011AAC1 is a Silicon N-channel MOSFET.
This product is most suitable for use such as portable machinery, because of low voltage drive.

FEATURE

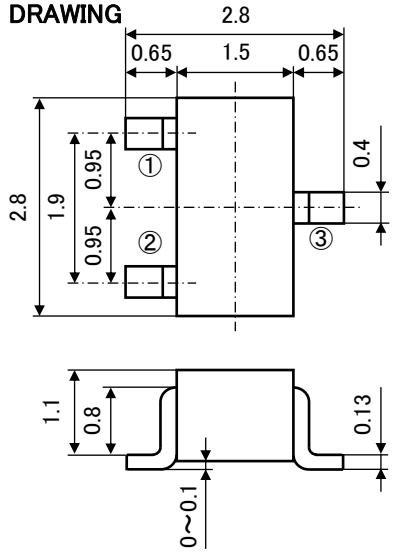
・Input impedance is high, and not necessary to consider a drive electric current.
・High drain current ID=1.4A
・Drive voltage 4V
・High speed switching.

APPLICATION

High speed switching, Analog switching

OUTLINE DRAWING

Unit : mm



TERMINAL CONNECTOR

①:GATE
②:SOURCE
③:DRAIN

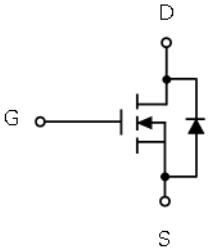
JEITA:SC-59
JEDEC:Similar to TO-236

MAXIMUM RATINGS (Ta=25℃)

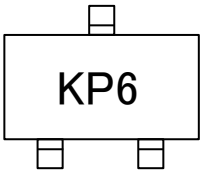
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	100	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current(DC) (※1)	I_D	1.4	A
Drain Current(Pulse) (※2)	I_{DP}	3.2	A
Total Power Dissipation (※1)	P_D	0.9	W
Channel Temperature	T_{ch}	+150	℃
Storage Temperature	T_{stg}	−55～+150	℃

※1 package mounted on glass-epoxy substrate.
(39mm×39mm×1.6mm,Cu pad 1500mm^2)
※2 Pw≦10ms , Duty cycle≦1%

EQUIVALENT CIRCUIT



MARKING

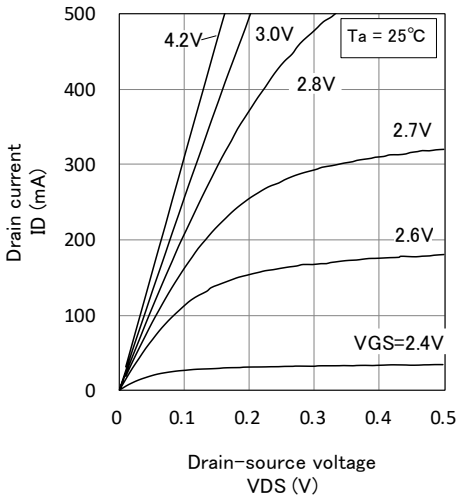


ELECTRICAL CHARACTERISTICS (Ta=25℃)

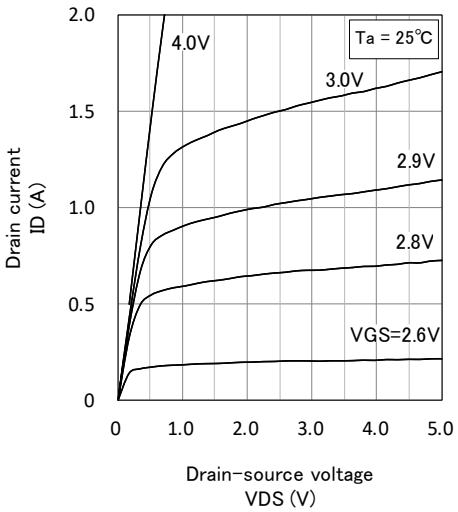
Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=250μA, V_{GS}=0V	100	−	−	V
Gate-Source Leak Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	−	−	±1.0	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V	−	−	1.0	
Gate Threshold Voltage	V_{th}	I_D=250μA, V_{DS}= V_{GS}	1.0	−	2.5	V
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	I_D=1.4A, V_{GS}=4.5V	−	323	420	mΩ
		I_D=1.4A, V_{GS}=10V	−	311	405	
Input Capacitance	C_{iss}	V_{DS}=10V, V_{GS}=0V, f=1MHz	−	500	−	pF
Output Capacitance	C_{oss}		−	21	−	
Feedback Capacitance	C_{rss}		−	15	−	
Switching Time	t_{on}	V_{DD}=20V, I_D=200mA, V_{GS}=5V	−	18	−	ns
	t_{off}		−	34	−	

TYPICAL CHARACTERISTICS

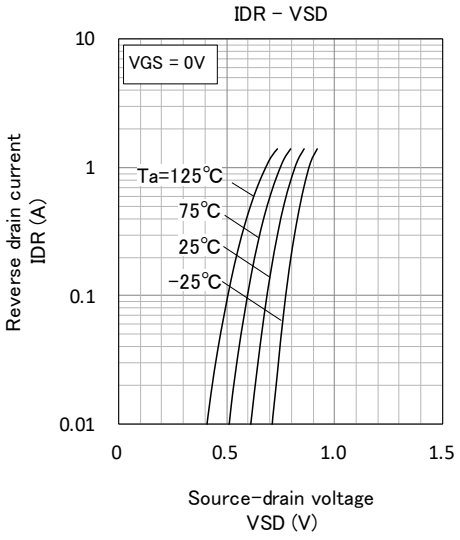
ID – VDS



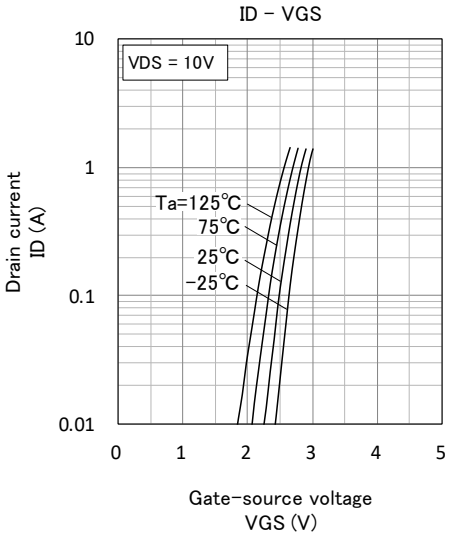
ID – VDS



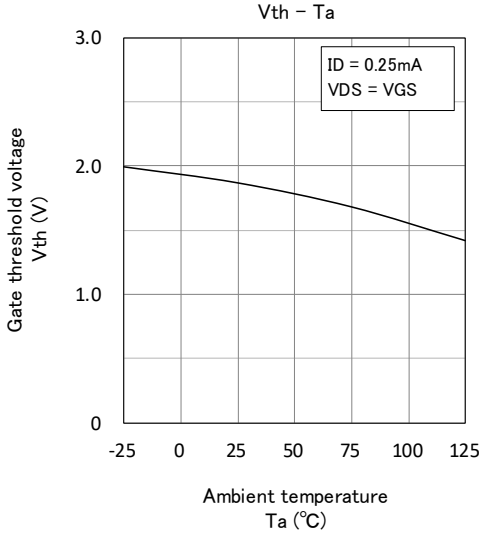
IDR – VSD



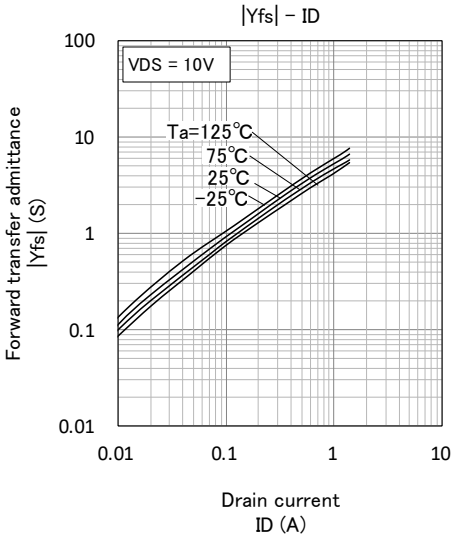
ID – VGS



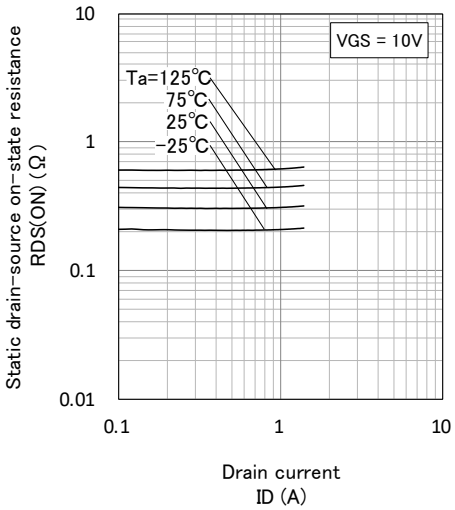
Vth – Ta



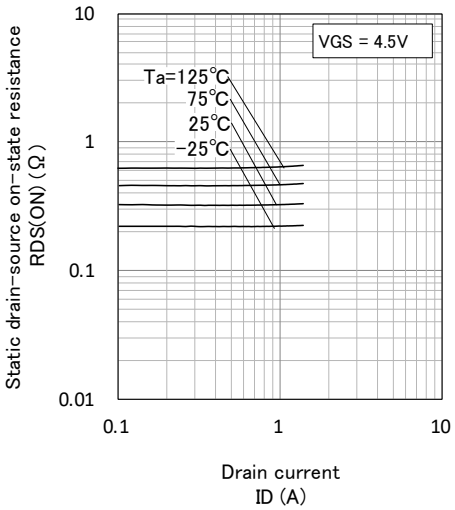
|Yfs| – ID



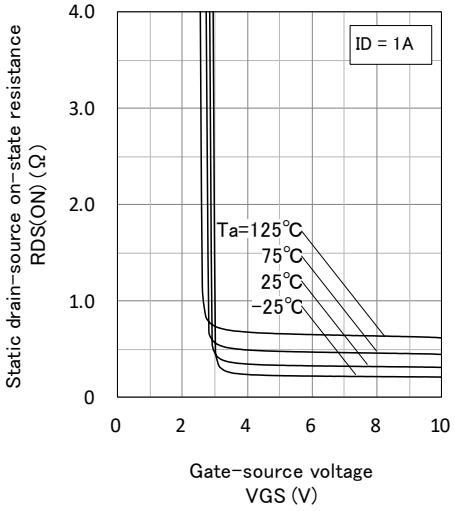
RDS(ON) – ID



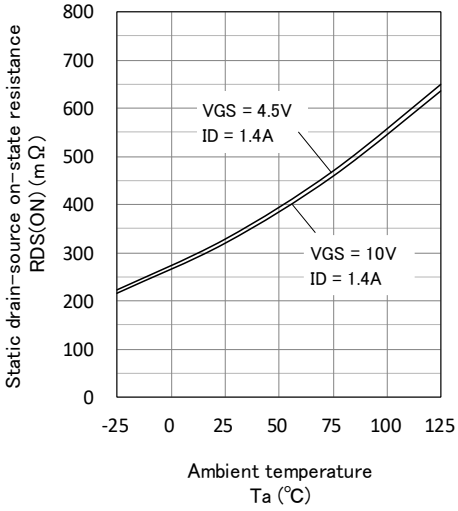
RDS(ON) – ID



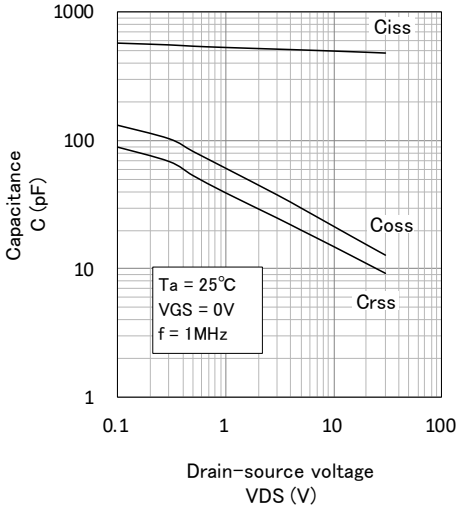
RDS(ON) – VGS



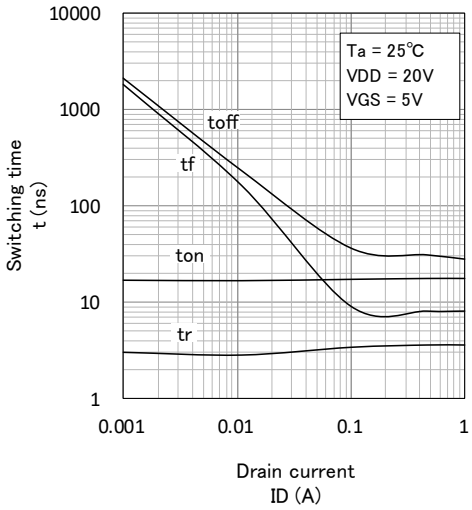
RDS(ON) – Ta



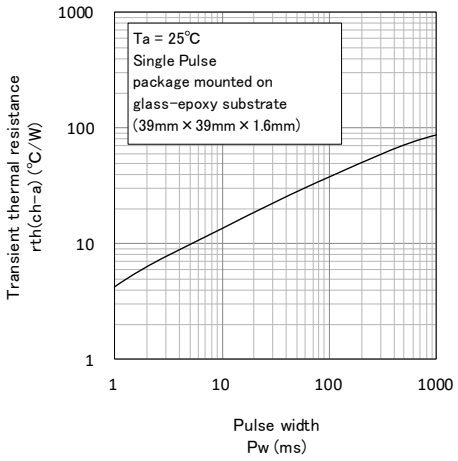
C – VDS



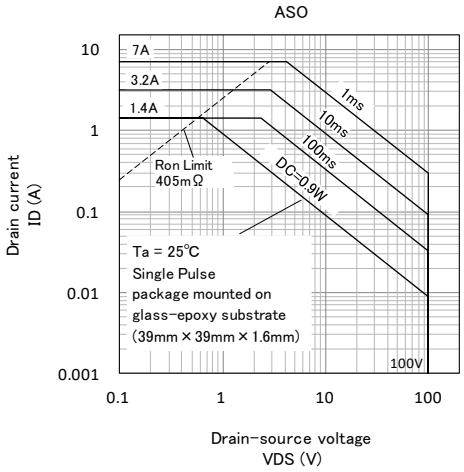
t – ID



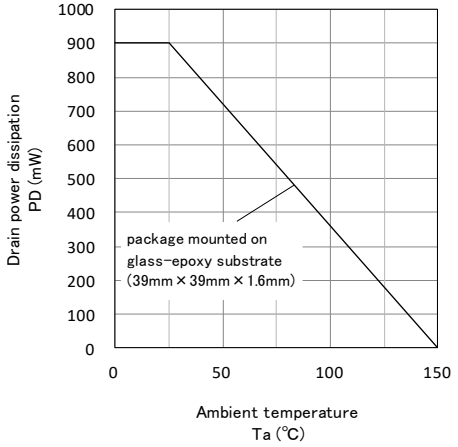
rth(ch-a) – Pw



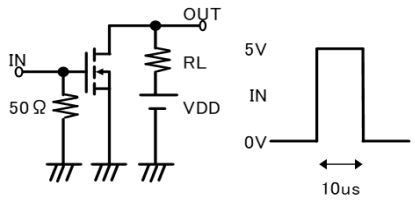
ASO



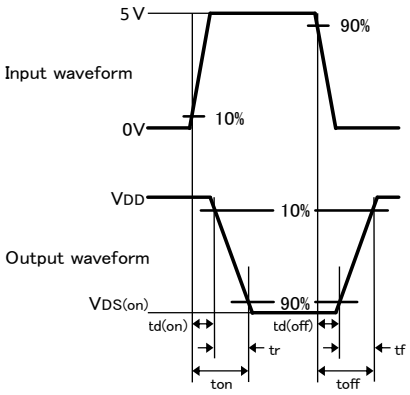
PD – Ta



Switching time test condition



Duty ≦ 1%
Input: tr, tf < 10ns
VDD = 20V
Common source
Ta = 25℃



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