INK0003AX SERIES

High speed switching
Silicon N-channel MOSFET

DESCRIPTION

INK0003AX is a Silicon N-channel MOSFET. This product is most suitable for low voltage use such as portable machinery , because of low voltage drive and low on resistance.

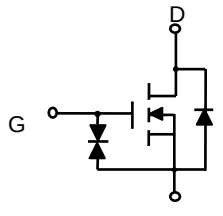
FEATURE

- Input impedance is high, and not necessary to consider a drive electric current.
- Drive voltage 2.5V
- Low on Resistance.
  $R_{DS(ON)}$=0.9Ω (TYP) @I_D=100mA, V_{GS}=4.0V
- High speed switching.
- Small package for easy mounting.

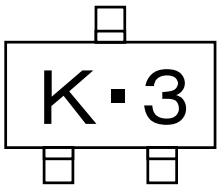
APPLICATION

High speed switching , Analog switching

EQUIVALENT CIRCUIT

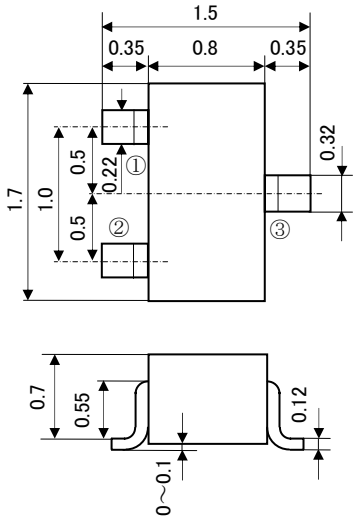


MARKING



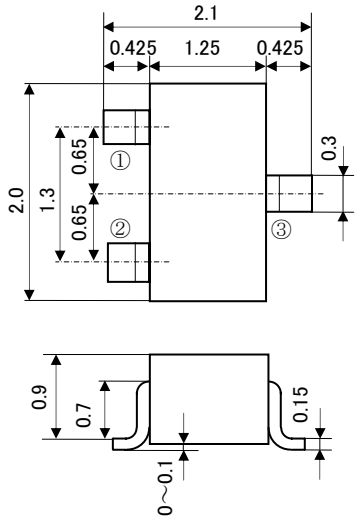
OUTLINE DRAWING (Unit:mm)

INK0003AU1



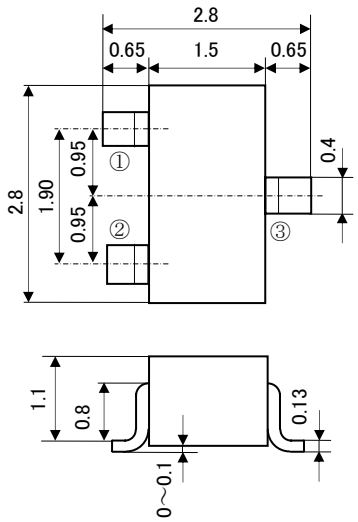
JEITA:SC-75A
JEDEC:—
TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

INK0003AM1



JEITA:SC-70
JEDEC:—
TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

INK0003AC1



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

INK0003AX SERIES

High speed switching
Silicon N-channel MOSFET

MAXIMUM RATING(Ta＝25℃)

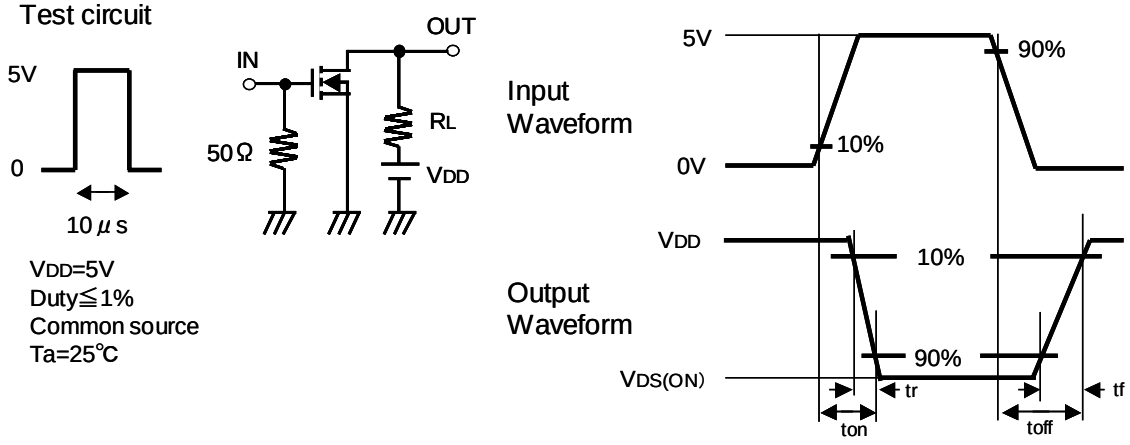
SYMBOL	PARAMETER	RATING			UNIT
		INK0003AU1	INK0003AM1	INK0003AC1	
V_{DSS}	Drain-source voltage	20			V
V_{GSS}	Gate-source voltage	±8			V
I_D	Drain current(DC)	200			mA
I_{DP}	Drain current(Pulse)	400(※1)			mA
P_D	Total power dissipation	150	200		mW
T_{ch}	Channel temperature	+150			℃
T_{stg}	Range of Storage temperature	−55～+150			℃

※1：Pw≦10μs, Duty cycle≦1%

ELECTRICAL CHARACTERISTICS(Ta＝25℃)

SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)DSS}$	Drain-source breakdown voltage	I_D=100μA, V_{GS}=0V	20	−	−	V
I_{GSS}	Gate-source leak current	V_{GS}=±5V, V_{DS}=0V	−	−	±0.5	μA
I_{DSS}	Zero gate voltage drain current	V_{DS}=20V, V_{GS}=0V	−	−	1.0	μA
V_{th}	Gate threshold voltage	I_D=250μA, V_{DS}=V_{GS}	0.6	−	1.2	V
$\lvert Y_{fs} \rvert$	Forward transfer admittance	V_{DS}=10V, I_D=0.1A	−	300	−	mS
$R_{DS(ON)}$	Static drain-source on-state resistance	I_D=100mA, V_{GS}=4.0V	−	0.9	−	Ω
C_{iss}	Input capacitance	V_{DS}=10V, V_{GS}=0V, f=1MHz	−	34	−	pF
C_{oss}	Output capacitance		−	8.5	−	
t_{on}	Switching time	V_{DD}=5V, I_D=10mA V_{GS}=0～5V	−	14	−	ns
t_{off}			−	85	−	

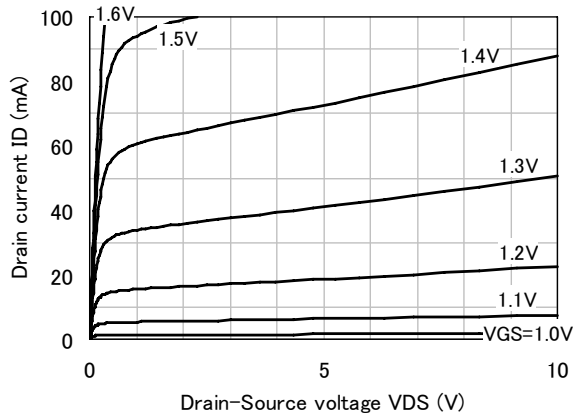
Switching time test condition



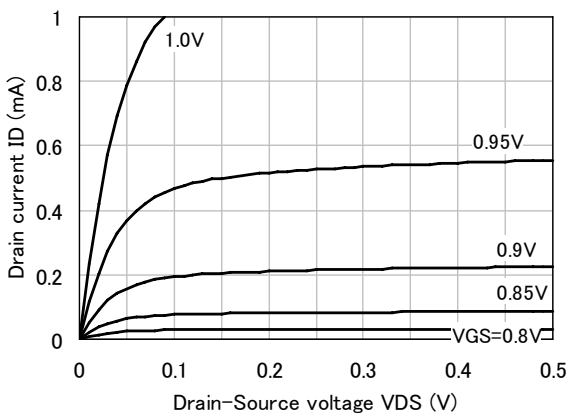
VDD=5V
Duty≦1%
Common source
Ta=25℃

TYPICAL CHARACTERISTICS

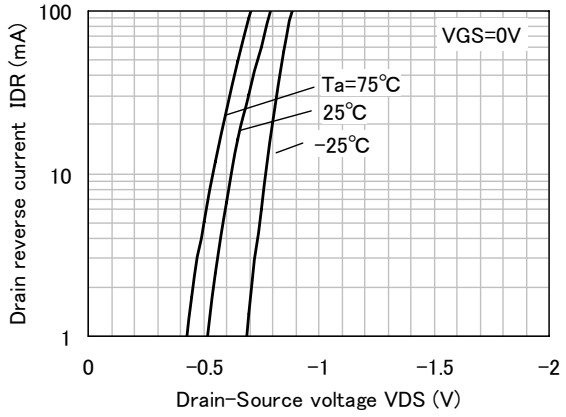
Ta=25℃ ID – VDS



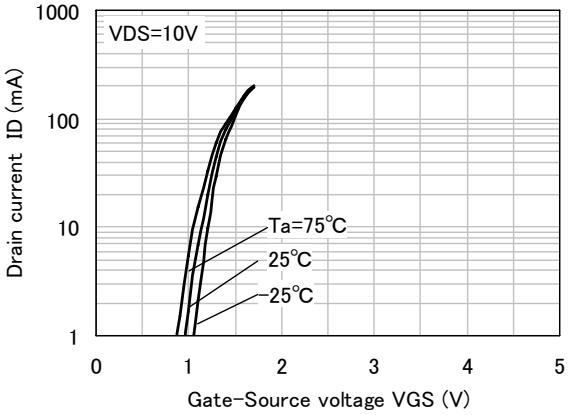
Ta=25℃ ID – VDS(Low voltage region)



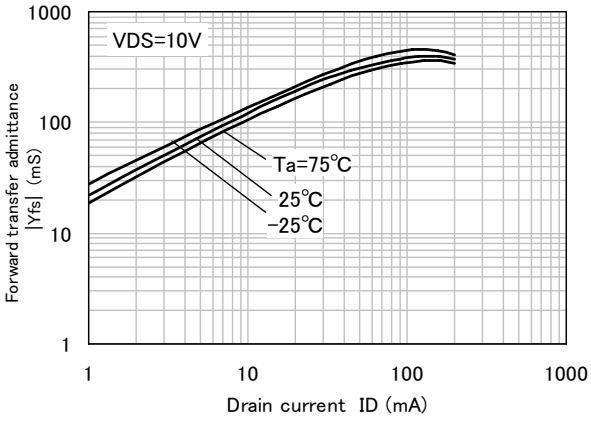
IDR – VDS



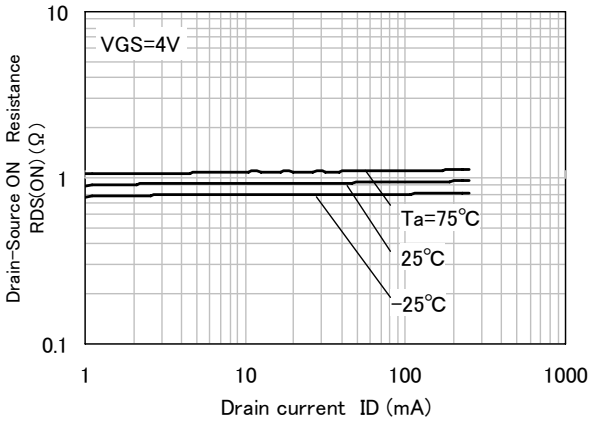
ID – VGS



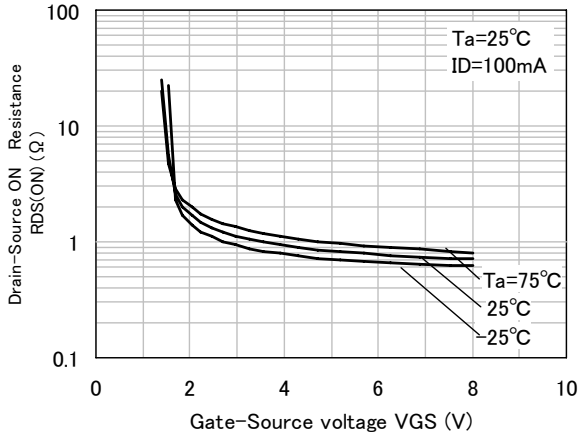
|Yfs| – ID



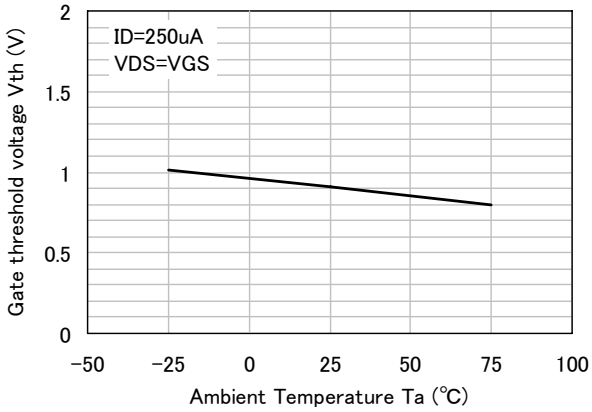
RDS(ON) – ID



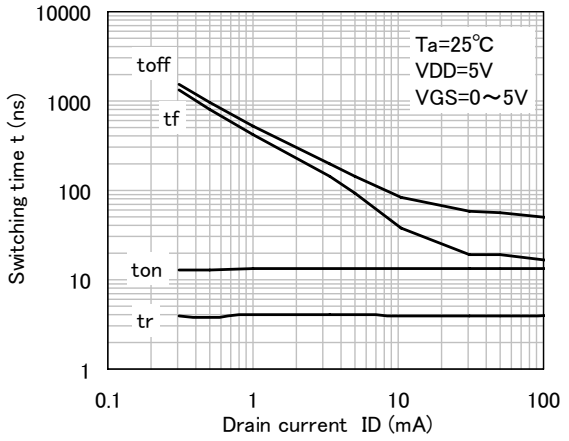
RDS(ON) – VGS



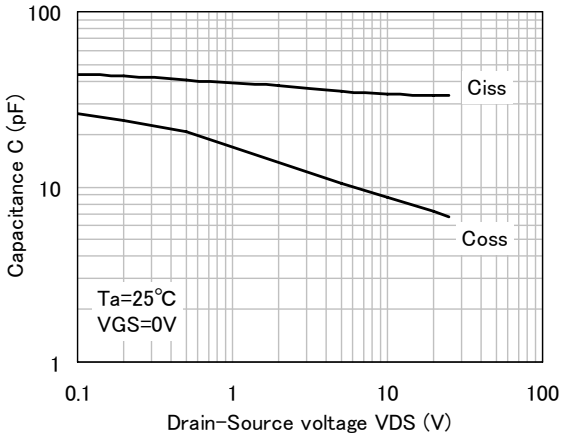
Vth – Ta



t – ID



C – VDS



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