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.

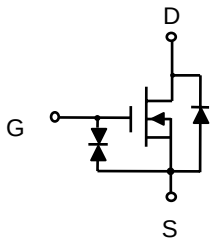
FEATURE

・Input impedance is high, and not necessary to consider a drive electric current.
・Vth is low, and drive by low voltage is possible. Vth=0.6～1.2V
・Low on Resistance. Ron=0.9Ω(TYP)
・High speed switching.
・Small package for easy mounting.

APPLICATION

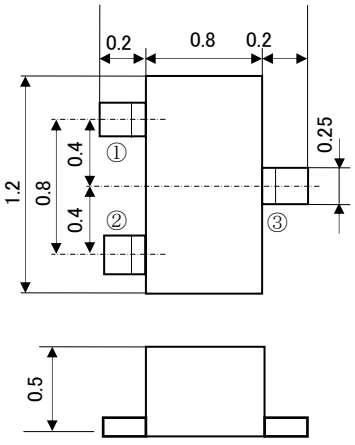
high speed switching , Analog switching

EQUIVALENT CIRCUIT



OUTLINE DRAWING Unit:mm

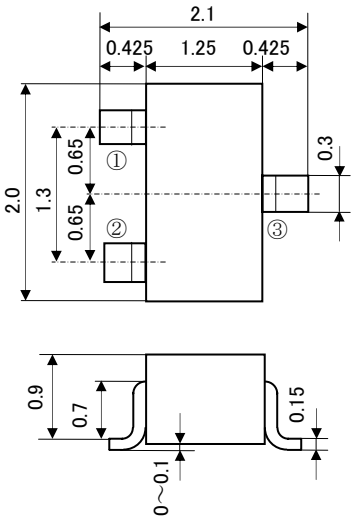
INK0003AT2 (PRELIMINARY)



JEITA, JEDEC:—
ISAHAYA:T-USM

TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

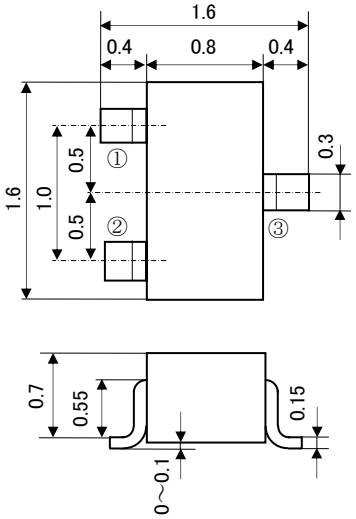
INK0003AM1



JEITA:SC-70
JEDEC:—

TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

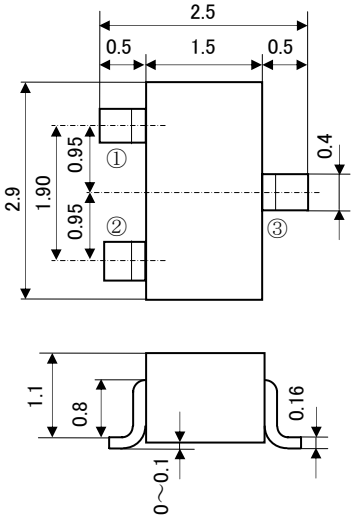
INK0003AU1



JEITA:SC-75A
JEDEC:—

TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

INK0003AC1



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

T TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

INK0003AX SERIES

High speed switching
Silicon N-channel MOSFET

MAXIMUM RATING(Ta＝25℃)

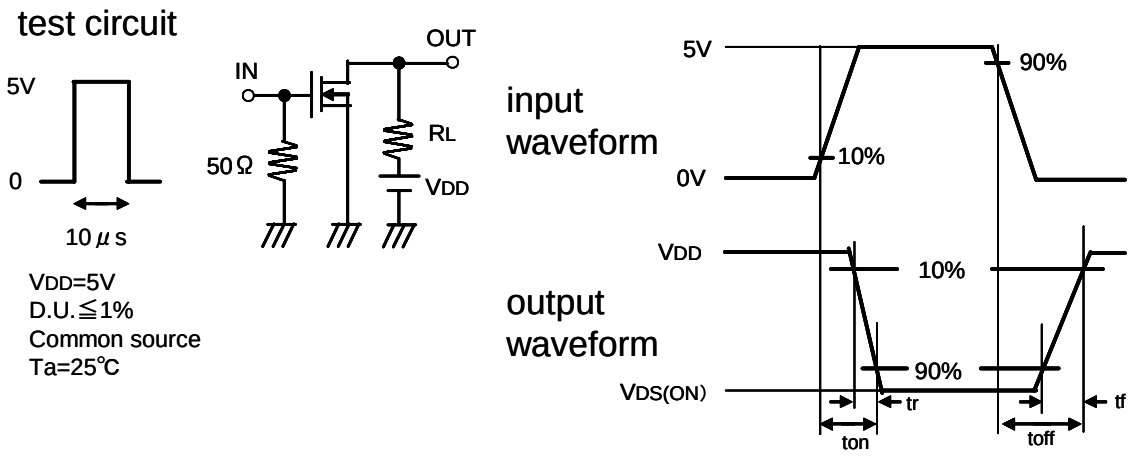
SYMBOL	PARAMETER	RATING				UNIT
		INK0003AT2	INK0003AU1	INK0003AM1	INK0003AC1	
V_{DSS}	Drain-source voltage	20				V
V_{GSS}	Gate-source voltage	±8				V
I_D	Drain current	200				mA
P_D	Total power dissipation (Ta=25℃)	125(※)	150	200		mW
Tch	Channel temperature	+125	+150			℃
Tstg	Range of Storage temperature	−55～+125	−55～+150			℃

ELECTRICAL CHARACTERISTICS(Ta＝25℃)

※package mounted on 9mm×19mm×1mm glass-epoxy substrate.

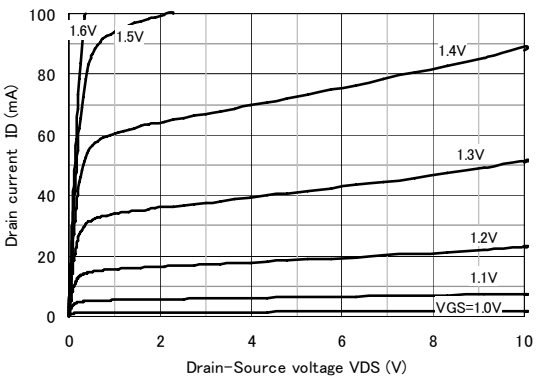
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)DSS}$	Drain-source breakdown voltage	I_D=100μA, V_{GS}=0V	20	−	−	V
I_{GSS}	Gate-source leak current	V_{GS}=±5V, V_{DS}=0V	−	−	±0.5	μA
I_{DSS}	Zero gate voltage drain current	V_{DS}=20V ,V_{GS}=0V	−	−	50	μA
V_{th}	Gate threshold voltage	I_D=250μA, V_{DS}= V_{GS}	0.6	−	1.2	V
$\|Y_{fs}\|$	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	V_{DS}=10V, V_{GS}=0V,f=1MHz	−	8.5	−	pF
t_{ON}	Switching time	V_{DD}=5V , I_D = 10mA V_{GS}=0～5V	−	14	−	ns
t_{OFF}			−	85	−	

Switching time test condition

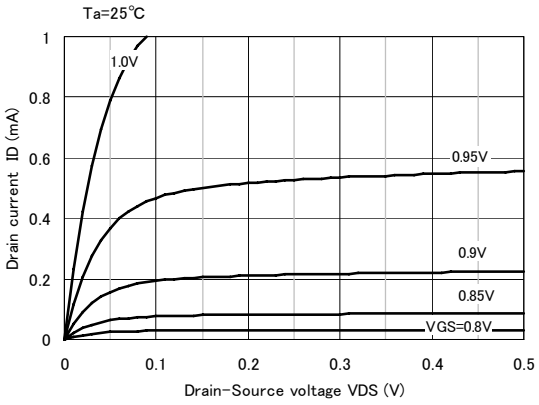


TYPICAL CHARACTERISTICS

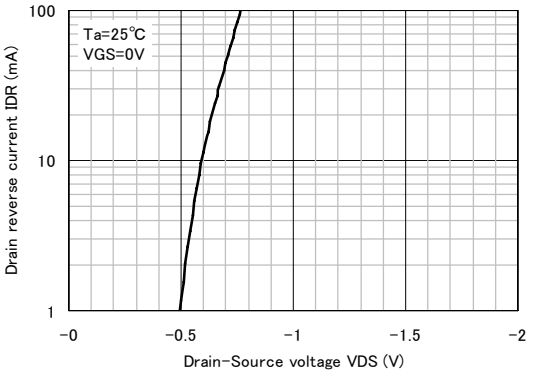
ID -VDS



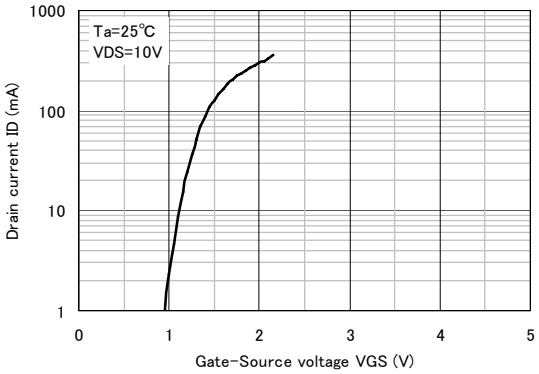
ID -VDS(Low voltage region)



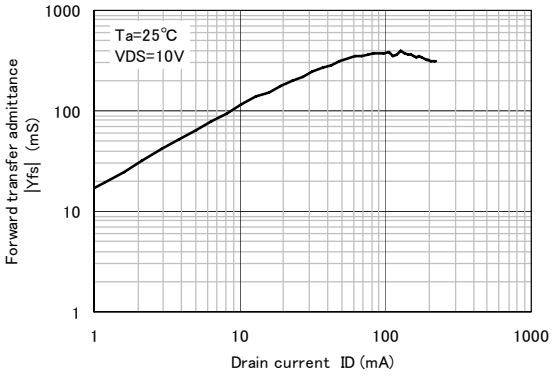
IDR -VDS



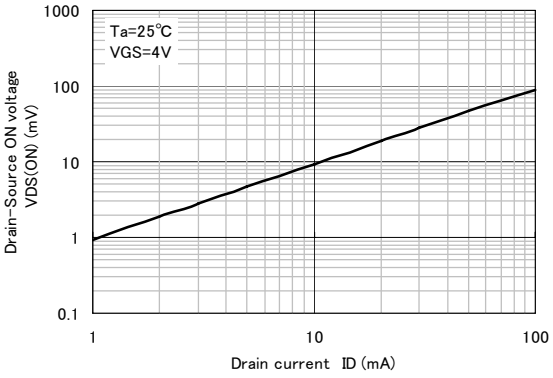
ID -VGS



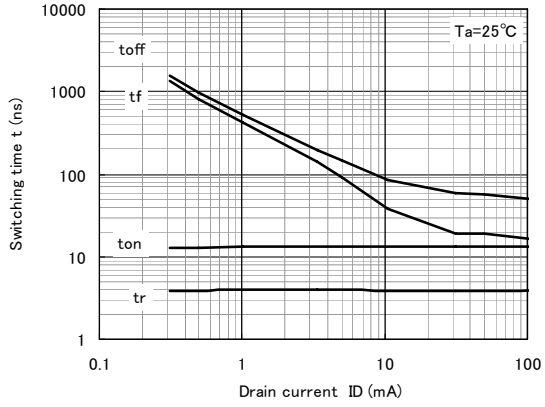
|Yfs| - ID



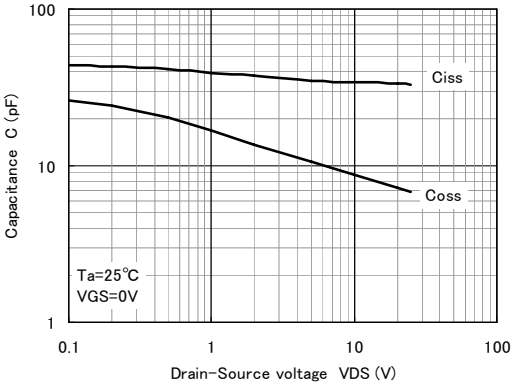
VDS(ON) -ID



t - ID



C - VDS



ISAHAYA ELECTRONICS CORPORATION

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Apr.2007