INK0010AM1-TH50

High Speed Switching
Silicon N-channel MOSFET

AEC-Q101 COMPLIANCE

DESCRIPTION

INK0010AM1 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

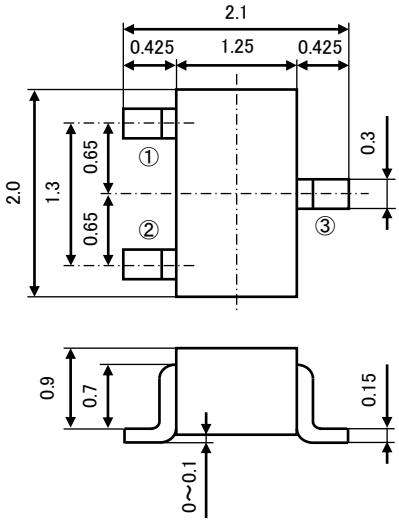
- Input impedance is high, and not necessary to consider a drive electric current.
- Drive voltage 4V
- Low on Resistance.
  $R_{DS(ON)}$=4.0Ω (TYP) @I_D=100mA, V_{GS}=4.0V
  $R_{DS(ON)}$=3.0Ω (TYP) @I_D=100mA, V_{GS}=10V
- High speed switching.
- Small package for easy mounting.

APPLICATION

High speed switching , Analog switching

OUTLINE DRAWING

UNIT : mm



TERMINAL CONNECTOR
①: GATE
②: SOURCE
③: DRAIN

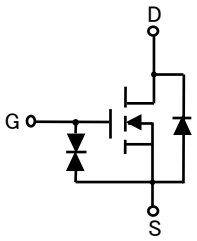
JEITA : SC-70
JEDEC : –

MAXIMUM RATING (Ta=25℃)

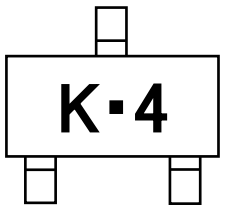
SYMBOL	PARAMETER	RATING	UNIT
VDSS	Drain-source voltage	60	V
VGSS	Gate-source voltage	±20	V
ID	Drain current(DC)	260	mA
IDP	Drain current(Pulse) ※1	800	mA
PD	Total power dissipation	200	mW
Tch	Channel temperature	+150	℃
Tstg	Range of Storage temperature	−55～+150	℃

※1 : Pw≦10μs, Duty cycle≦1%

EQUIVALENT CIRCUIT



MARKING

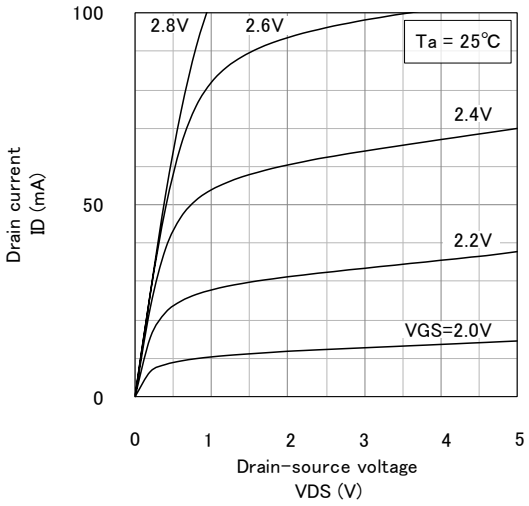


ELECTRICAL CHARACTERISTICS (Ta=25℃)

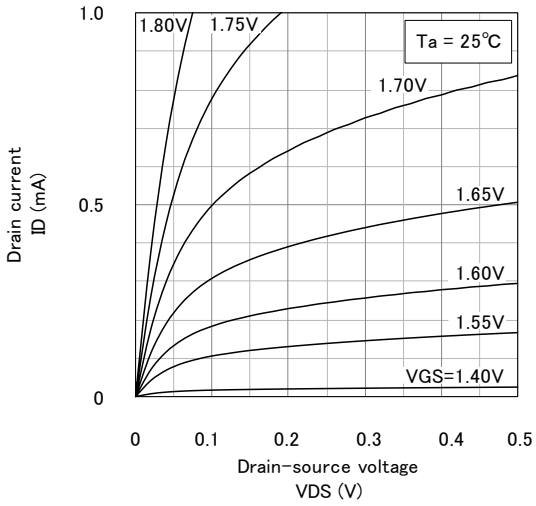
PARAMETER	SYMBOL	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
Drain-source breakdown voltage	V(BR)DSS	I_D=100μA, V_{GS}=0V	60	–	–	V
Gate-source leak current	IGSS	V_{GS}=±15V, V_{DS}=0V	–	–	±1.0	μA
Zero gate voltage drain current	IDSS	V_{DS}=60V, V_{GS}=0V	–	–	1.0	μA
Gate threshold voltage	Vth	I_D=250μA, V_{DS}=V_{GS}	1.0	–	2.0	V
Forward transfer admittance	|Yfs|	V_{DS}=10V, I_D=100mA	–	200	–	mS
Static drain-source on-state resistance	RDS(ON)	I_D=100mA, V_{GS}=4.0V	–	4.0	–	Ω
		I_D=100mA, V_{GS}=10V	–	3.0	–	
Input capacitance	Ciss	V_{DS}=10V, V_{GS}=0V, f=1MHz	–	20	–	pF
Output capacitance	Coss		–	5.0	–	pF
Switching time	ton	V_{DD}=5V, I_D=10mA, V_{GS}=0～5V	–	27	–	ns
	toff		–	58	–	ns

TYPICAL CHARACTERISTICS

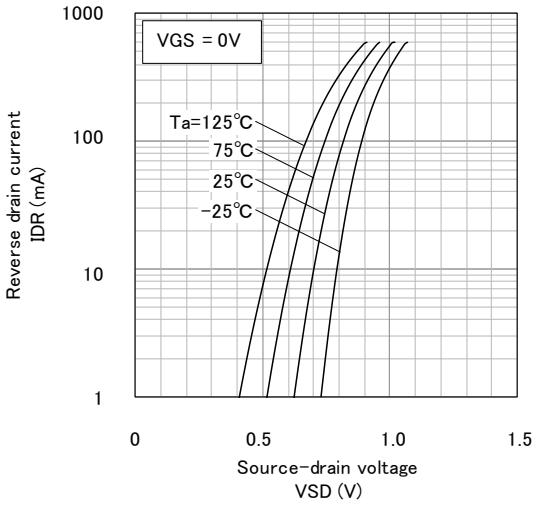
ID – VDS



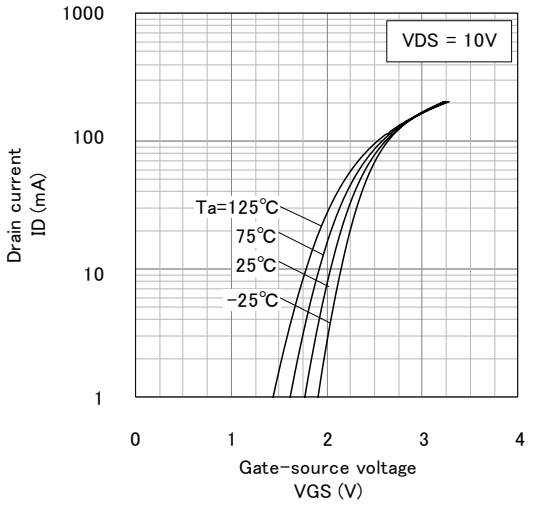
ID – VDS (Low voltage area)



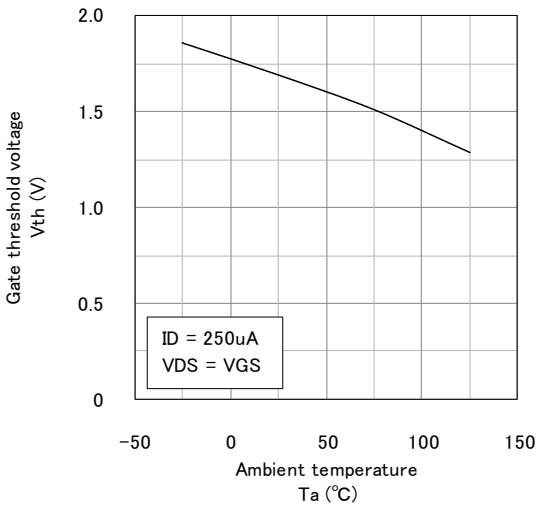
IDR – VSD



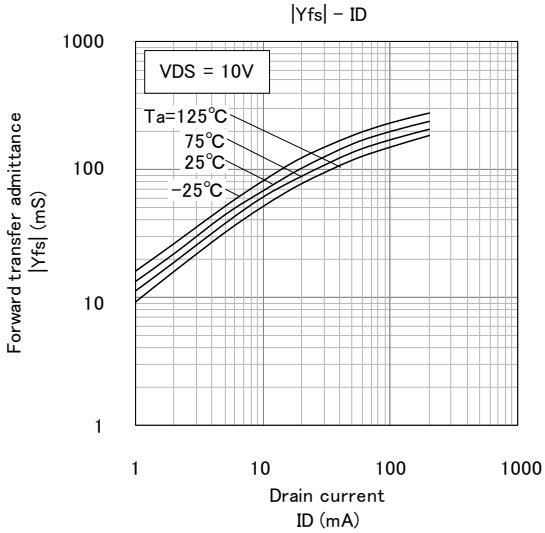
ID – VGS



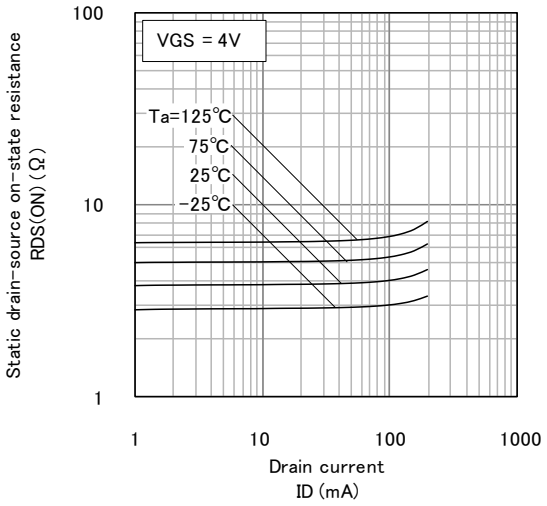
Vth – Ta



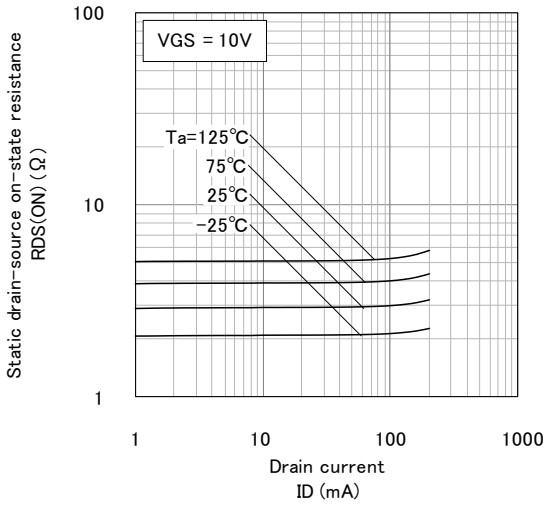
|Yfs| – ID



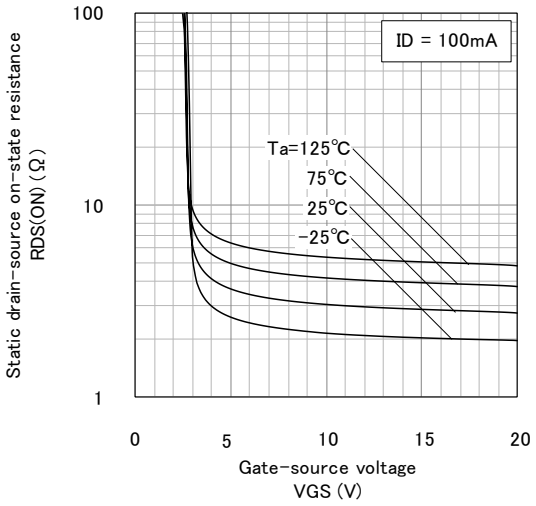
RDS(ON) - ID



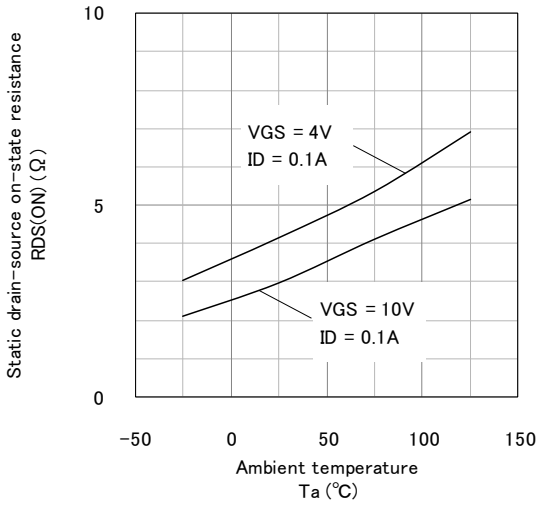
RDS(ON) - ID



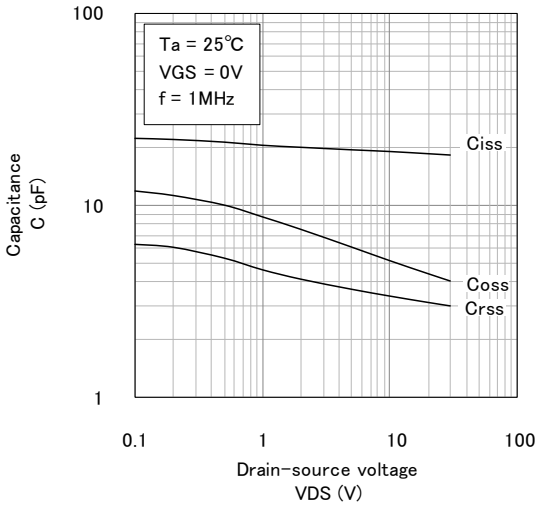
RDS(ON) - VGS



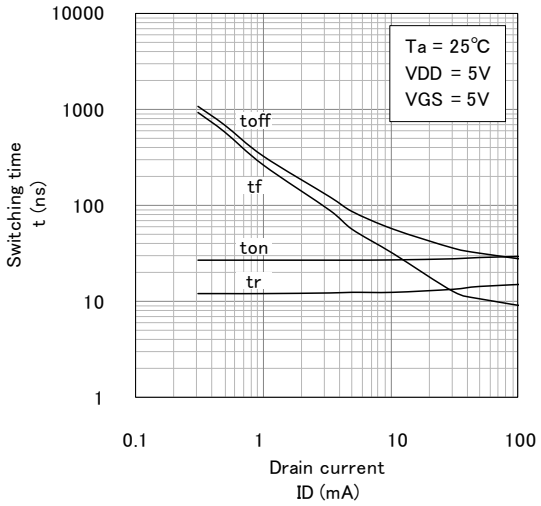
RDS(ON) - Ta



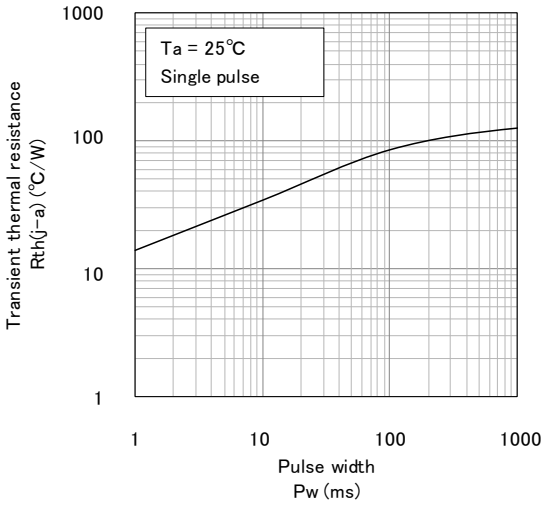
C - VDS



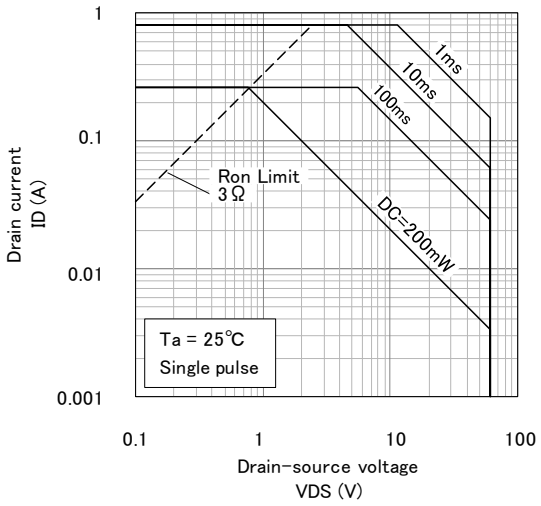
t - ID



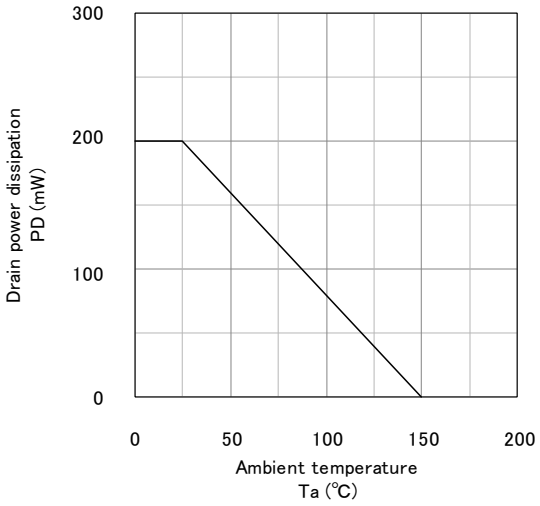
Rth(j-a) – Pw



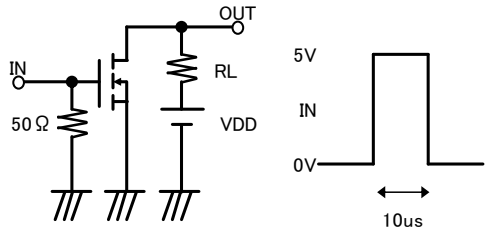
ASO



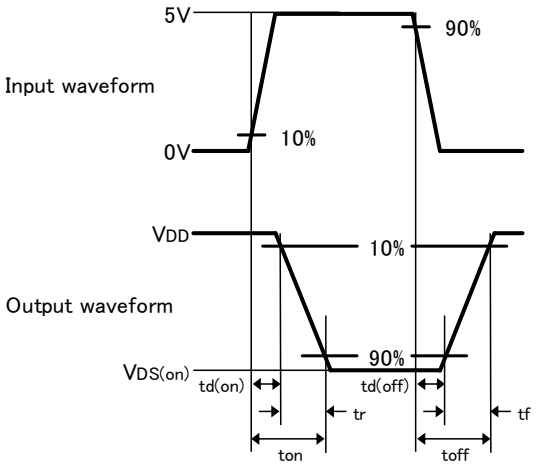
PD – Ta



Switching time test condition



Duty ≦ 1%
Input : tr, tf < 10ns
VDD = 5V
Common source
Ta = 25℃



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