INJ0011AX SERIES

High speed switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0011AX is a Silicon P-channel MOSFET.

This product is most suitable for low voltage use such as portable machinery , because of low voltage drive and low on resistance.

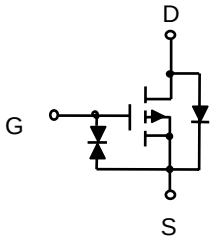
FEATURE

・Input impedance is high, and not necessary to consider a drive electric current.
・Vth is low, and drive by low voltage is possible.
Vth=−1.0〜−2.0V
・Low on Resistance.
$R_{DS}(on)$=7.0Ω(TYP)@I_D=−100mA, V_{GS}=−4.0V
$R_{DS}(on)$=4.8Ω(TYP)@I_D=−100mA, V_{GS}=−10V
・High speed switching.
・Small package for easy mounting.

APPLICATION

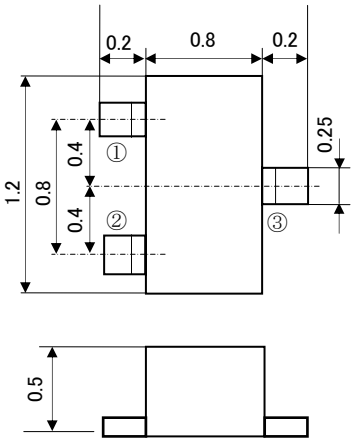
High speed switching , Analog switching

EQUIVALENT CIRCUIT



OUTLINE DRAWING Unit : mm

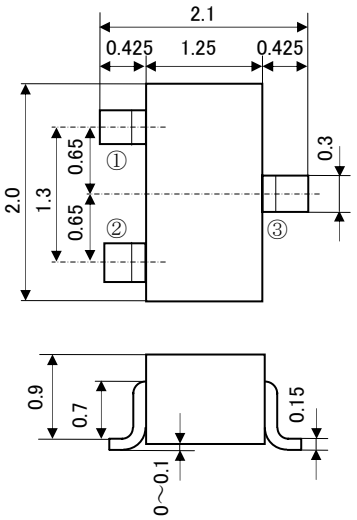
INJ0011AT2(PRELIMINARY)



JEITA, JEDEC : —
ISAHAYA : T-USM

TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

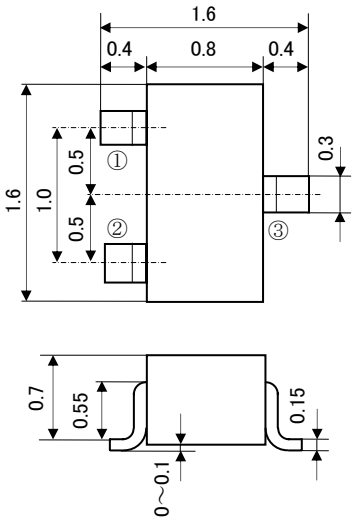
INJ0011AM1



JEITA : SC-70
JEDEC : —

TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

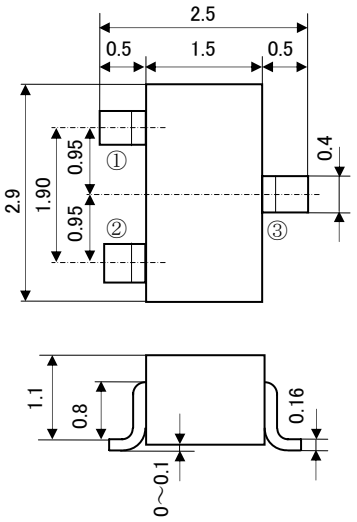
INJ0011AU1



JEITA : SC-75A
JEDEC : —

TERMINAL CONNECTOR
①:GATE
②:SOURCE
③:DRAIN

INJ0011AC1



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

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

INJ0011AX SERIES

High speed switching
Silicon P-channel MOSFET

MAXIMUM RATING(Ta＝25℃)

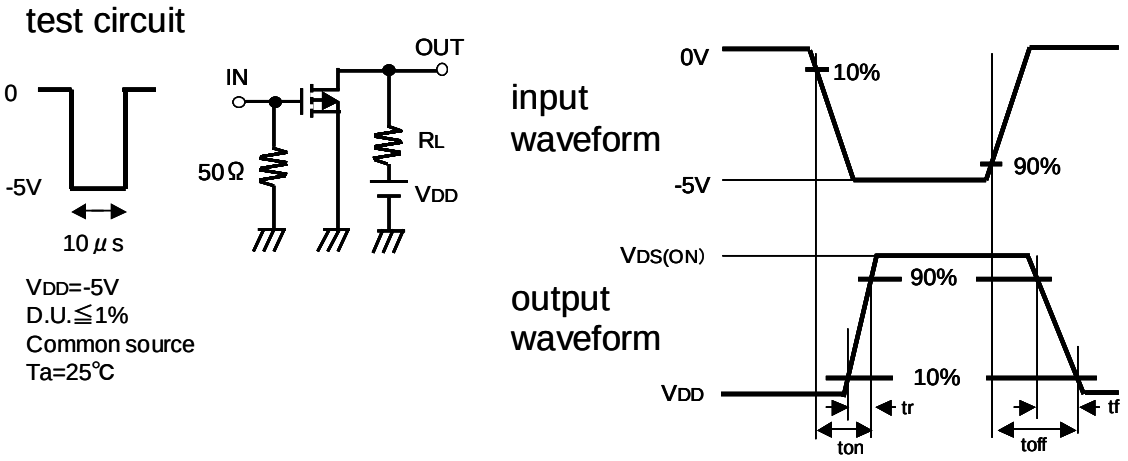
SYMBOL	PARAMETER	RATING				UNIT
		INJ0001AT2	INJ0001AU1	INJ0001AM1	INJ0001AC1	
V_{DSS}	Drain-source voltage	−50				V
V_{GSS}	Gate-source voltage	±20				V
I_D	Drain current	−100				mA
P_D	Total power dissipation (Ta=25℃)	125(※)	150	200		mW
Tch	Channel temperature	+125	+150			℃
Tstg	Range of Storage temperature	−55～+125	−55～+150			℃

ELECTRICAL CHARACTERISTICS(Ta＝25℃)

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

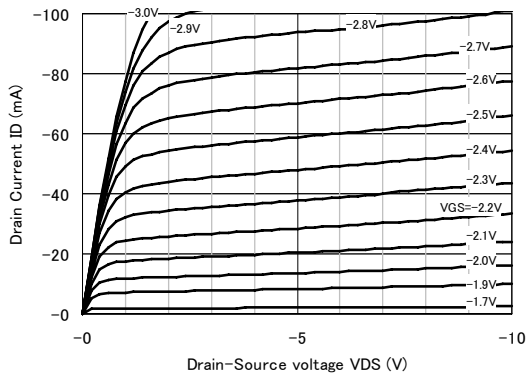
SYMBOL	PARAMETER	TEST CONDITION	LIMIT			UNIT
			MIN	TYP	MAX	
$V_{(BR)DSS}$	Drain-source breakdown voltage	I_D=−100μA, V_{GS}=0V	−50	−	−	V
I_{GSS}	Gate-source leak current	V_{GS}=±20V, V_{DS}=0V	−	−	±10	μA
I_{DSS}	Zero gate voltage drain current	V_{DS}=−50V ,V_{GS}=0V	−	−	−1.0	μA
V_{th}	Gate threshold voltage	I_D=−250μA, V_{DS}= V_{GS}	−1.0	−	−2.0	V
$\lvert Y_{fs} \rvert$	Forward transfer admittance	V_{DS}=−10V, I_D=−100mA	−	145	−	mS
$R_{DS(ON)}$	Static drain-source on-state resistance	I_D=−100mA, V_{GS}=−4.0V	−	7.0	−	Ω
		I_D=−100mA, V_{GS}=−10V	−	4.8	−	
C_{iss}	Input capacitance	V_{DS}=−10V, V_{GS}=0V,f=1MHz	−	25	−	pF
C_{oss}	Output capacitance	V_{DS}=−10V, V_{GS}=0V,f=1MHz	−	6.0	−	pF
t_{ON}	Switching time	V_{DD}=−5V , I_D=−10mA V_{GS}=0～−5V	−	35	−	ns
t_{OFF}			−	90	−	

Switching time test condition

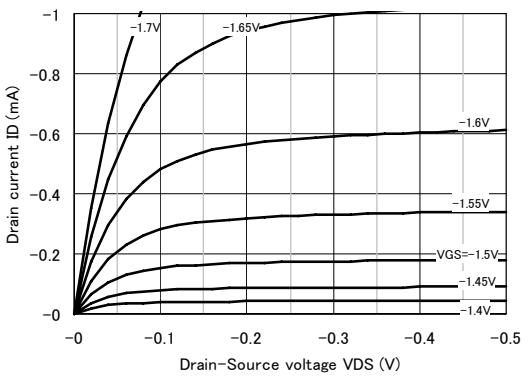


TYPICAL CHARACTERISTICS

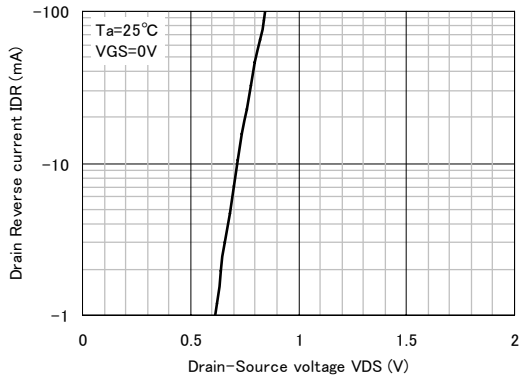
Ta=25℃ ID -VDS



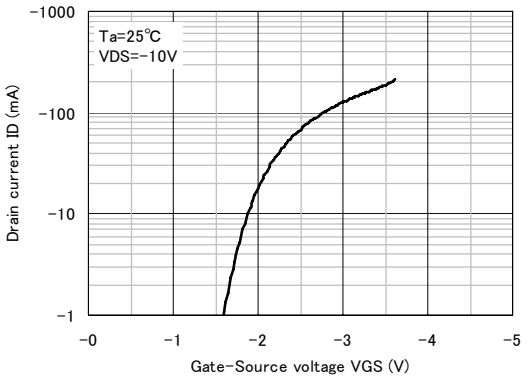
Ta=25℃ IID -VDS(Low voltage region)



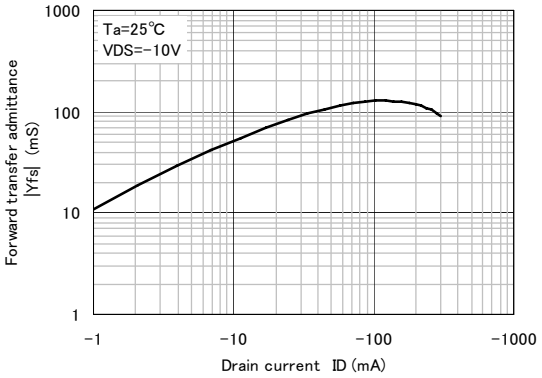
IDR -VDS



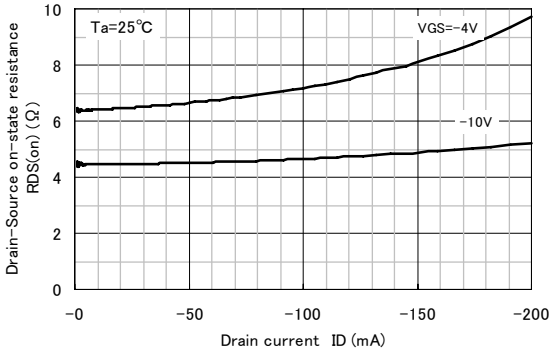
ID -VGS



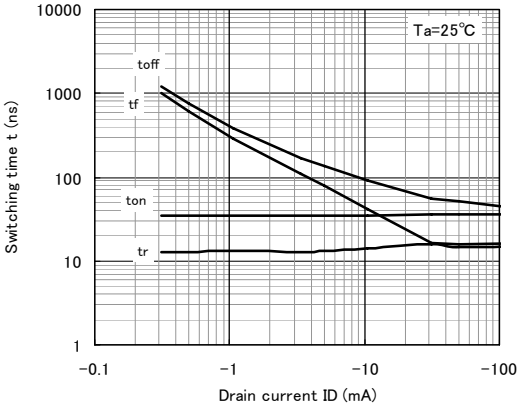
|Yfs| - ID



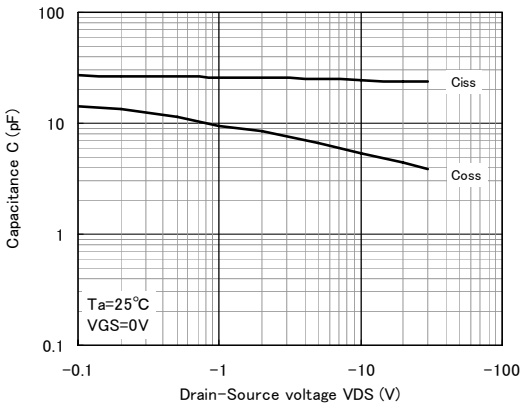
RDS(ON) - ID



t - ID



C - VDS



ISAHAYA ELECTRONICS CORPORATION

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Feb.2009