PRELIMINARY

Notice : This is not a final specification
Some parametric are subject to change.

INJ0103AU1

High Speed Switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0103AU1 is a Silicon P-channel MOSFET.
This product is most suitable for use such as portable machinery, because of low voltage drive and low on resistance.

FEATURE

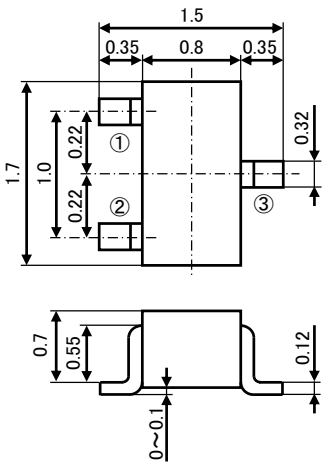
・Input impedance is high, and not necessary to consider a drive electric current.
・Drive voltage −1.8V
・Low on Resistance.
$R_{DS(ON)}$=0.67Ω(Typ) @I_D=−400mA, V_{GS}=−4.5V
$R_{DS(ON)}$=1.1Ω(Typ) @I_D=−300mA, V_{GS}=−2.5V
$R_{DS(ON)}$=1.6Ω(Typ) @I_D=−10mA, V_{GS}=−1.8V
・High speed switching.
・Small package for easy mounting.

APPLICATION

High speed switching, Analog switching

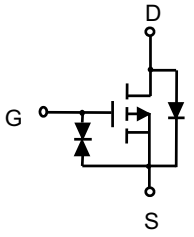
OUTLINE DRAWING

UNIT : mm

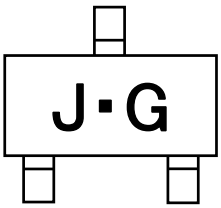


JEITA : SC-75A
JEDEC :
TERMINAL CONNECTOR
① : GATE
② : SOURCE
③ : DRAIN

EQUIVALENT CIRCUIT



MARKING



MAXIMUM RATINGS (Ta=25℃)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	−20	V
Gate-Source Voltage	V_{GSS}	±8	V
Drain Current (DC)	I_D	−550	mA
Drain Current (Pulse)	I_{DP}	−2.2※1	A
Total Power Dissipation	P_D	150	mW
		600※2	mW
Channel Temperature	T_{ch}	+150	℃
Storage Temperature	T_{stg}	−55～+150	℃

※1 : Pw≦10μs, Duty cycle≦1%
※2 : package mounted on glass-epoxy substrate
(20mm×20mm×1mm , Cu pad 100mm²)

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	−20	−	−	V
Gate-Source Leak Current	I_{GSS}	V_{GS}=±5V, V_{DS}=0V	−	−	±0.5	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=−20V, V_{GS}=0V	−	−	−1.0	μA
Gate Threshold Voltage	V_{th}	I_D=−250μA, V_{DS}= V_{GS}	−0.4	−	−1.3	V
Forward Transfer Admittance	|Yfs|	V_{DS}=−5V, I_D=−200mA	−	400	−	mS
Static Drain-Source On-State Resisitance	$R_{DS(ON)}$	I_D=−400mA, V_{GS}=−4.5V	−	0.67	−	Ω
		I_D=−300mA, V_{GS}=−2.5V	−	1.1	−	
		I_D=−10mA, V_{GS}=−1.8V	−	1.6	−	
Input Capacitance	C_{iss}	V_{DS}=−10V, V_{GS}=0V, f=1MHz	−	57	−	pF
Output Capacitance	C_{oss}		−	20	−	
Swithing Time	ton	V_{DD}=−10V, I_D=−400mA	−	42	−	ns
	toff	V_{GS}=0～−5V	−	140	−	

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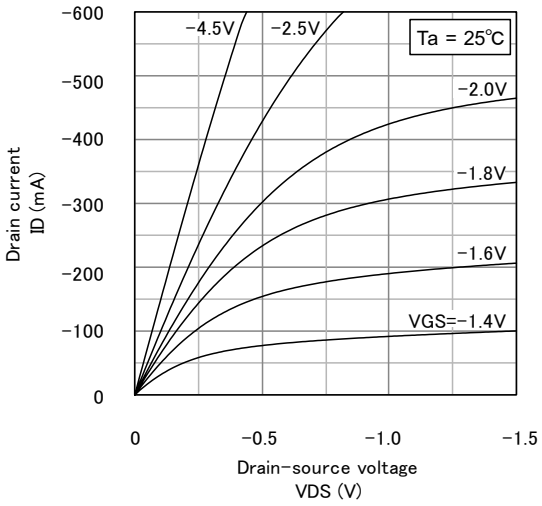
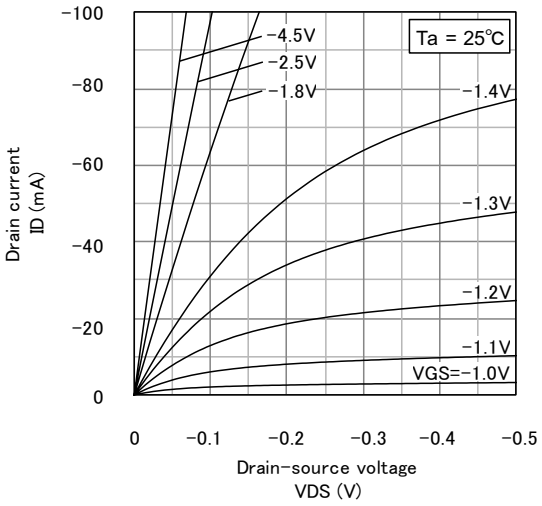
TYPICAL CHARACTERISTICS

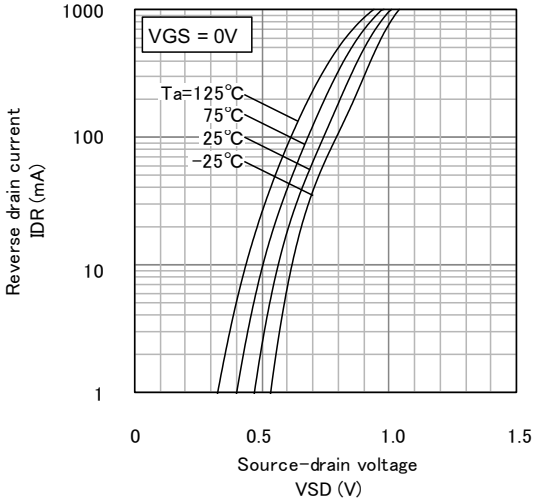
ID – VDS



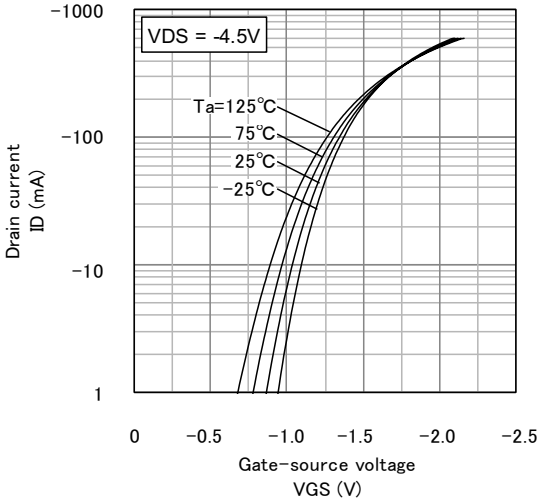
ID – VDS (Low voltage legion)



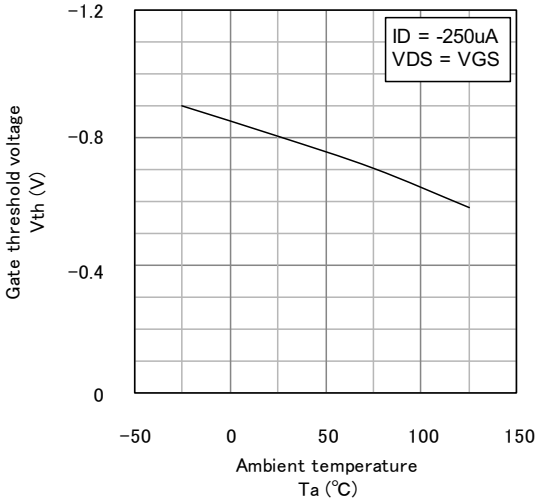
IDR – VSD



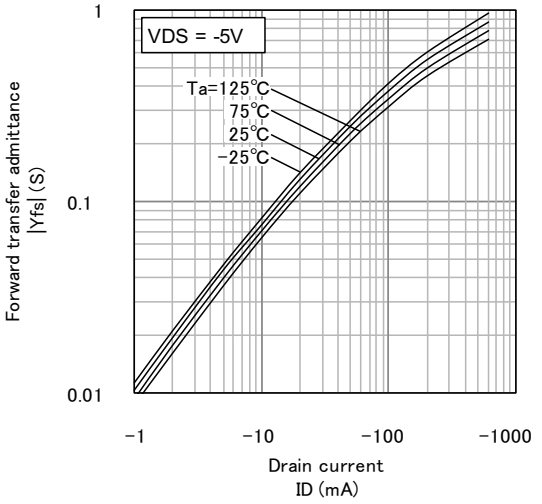
ID – VGS



Vth – Ta



|Yfs| – ID



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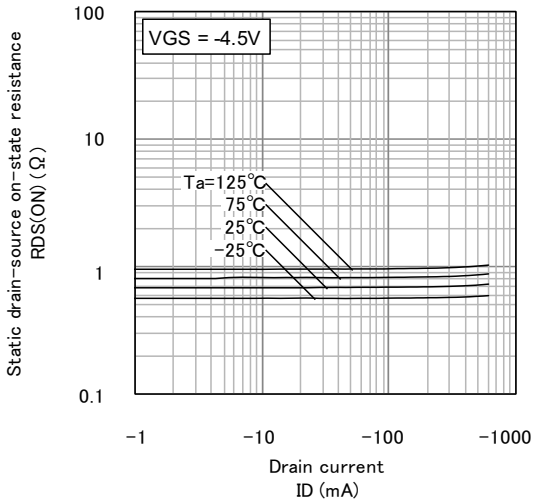
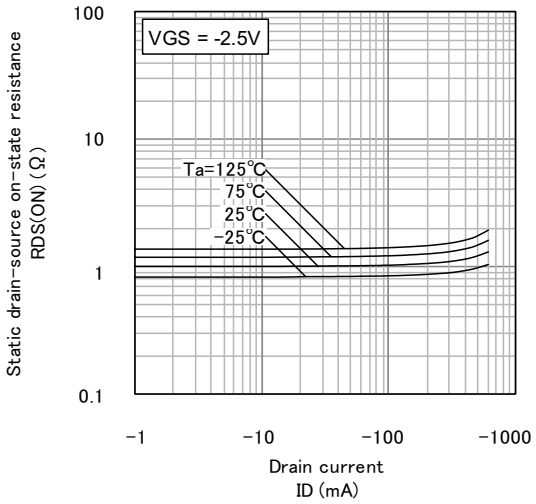
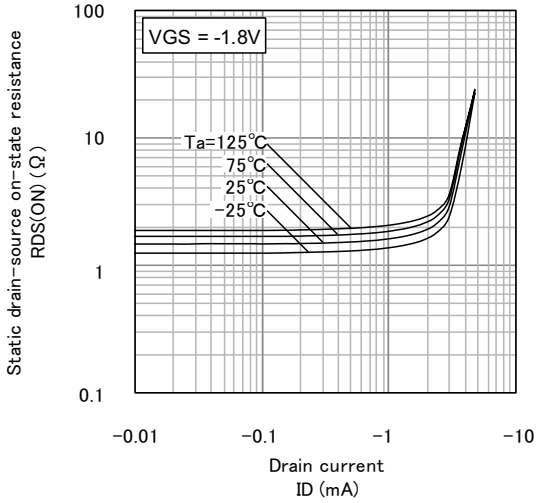
RDS(ON) – ID



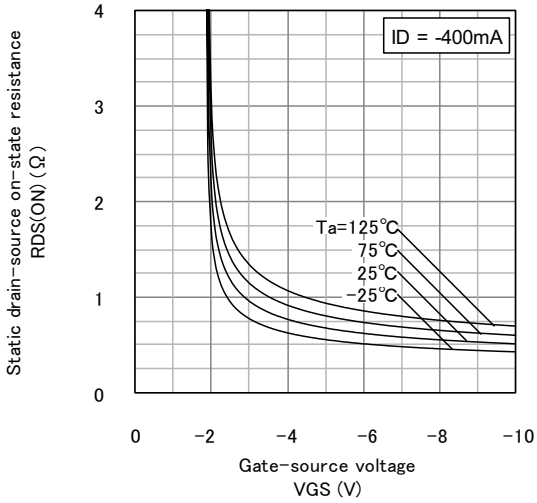
RDS(ON) – ID



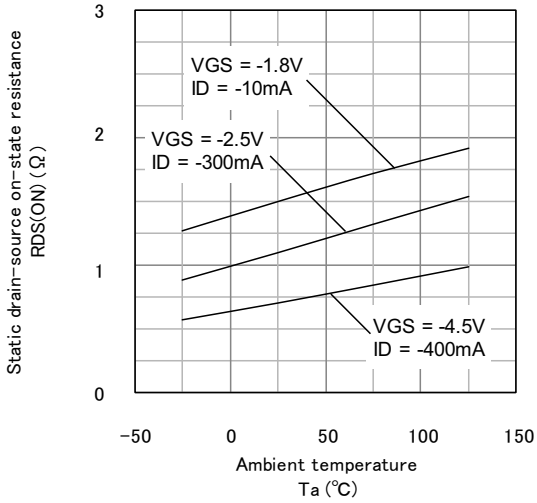
RDS(ON) – ID



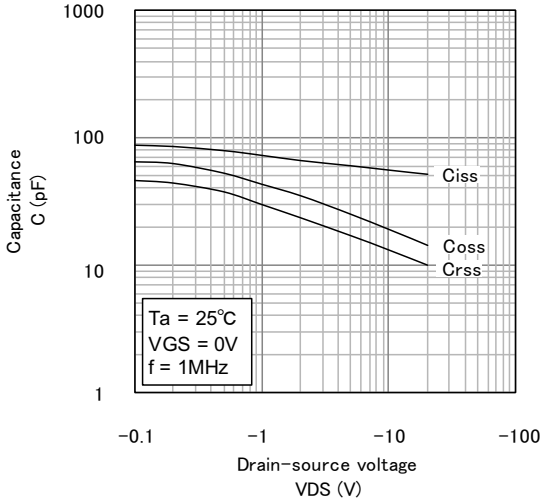
RDS(ON) – VGS



RDS(ON) – Ta



C – VDS



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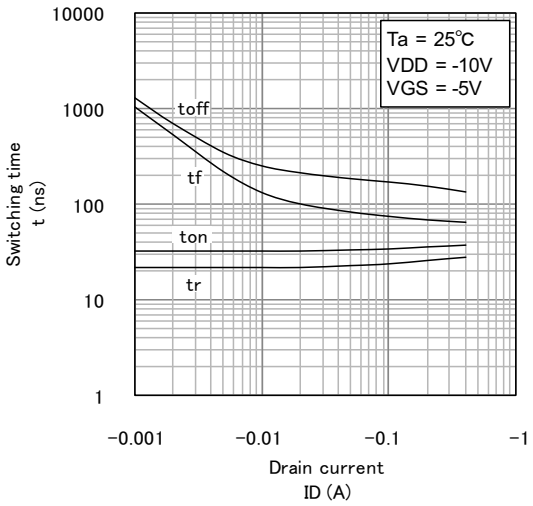
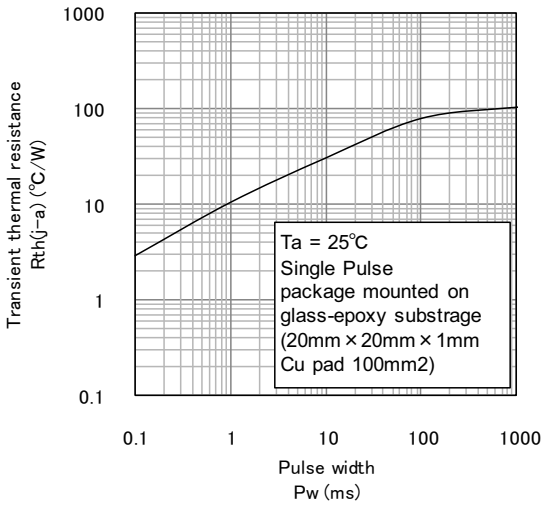
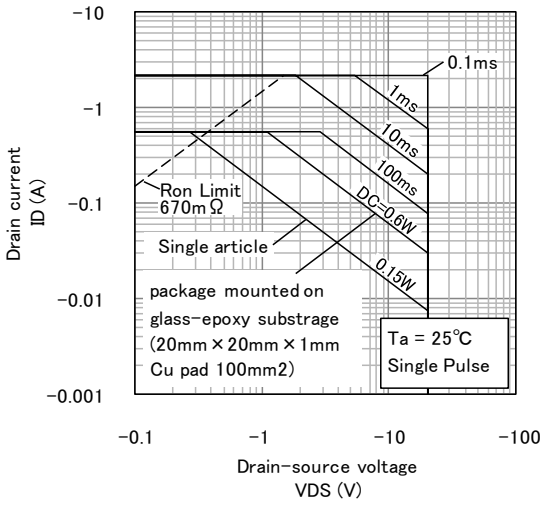
t – ID



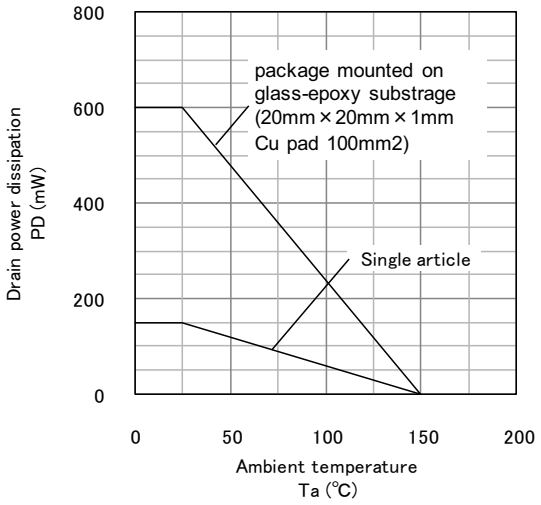
Rth(j-a) – Pw



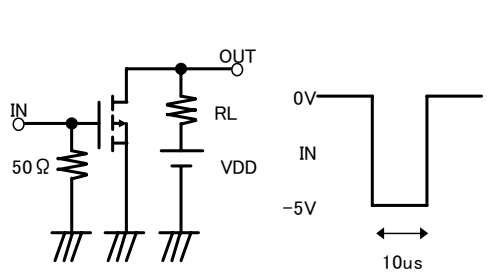
ASO



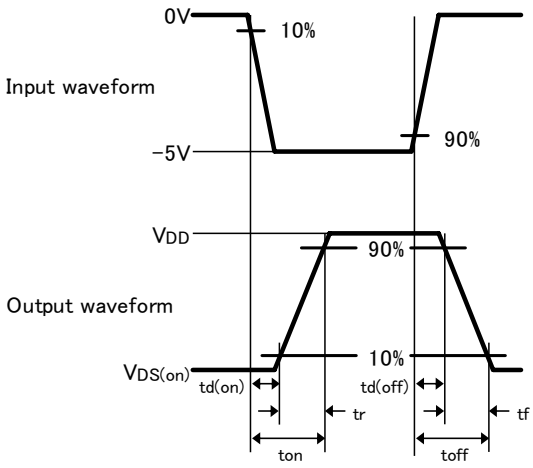
PD – Ta



Switching time test condition



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



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