INJ0312AC1

High Speed Switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0312AC1 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

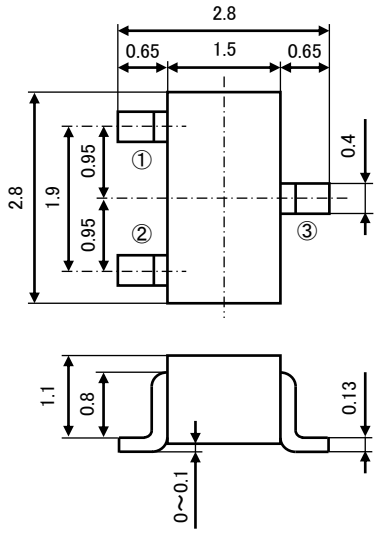
・Input impedance is high, and not necessary to consider a drive electric current.
・High drain current I_D=−1.1A
・Drive voltage −4.0V
・Low on Resistance.
$R_{DS(on)}$=400mΩ(@VGS=−4.5V) TYP.
$R_{DS(on)}$=350mΩ(@VGS=−10V) TYP.
・High speed switching.
・Small package for easy mounting.

APPLICATION

Switching

OUTLINE DRAWING

UNIT:mm



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

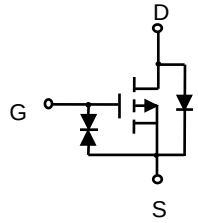
MAXIMUM RATINGS(Ta=25℃)

Symbol	Parameter	Rating	Unit
V_{DSS}	Drain-Source Voltage	−50	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Drain Current(DC)	−1.1	A
I_{DP}	Drain current(Pulse) ※1	−4.0	A
P_D	Total Power Dissipation ※2	500	mW
T_{ch}	Channel Temperature	+150	℃
T_{stg}	Storage temperature	−55～+150	℃

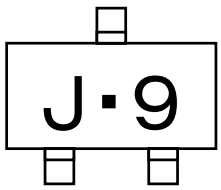
※1:Pw≦10μs, Duty cycle≦1%

※2:Package mounted on 45mm×38mm×1mm glass-epoxy substrate.

EQUIVALENT CIRCUIT



MARKING

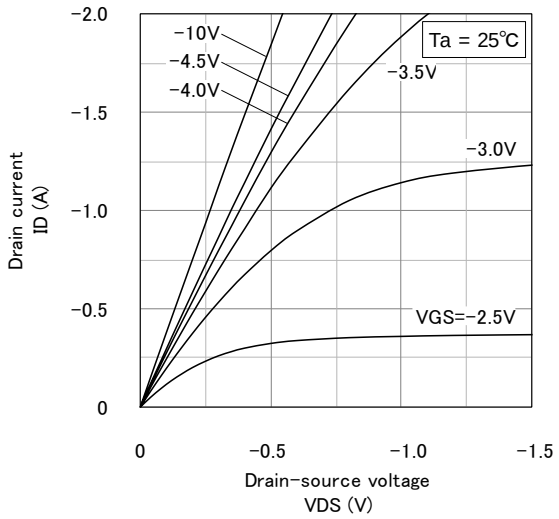


ELECTRICAL CHARACTERISTICS(Ta=25℃)

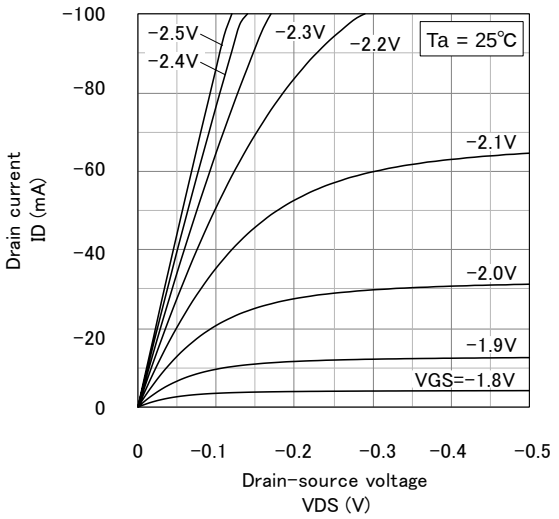
Parameter	Symbol	Test Condition	Limit			Unit
			MIN	TYP	MAX	
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=−100μA, V_{GS}=0V	−50	−	−	V
Gate-Source Leak current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	−	−	±10	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=−50V, V_{GS}=0V	−	−	−1.0	μA
Gate Threshold Voltage	V_{th}	I_D=−250μA, V_{DS}=V_{GS}	−1.0	−	−2.5	V
Forward Transfer Admittance	| Y_{fs} |	V_{DS}=−10V, I_D=−1A	−	1.8	−	S
Static Drain-Source On-State Resistance	$R_{DS(ON)}$	I_D=−1A, V_{GS}=−4.5V	−	400	−	mΩ
		I_D=−1A, V_{GS}=−10V	−	350	−	mΩ
Input Capacitance	C_{iss}	V_{DS}=−10V, V_{GS}=0V, f=1MHz	−	165	−	pF
Output Capacitance	C_{oss}		−	35	−	pF
Switching Time	t_{on}	V_{DD}=−15V, I_D=−1A	−	80	−	ns
	t_{off}	V_{GS}=0～−10V	−	490	−	ns

TYPICAL CHARACTERISTICS

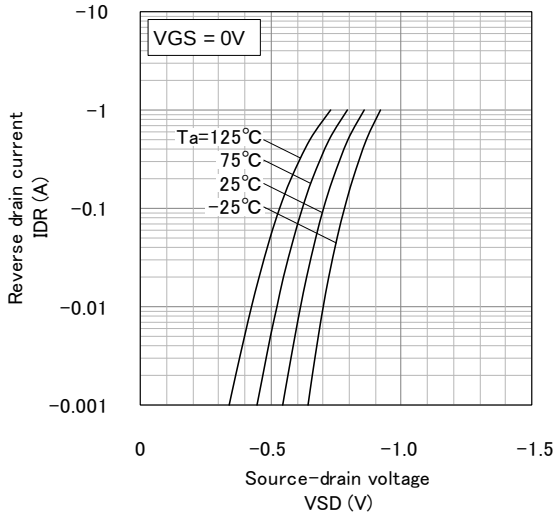
ID – VDS



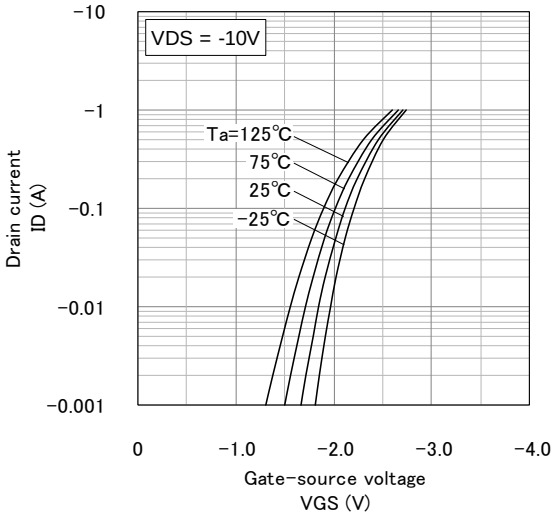
ID – VDS (Low voltage legion)



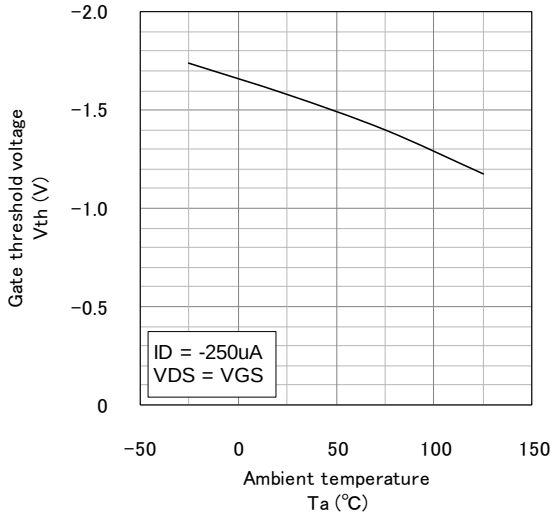
IDR – VSD



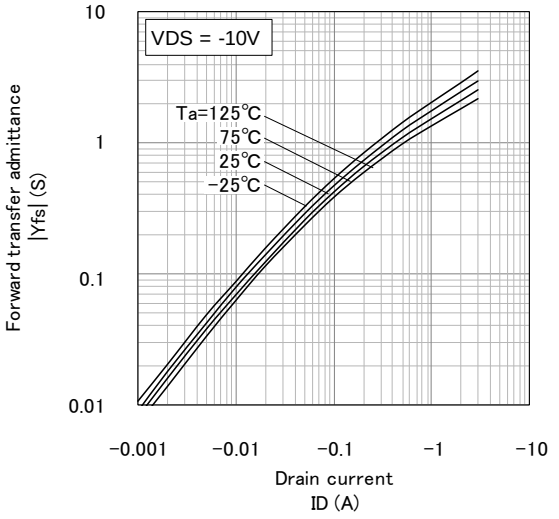
ID – VGS



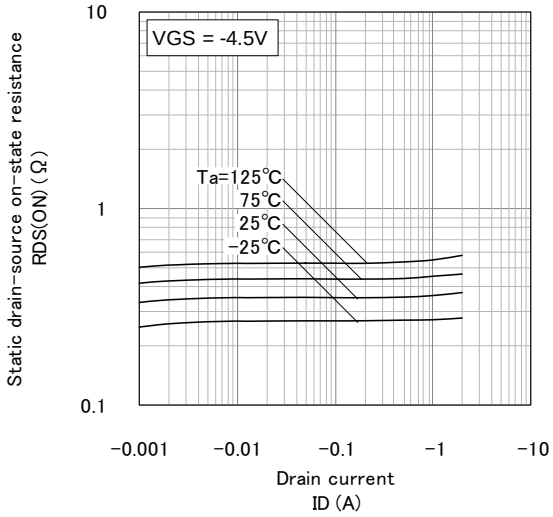
Vth – Ta



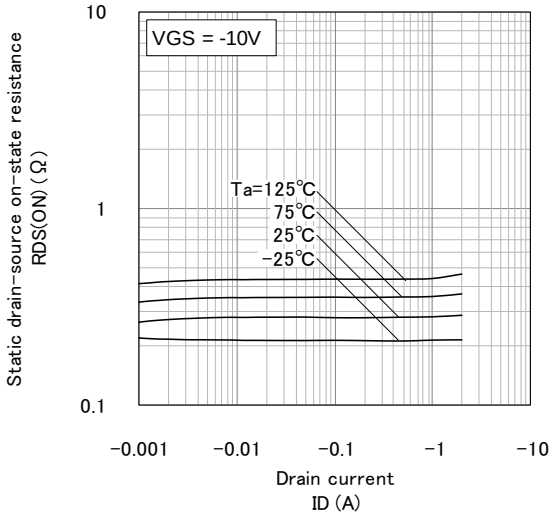
|Yfs| – ID



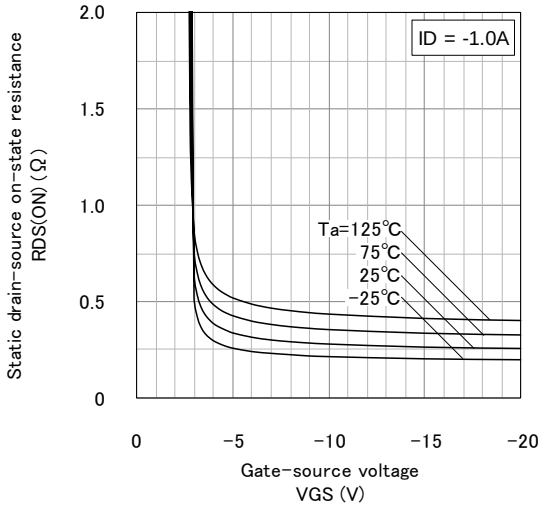
RDS(ON) - ID



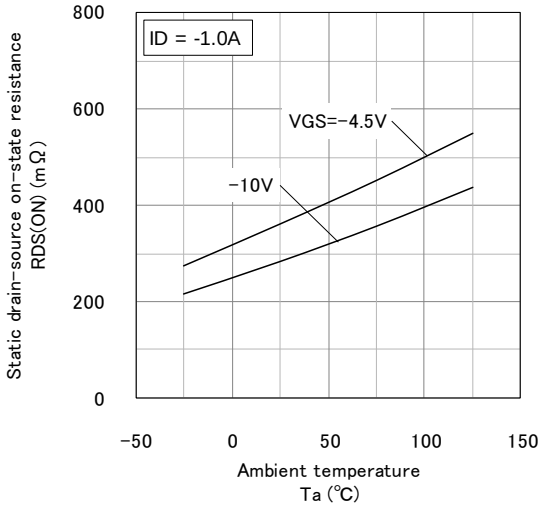
RDS(ON) - ID



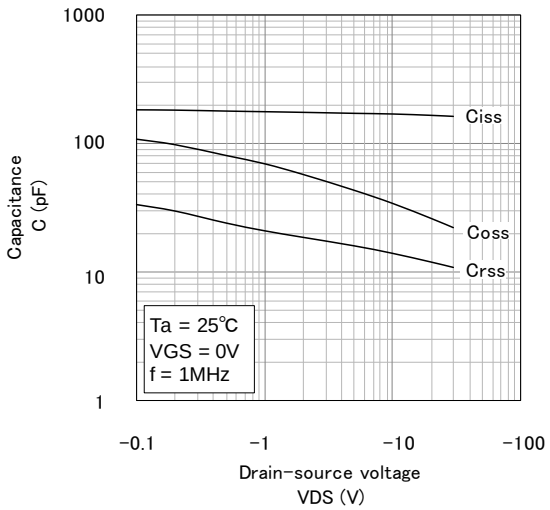
RDS(ON) - VGS



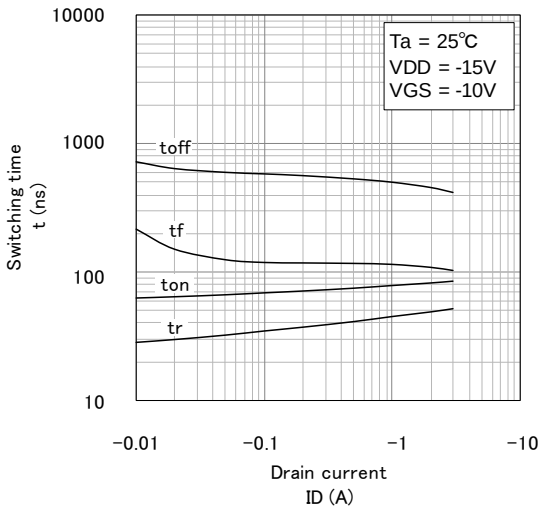
RDS(ON) - Ta



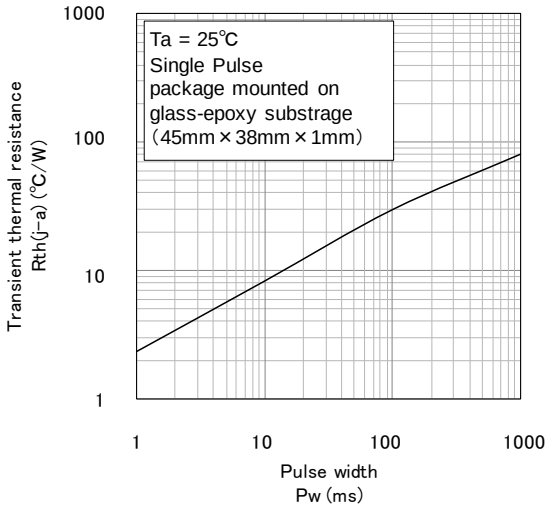
C - VDS



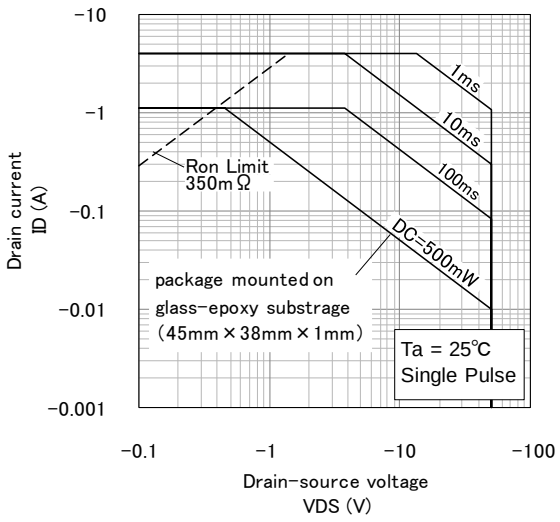
t - ID



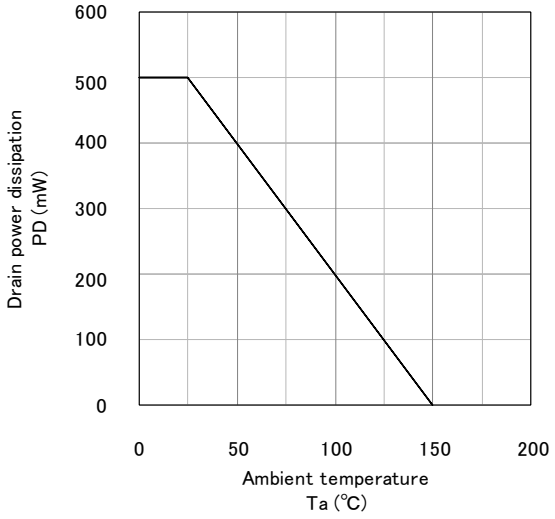
Rth(j-a) – Pw



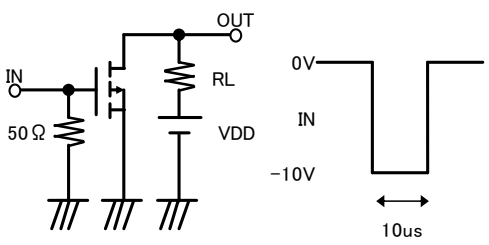
ASO



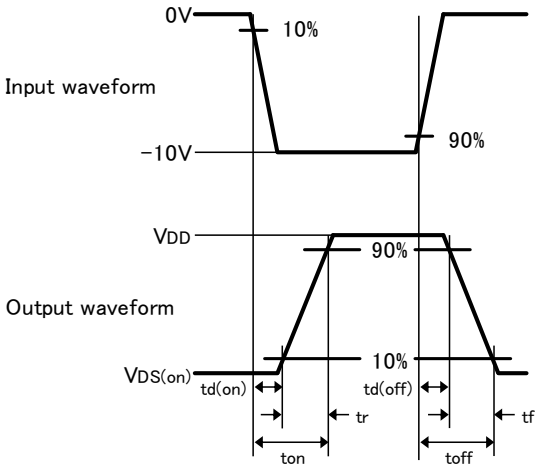
PD – Ta



Switching time test condition



Duty ≦ 1%
Input: tr, tf < 10ns
VDD = −15V
Common source
Ta = 25℃



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