INJ0303AC1

High Speed Switching
Silicon P-channel MOSFET

DESCRIPTION

INJ0303AC1 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

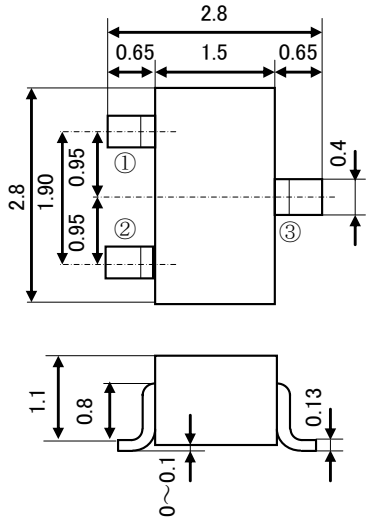
- Drive voltage −2.0V
- Low on resistance.
  $R_{DS(ON)}$=50mΩ(TYP) @I_D=−1.5A, V_{GS}=−4.0V
  $R_{DS(ON)}$=70mΩ(TYP) @I_D=−1.5A, V_{GS}=−2.5V
  $R_{DS(ON)}$=90mΩ(TYP) @I_D=−1.5A, V_{GS}=−2.0V
- High speed switching..
- Small package for easy mounting..

APPLICATION

Switching

OUTLINE DRAWING

Unit:mm



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

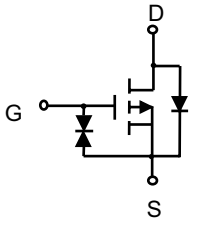
MAXIMUM RATINGS(Ta=25℃)

Parameter	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	−12	V
Gate-source voltage	V_{GSS}	±8	V
Drain current(DC)	I_D	−3.0	A
Drain current(Pulse)	I_{DP}*1	−6.0	A
Total power dissipation	P_D	200	mW
	P_D*2	650	mW
Channel temperature	T_{ch}	+150	℃
Storage temperature	T_{stg}	−55～+150	℃

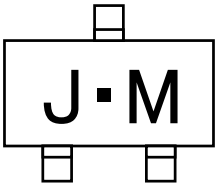
*1 Pw≦10μs, Duty cycle≦1%

*2 Package mounted on 20mm×20mm×1mm (Cu pad 100mm²) glass-epoxy substrate

EQUIVALENT CIRCUIT



MARKING

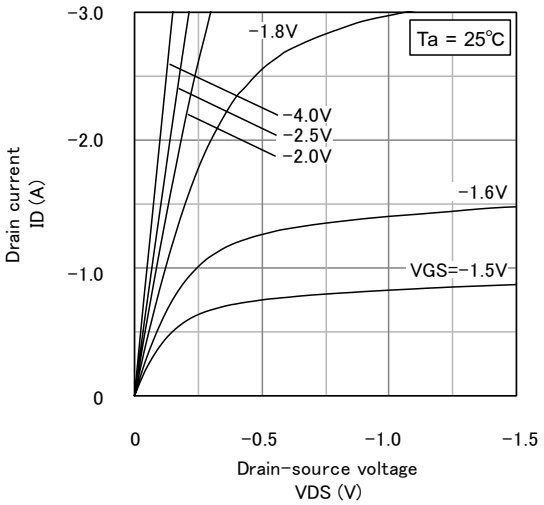


ELECTRICAL CHARACTERISTICS(Ta=25℃)

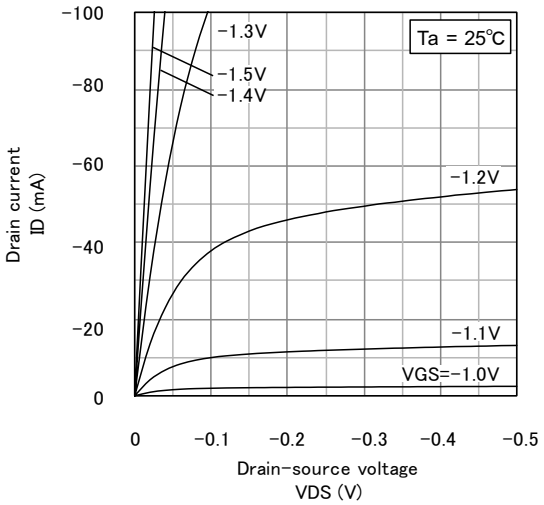
Parameter	Symbol	Test condition	Limit			Unit
			MIN	TYP	MAX	
Drain-source breakdown voltage	$V_{(BR)DSS}$	I_D=−100μA, V_{GS}=0V	−12	−	−	V
Gate-source leak current	I_{GSS}	V_{GS}=±5V, I_{DS}=0A	−	−	±0.5	μA
Zero gate voltage drain current	I_{DSS}	V_{DS}=−12V ,V_{GS}=0V	−	−	−1	μA
Gate threshold voltage	V_{th}	I_D=−250μA, V_{DS}=V_{GS}	−0.4	−	−1.2	V
Forward transfer admittance	$\|Y_{fs}\|$	V_{DS}=−3V, I_D=−1.5A	3.6	−	−	S
Static drain-source on-state resistance	$R_{DS(ON)}$	I_D=−1.5A, V_{GS}=−4.0V	−	50	70	mΩ
		I_D=−1.5A, V_{GS}=−2.5V	−	70	95	mΩ
		I_D=−1.5A, V_{GS}=−2.0V	−	90	180	mΩ
Input capacitance	C_{iss}	V_{DS}=−10V, V_{GS}=0V, f=1MHz	−	650	−	pF
Output capacitance	C_{oss}		−	190	−	pF
Reverse transfer capacitance	C_{rss}		−	150	−	pF
Switching time (turn on time)	t_{on}	V_{DD}=−10V, I_D=−1A	−	100	−	ns
Switching time (turn off time)	t_{off}	V_{GS}=0～−2.5V	−	145	−	ns

TYPICAL CHARACTERISTICS

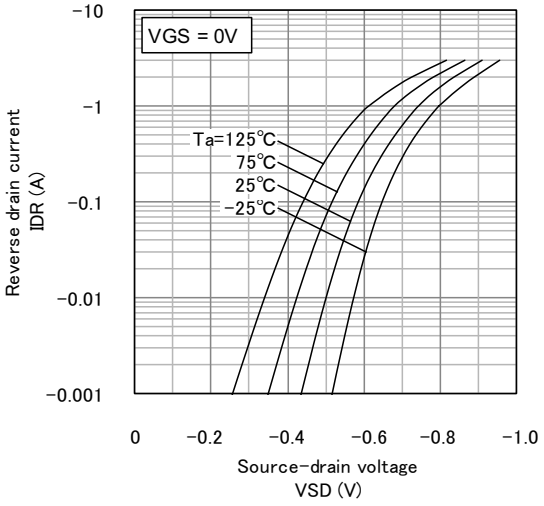
ID - VDS



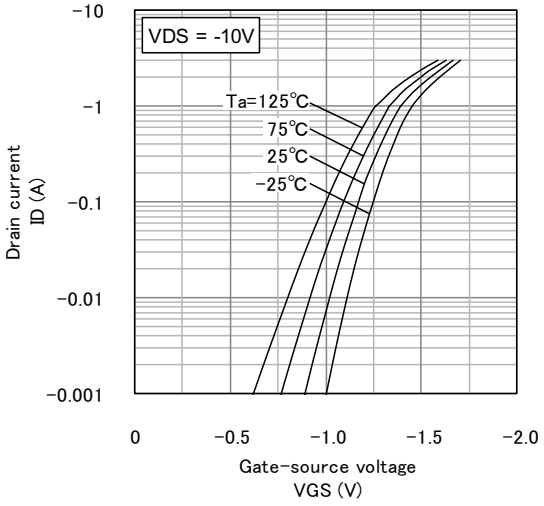
ID - VDS (Low voltage legion)



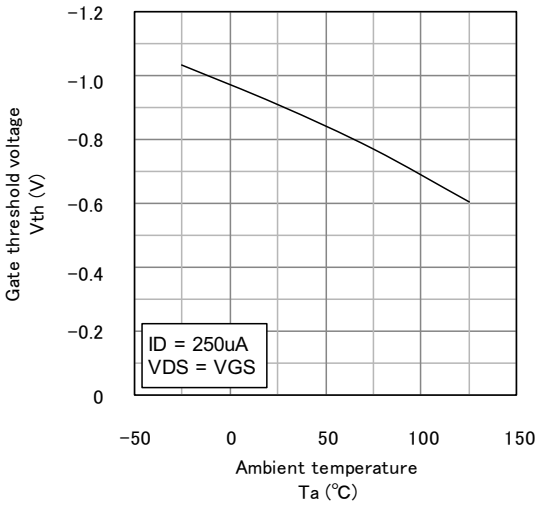
IDR - VSD



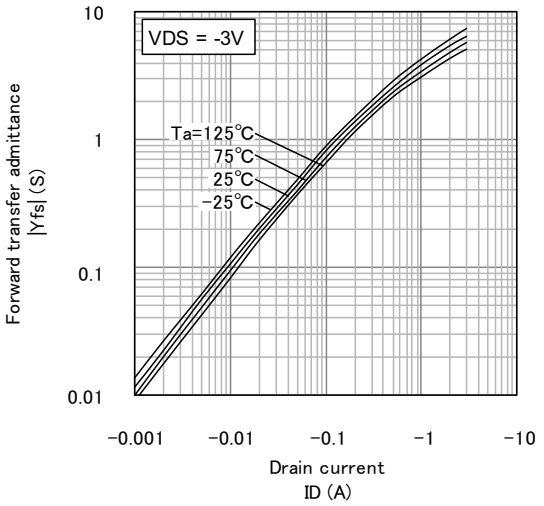
ID - VGS



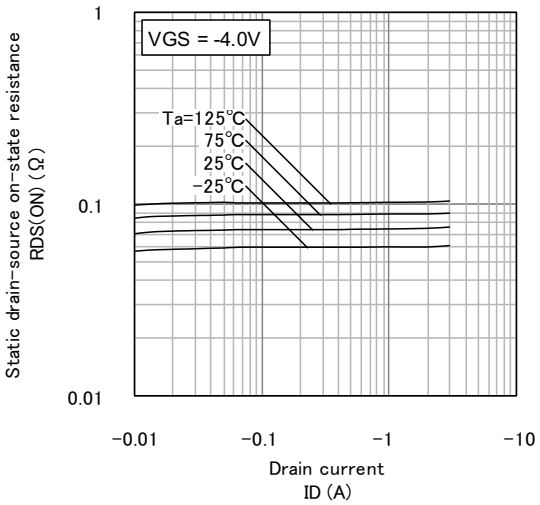
Vth - Ta



|Yfs| - ID



RDS(ON) - ID



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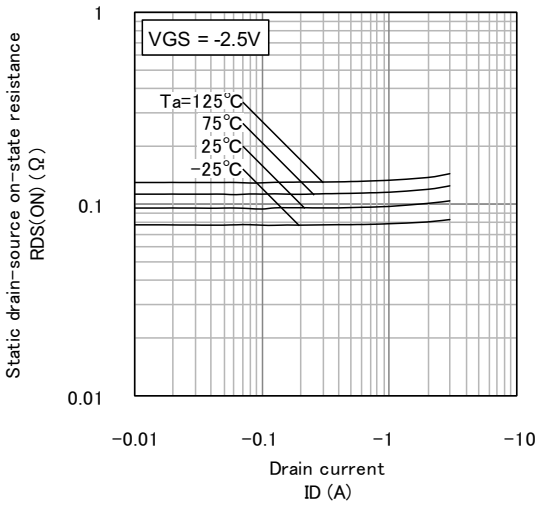
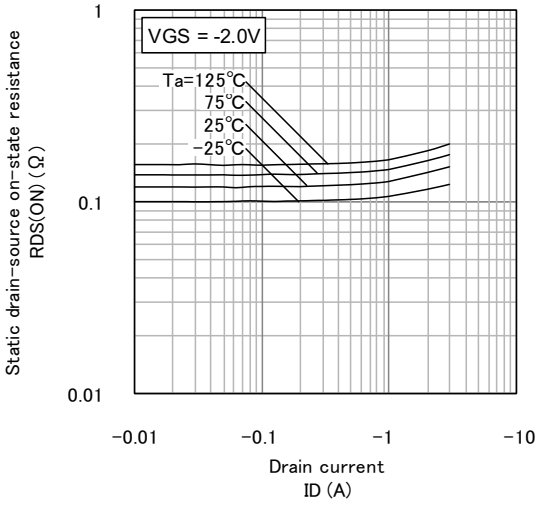
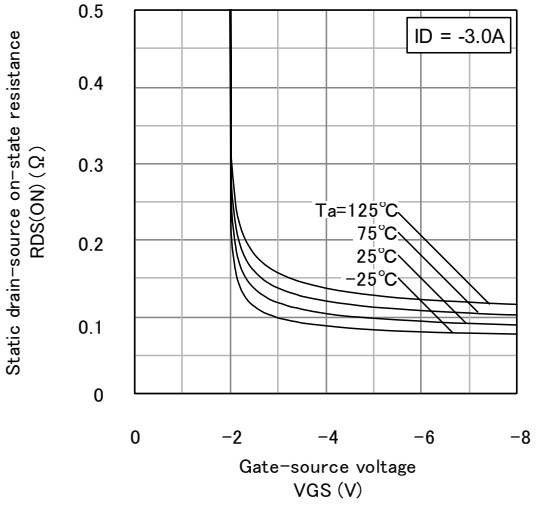


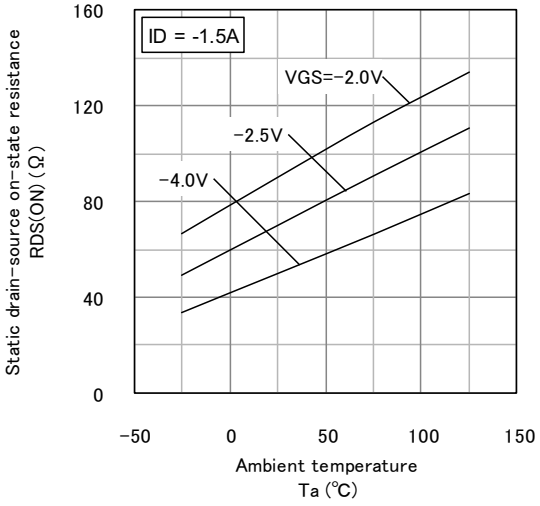
RDS(ON) - ID



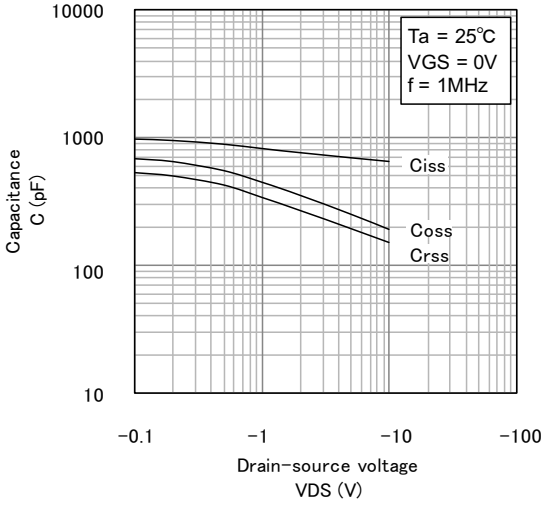
RDS(ON) - VGS



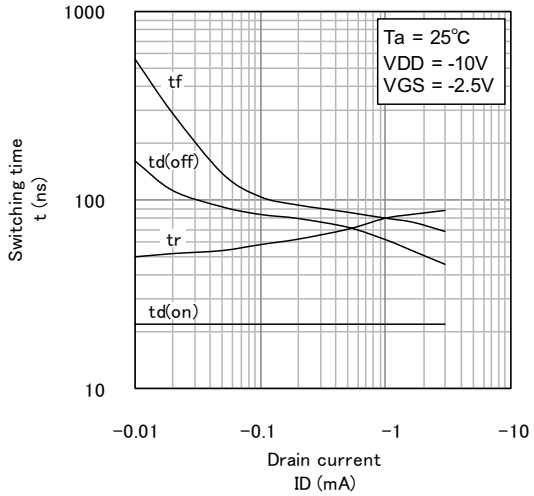
RDS(ON) - Ta



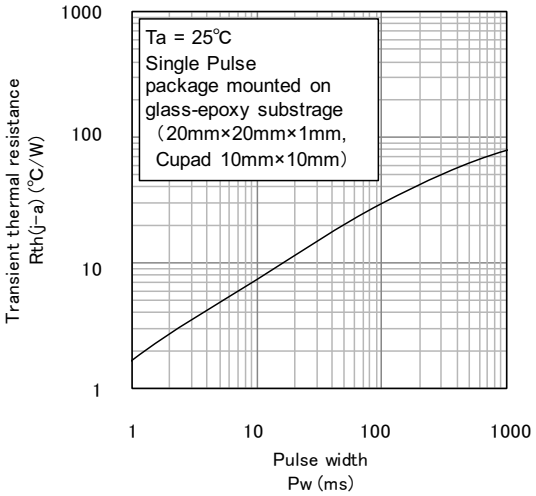
C - VDS



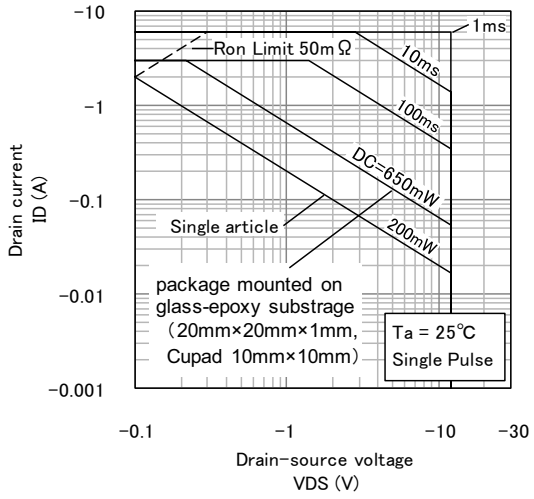
t – ID



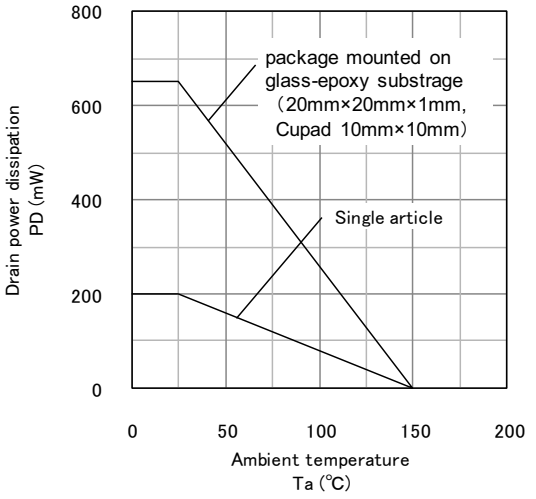
Rth(j-a) – Pw



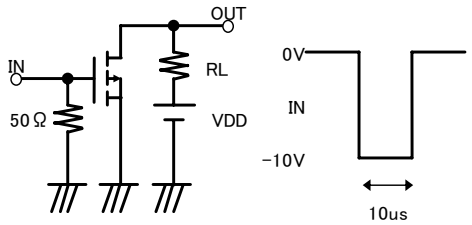
ASO



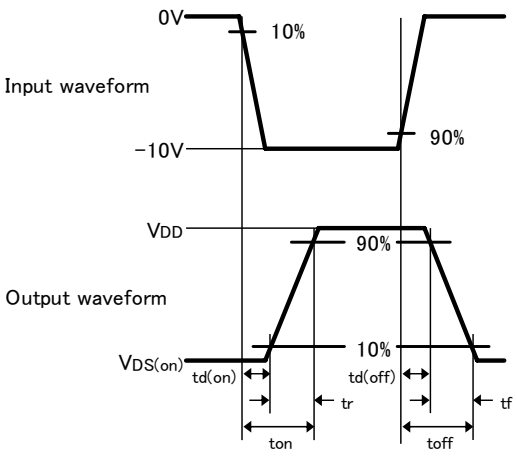
PD – Ta



Switching time test condition



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



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