INJ0043AM1

Ultra-low voltage drive
Silicon P-channel MOSFET

DESCRIPTION

INJ0043AM1 is an ultra-small resin-encapsulated silicon P-channel MOSFET.
It is designed for low drive voltage, making it ideal for low-voltage applications such as portable and mobile devices.

FEATURE

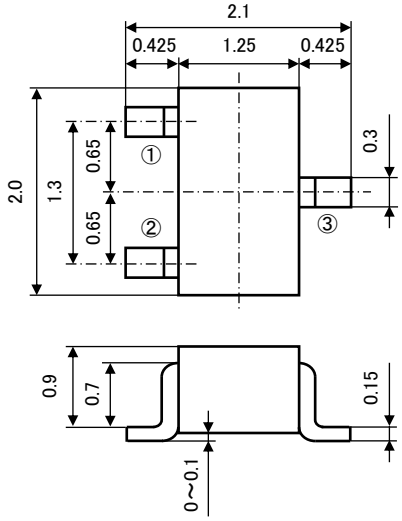
- No need to consider drive current due to high input impedance.
- Ultra-low drive voltage -1.2V
  $R_{DS(ON)}$=0.7Ω (TYP) @I_D=-100mA,V_{GS}=-4.5V
  $R_{DS(ON)}$=1.2Ω (TYP) @I_D=-50mA,V_{GS}=-2.5V
  $R_{DS(ON)}$=5.0Ω (TYP) @I_D=-1mA,V_{GS}=-1.2V
- High switching speed.
  The ultra-small outline enables miniaturization and high-density mounting of sets.

APPLICATION

High speed switching, Analog switching

OUTLINEDRAWING

UNIT : mm



TERMINAL CONNECTOR
①: GATE
②: SOURCE
③: DRAIN

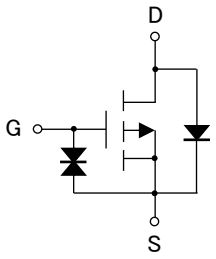
JEITA: SC-70
JEDEC: -

MAXIMUM RATINGS (Ta=25℃)

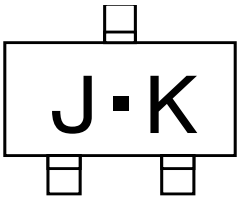
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	VDSS	-20	V
Gate-Source Voltage	VGSS	±8	V
Drain Current (DC)	ID	-0.4	A
Drain Current (Pulse) ※1	IDP	-1.0	A
Total Power Dissipation	PD	200	mW
Channel Temperature	Tch	+150	℃
Storage Temperature	Tstg	-55～+150	℃

※1 : Pw≦10μs, Duty cycle≦1%

EQUIVALENT CIRCUIT



MARKING

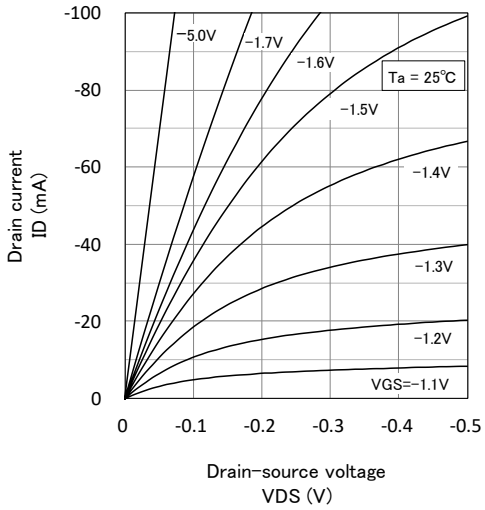


ELECTRICAL CHARACTERISTICS (Ta=25℃)

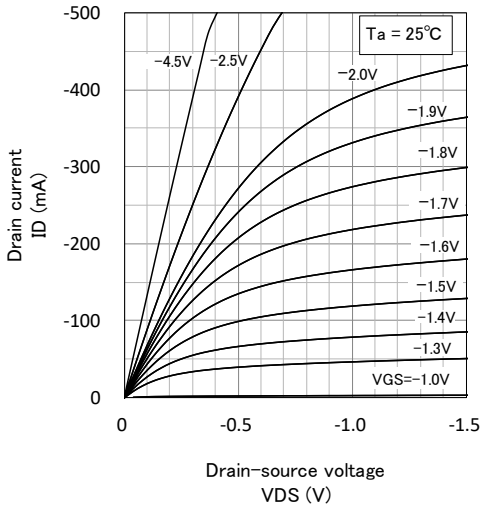
Parameter	Symbol	Test Condition	Limit			Unit
			Min	Typ	Max	
Drain-Source Breakdown Voltage	V(BR)DSS	I_D=-100μA, V_{GS}=0V	-20	-	-	V
Gate-Source Leak Current	IGSS	V_{GS}=±5V, V_{DS}=0V	-	-	±10	μA
Zero Gate Voltage Drain Current	IDSS	V_{DS}=-20V, V_{GS}=0V	-	-	-1.0	μA
Gate Threshold Voltage	Vth	I_D=-100μA, V_{DS}=-10V	-0.3	-	-1.0	V
Static Drain-Source On-State Resisitance	RDS(ON)	I_D=-100mA, V_{GS}=-4.5V	-	0.7	1.3	Ω
		I_D=-50mA, V_{GS}=-2.5V	-	1.2	2.4	Ω
		I_D=-20mA, V_{GS}=-1.8V	-	1.5	3.5	Ω
		I_D=-10mA, V_{GS}=-1.5V	-	3.0	13	Ω
		I_D=-1mA, V_{GS}=-1.2V	-	5.0	40	Ω
Input Capacitance	Ciss	V_{DS}=-10V, V_{GS}=0V, f=1MHz	-	57	-	pF
Output Capacitance	Coss		-	20	-	pF
Reverse Transfer Capacitance	Crss		-	16	-	pF
Swithing Time	ton	V_{DD}=-10V, I_D=-0.4A V_{GS}=-5V	-	42	-	ns
	toff		-	140	-	ns

TYPICAL CHARACTERISTICS

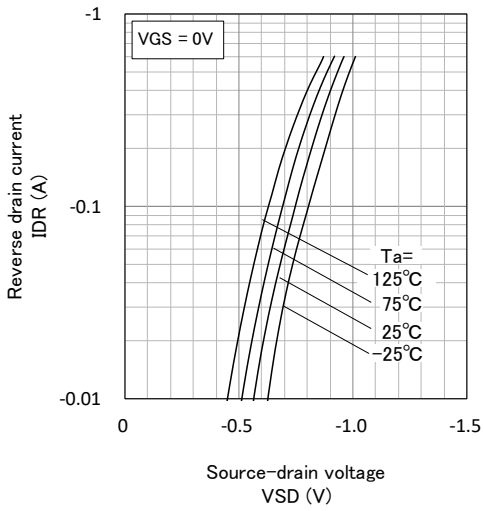
ID – VDS



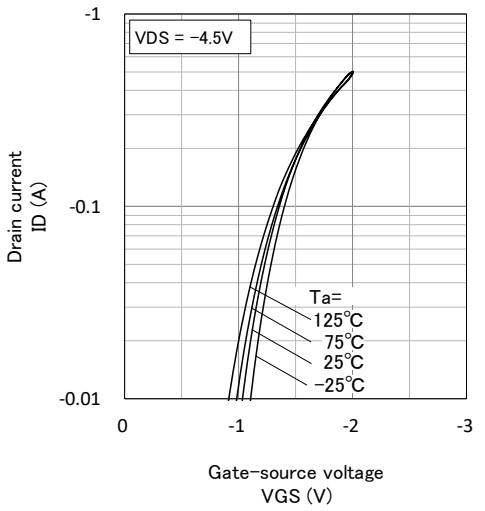
ID – VDS



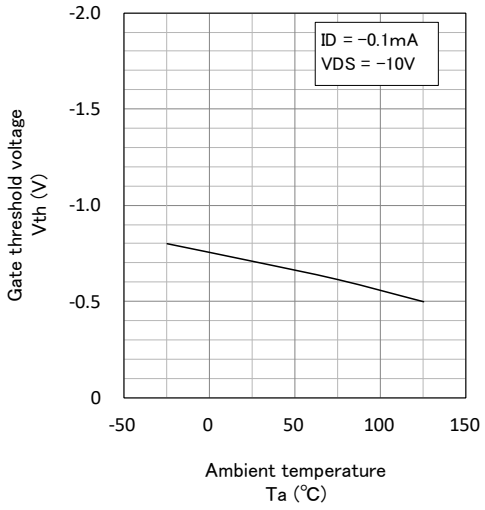
IDR – VSD



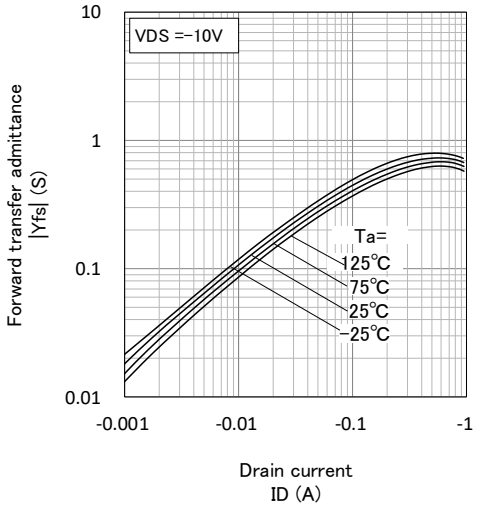
ID – VGS



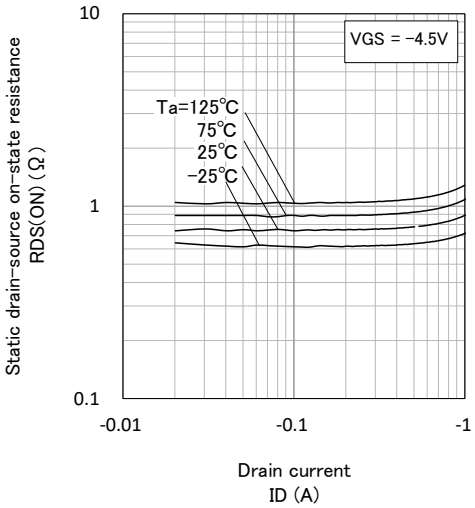
Vth – Ta



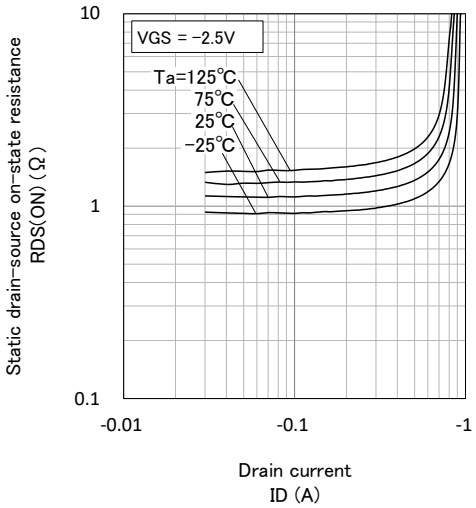
|Yfs| – ID



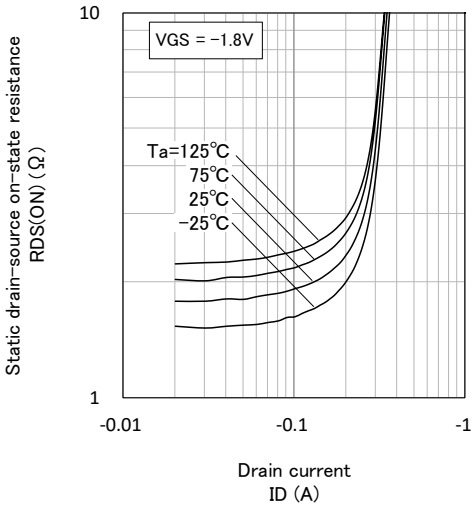
RDS(ON) – ID



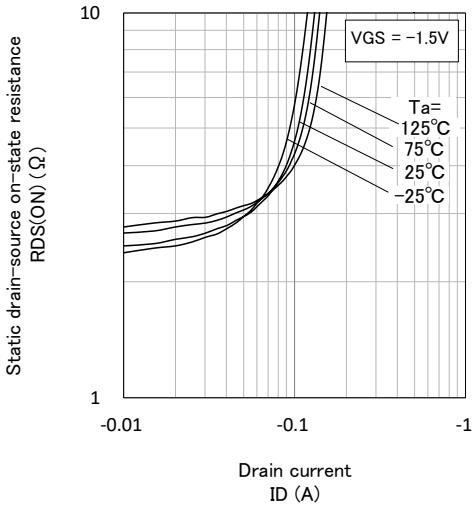
RDS(ON) – ID



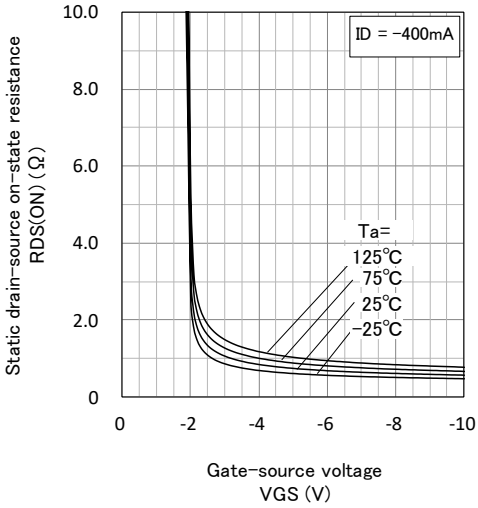
RDS(ON) – ID



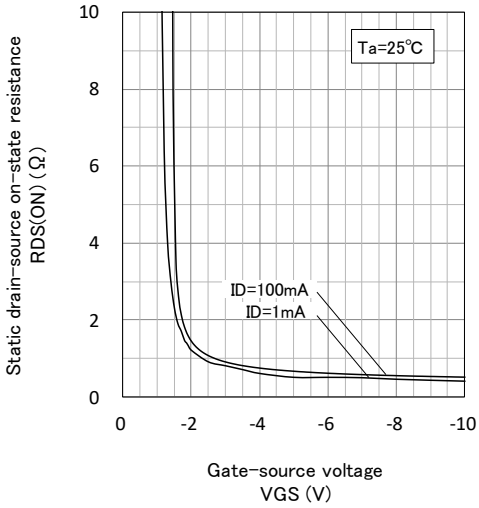
RDS(ON) – ID



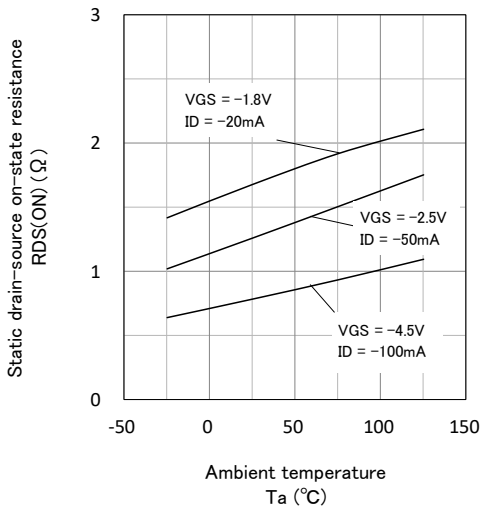
RDS(ON) – VGS



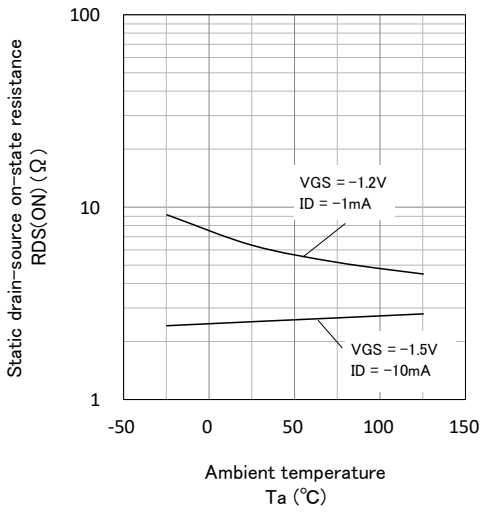
RDS(ON) – VGS



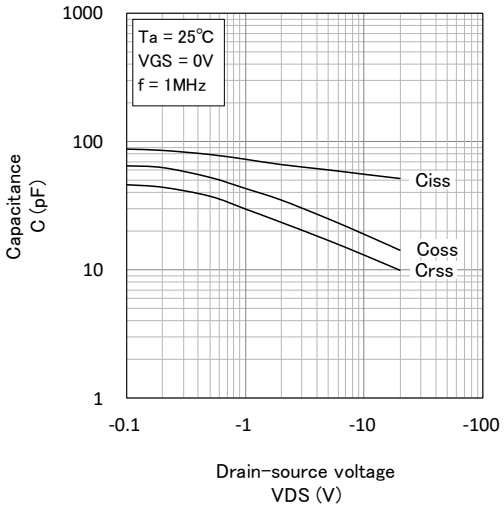
RDS(ON) – Ta



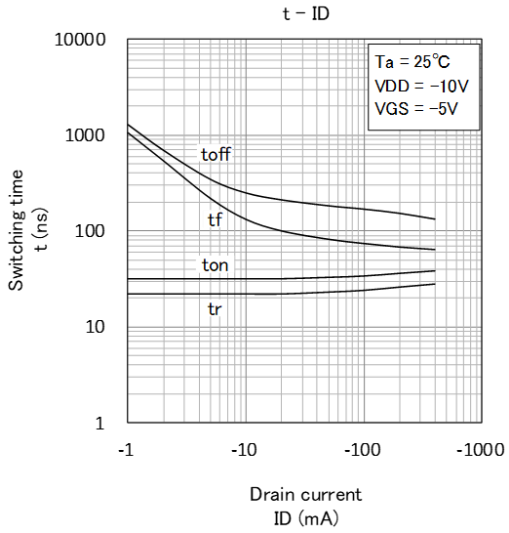
RDS(ON) – Ta



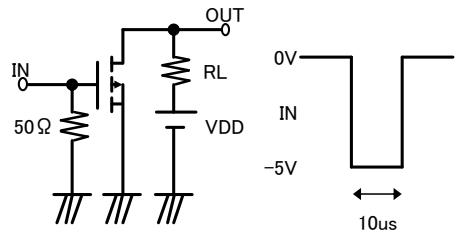
C – VDS



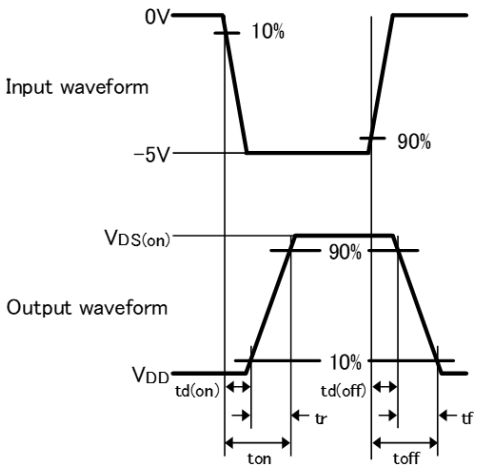
t – ID



Switching time test condition



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



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