PRELIMINARY

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

# INJ0203BP1

**High Speed Switching**
**Silicon P-channel MOSFET**

## DESCRIPTION

INJ0203BP1 is a Silicon P-channel MOSFET.
This product is most suitable for use such as portable machinery , because voltage drive and low on resistance.

## FEATURE

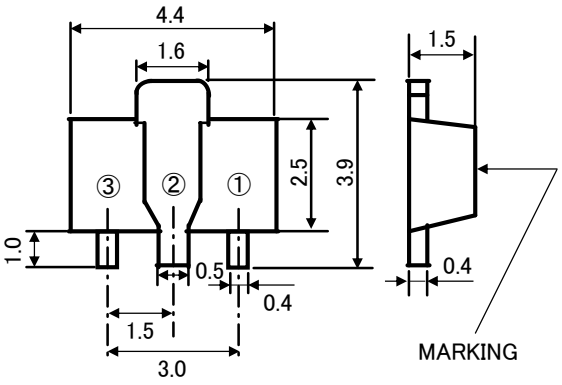
・Input impedance is high, and not necessary to consider a drive electric current.
・High drain current ID=−2.6A
・Drive voltage −2.5V
・Low on Resistance. RDS(on)=220mΩ(TYP).
※@ID=−2.6A,VGS=−2.5V
RDS(on)=130mΩ(TYP).
※@ID=−2.6A,VGS=−4.5V
・High speed switching.
・Ultra-compact dimensions allow for miniaturization of sets and high-density mounting.

## APPLICATION

High Speed Switching , Analog Switching etc.

## OUTLINE DRAWING

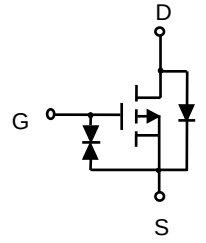
UNIT:mm



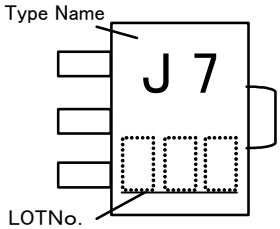

TERMINAL CONNECTOR
①:GATE
②:DRAIN
③:SOURCE

JEITA:SC-62
JEDEC:SOT-89

## EQUIVALENT CIRCUIT




## MARKING




## MAXIMUM RATINGS(Ta=25℃)

| Symbol | Parameter | Rating | Unit |
|---|---|---|---|
| VDSS | Drain-Source Voltage | −20 | V |
| VGSS | Gate-Source Voltage | ±10 | V |
| ID | Drain Current(DC) ※1 | −2.6 | A |
| IDP | Drain Current(Pulse) ※2 | −6 | A |
| PD | Total Power Dissipation ※1 | 1.5 | W |
| Tch | Channel Temperature | +150 | ℃ |
| Tstg | Storage temperature | −55～+150 | ℃ |

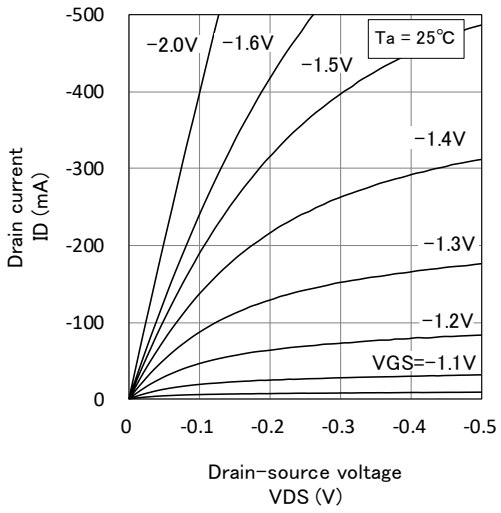
※1:When mounted on glass epoxy board(20mm×20mm×1mm,Cu pad 100mm$^2$)
※2:Pw≦10ms, Duty cycle≦1%

## ELECTRICAL CHARACTERISTICS(Ta=25℃)

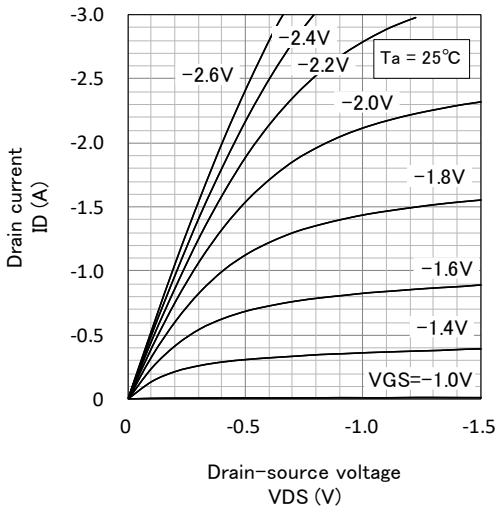
| Parameter | Symbol | Test Condition | Limit | | | Unit |
|---|---|---|---|---|---|---|
| | | | MIN | TYP | MAX | |
| Drain-Source Breakdown Voltage | V(BR)DSS | $I_D$=−250μA, $V_{GS}$=0V | −20 | − | − | V |
| Gate-Source Leak current | IGSS | $V_{GS}$=±10V, $I_{DS}$=0A | − | − | ±10 | μA |
| Zero Gate Voltage Drain Current | IDSS | $V_{DS}$=−20V, $V_{GS}$=0V | − | − | −1.0 | μA |
| Gate Threshold Voltage | Vth | $I_D$=−250μA, $V_{DS}$=$V_{GS}$ | −0.4 | − | −1.2 | V |
| Static Drain-Source On-State Resistance | RDS(ON) | $I_D$=−2.6A, $V_{GS}$=−2.5V | − | 220 | 300 | mΩ |
| | | $I_D$=−2.6A, $V_{GS}$=−4.5V | − | 130 | 170 | |
| Input Capacitance | Ciss | $V_{DS}$=−10V, $V_{GS}$=0V, f=1MHz | − | 320 | − | pF |
| Output Capacitance | Coss | | − | 90 | − | pF |
| Switching Time | ton | $V_{DD}$=−20V, $I_D$=−200mA $V_{GS}$=0～−5V | − | 320 | − | ns |
| | toff | | − | 1900 | − | ns |

## TYPICAL CHARACTERISTICS

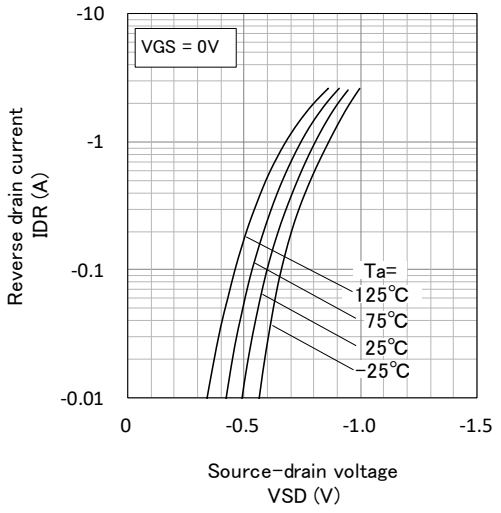
ID – VDS



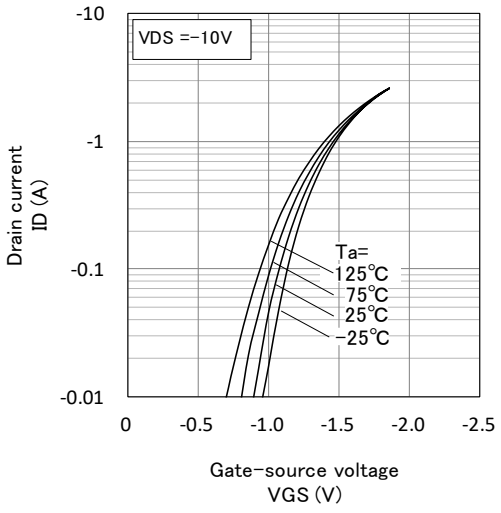

ID – VDS



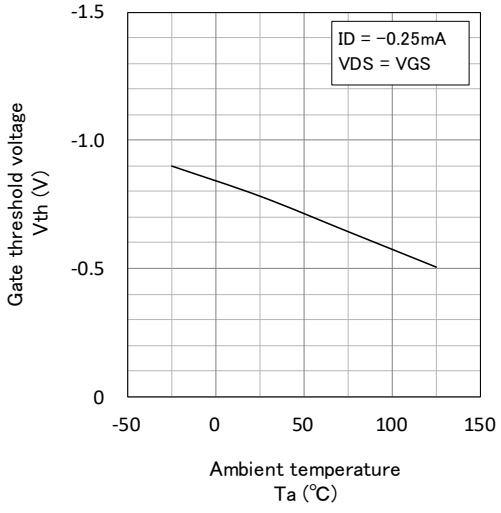

IDR – VSD



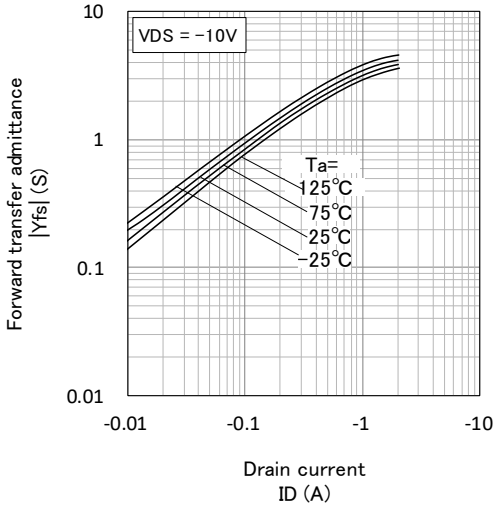

ID – VGS



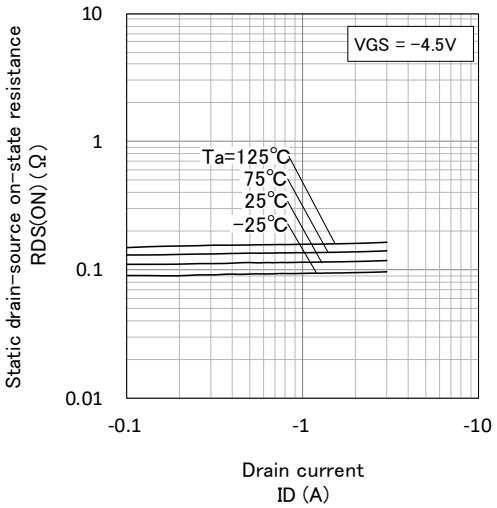

Vth – Ta



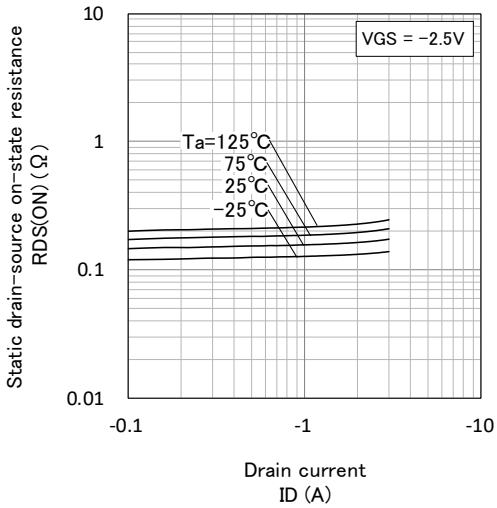

|Yfs| – ID



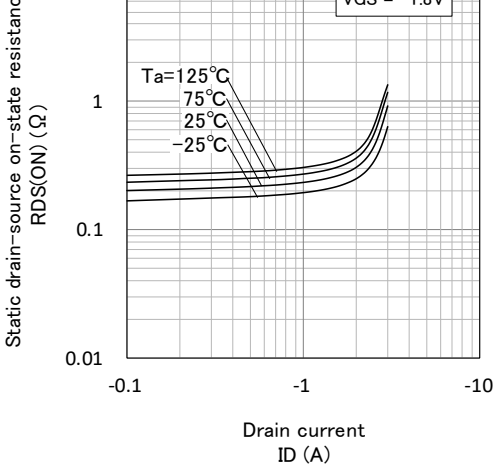
RDS(ON) – ID



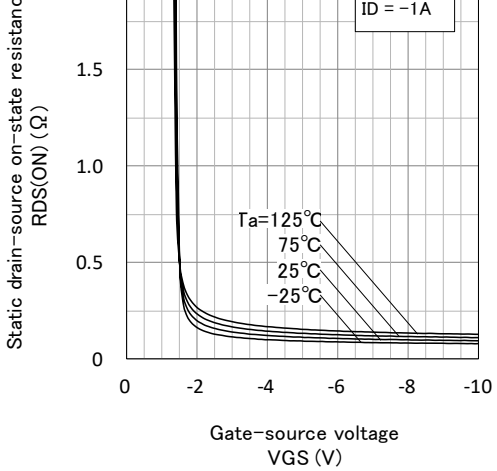

RDS(ON) – ID



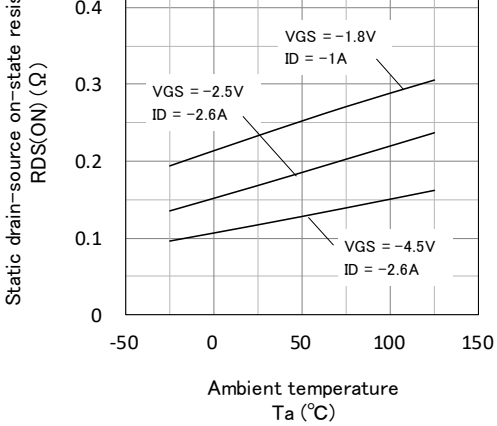

RDS(ON) – ID



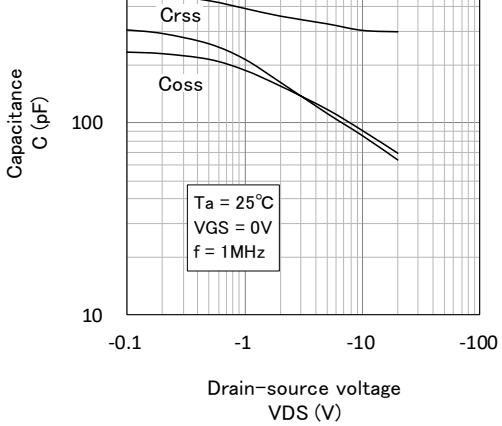

RDS(ON) – VGS

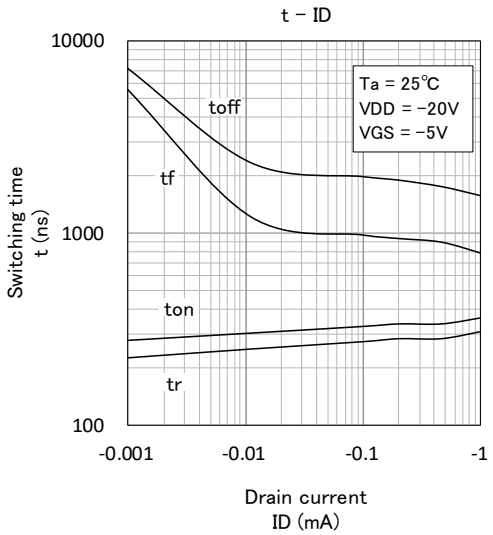



RDS(ON) – Ta

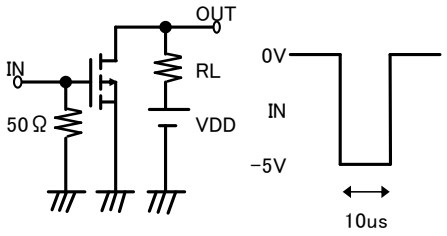



C – VDS

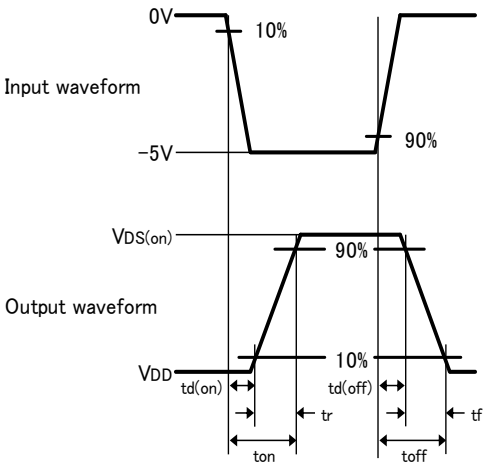





Switching time test condition




Duty ≦ 1%
入力 : tr, tf < 10ns
VDD=−20V,VG=−5V
Common source
Ta = 25℃



**Keep safety first in your circuit designs!**

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