

INJ0203BC1

Silicon P-channel MOSFET

DESCRIPTION

INJ0203BC1 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 -2.5V
- Low on Resistance. $R_{DS(on)}=100\text{m}\Omega$ (TYP).
- Small package for easy mounting.

APPLICATION

Switching

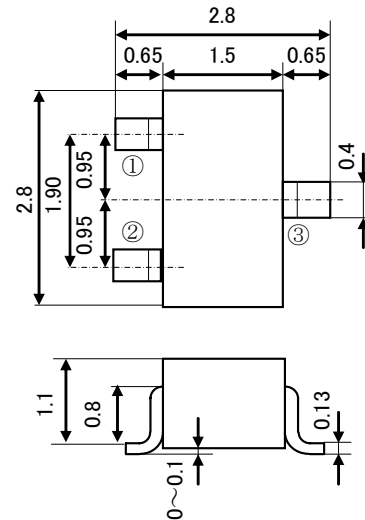
MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

| Symbol | Parameter | Rating | Unit |
|-----------|-------------------------|----------|------------------|
| V_{DSS} | Drain-Source Voltage | -20 | V |
| V_{GSS} | Gate-Source Voltage | -10 | V |
| I_D | Drain Current(DC) | -2 | A |
| I_{DP} | Drain current(Pulse) ※1 | -4 | A |
| PD | Total Power Dissipation | 200 | mW |
| T_{ch} | Channel Temperature | +150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55~+150 | $^\circ\text{C}$ |

※1: $P_w \leq 10 \mu\text{s}$, Duty cycle $\leq 1\%$

OUTLINE DRAWING

Unit: mm



JEITA: SC-59

JEDEC: Similar to TO-236

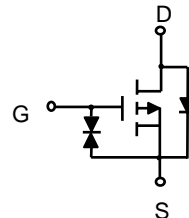
TERMINAL CONNECTER

①: GATE

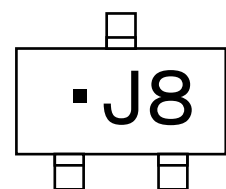
②: SOURCE

③: DRAIN

EQUIVALENT CIRCUIT



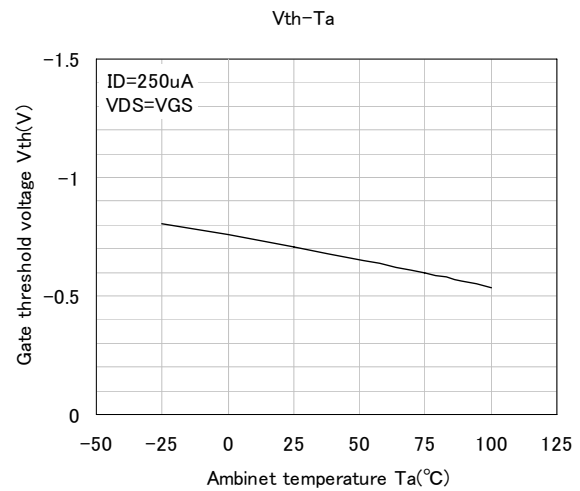
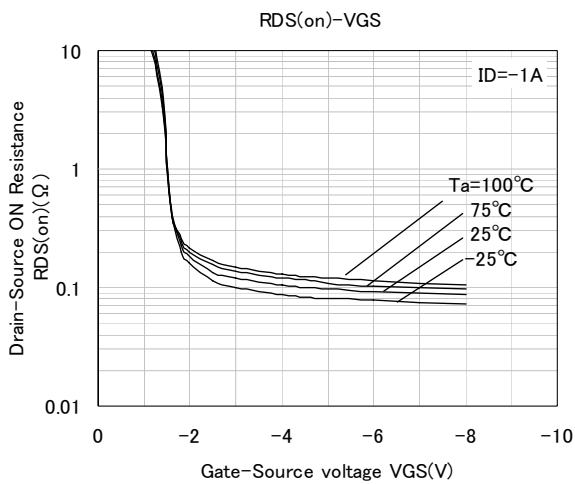
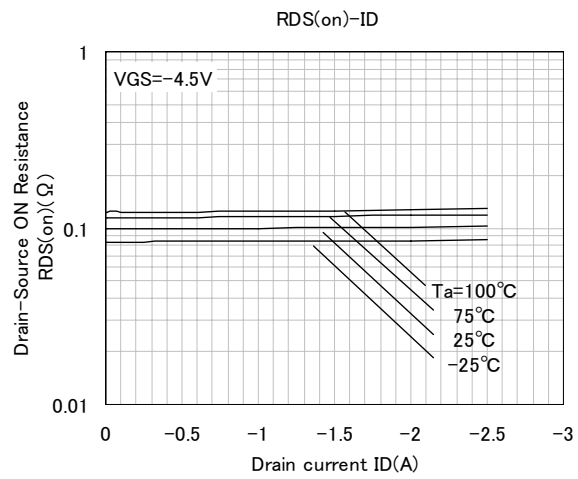
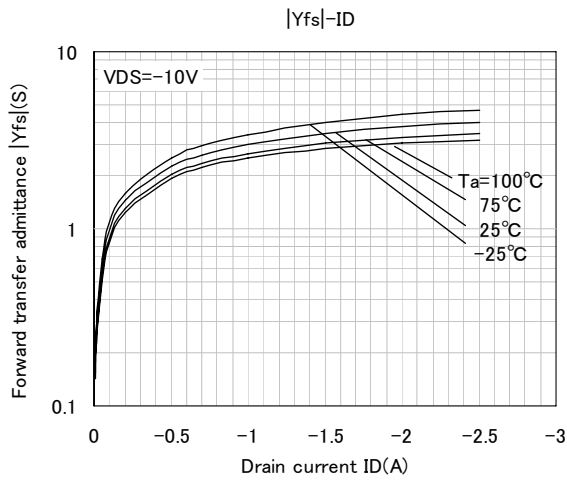
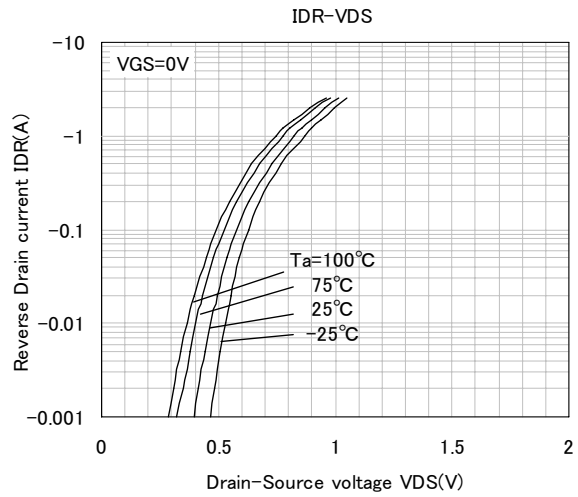
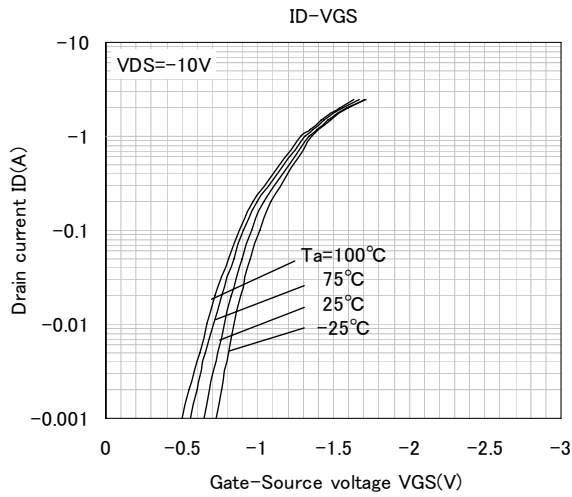
MARKING



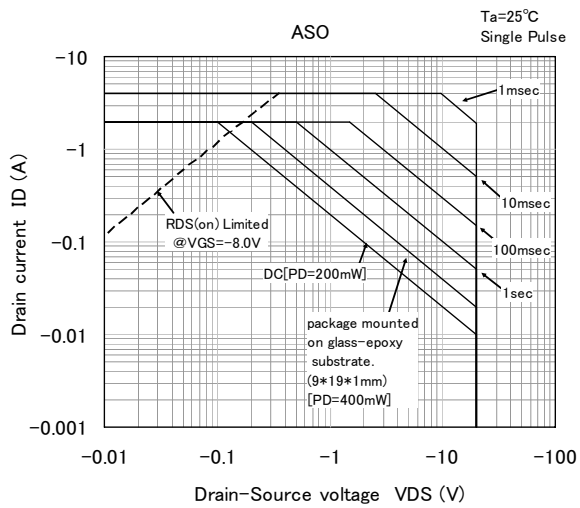
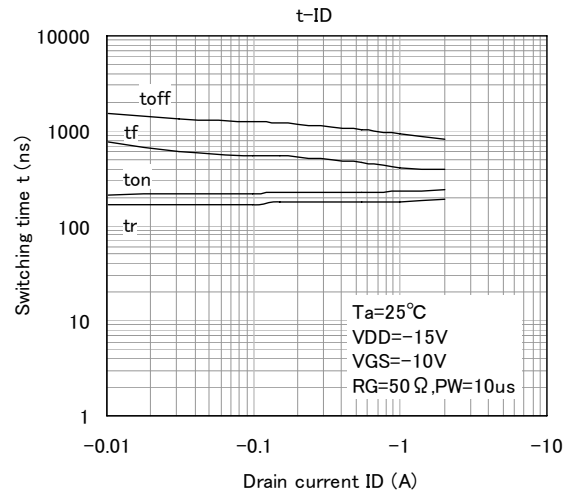
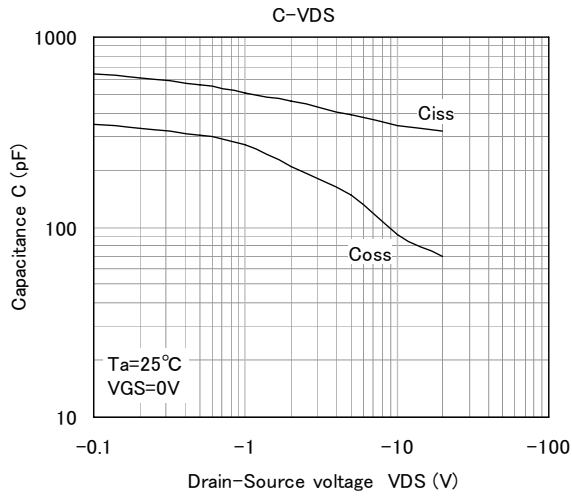
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

| Parameter | Symbol | Test Condition | Limit | | | Unit |
|---|---------------|---|-------|-----|----------|------------------|
| | | | MIN | TYP | MAX | |
| Drain-Source Breakdown Voltage | $V_{(BR)DSS}$ | $I_D=-100 \mu\text{A}$, $V_{GS}=0\text{V}$ | -20 | - | - | V |
| Gate-Source Leak current | I_{GSS} | $V_{GS}=\pm 10\text{V}$, $V_{DS}=0\text{V}$ | - | - | ± 10 | μA |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-20\text{V}$, $V_{GS}=0\text{V}$ | - | - | -10 | μA |
| Gate Threshold Voltage | V_{th} | $I_D=-250 \mu\text{A}$, $V_{DS}=V_{GS}$ | -0.4 | - | -1.2 | V |
| Forward Transfer Admittance | $ Y_{fs} $ | $V_{DS}=-10\text{V}$, $I_D=-1\text{A}$ | - | 3.0 | - | S |
| Static Drain-Source On-State Resistance | $R_{DS(ON)}$ | $I_D=-1\text{A}$, $V_{GS}=-4.5\text{V}$ | - | 100 | - | $\text{m}\Omega$ |
| Input Capacitance | C_{iss} | $V_{DS}=-10\text{V}$, $V_{GS}=0\text{V}$, $f=1\text{MHz}$ | - | 340 | - | pF |
| Output Capacitance | C_{oss} | | - | 90 | - | pF |
| Switching Time | t_{on} | $V_{DD}=-15\text{V}$, $I_D=-1\text{A}$ | - | 230 | - | ns |
| | t_{off} | $V_{GS}=0\sim-10\text{V}$ | - | 940 | - | ns |

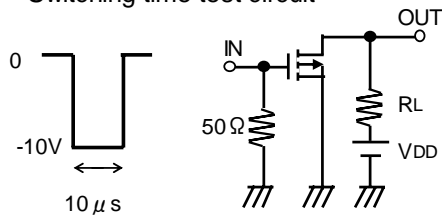
TYPICAL CHARACTERISTICS



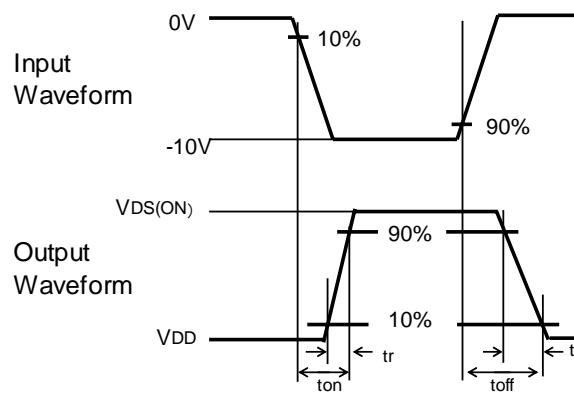
TYPICAL CHARACTERISTICS



Switching time test circuit



$V_{DD}=-15\text{V}$
Duty $\leq 1\%$
Input: $t_r, t_f < 10\text{ns}$
Common source
 $T_a=25^\circ\text{C}$





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