PRELIMINARY

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

# INK0302BC1

High Speed Switching
Silicon N-channel MOSFET

## DESCRIPTION

INK0302BC1 is a Silicon N-channel MOSFET.
This product is most suitable for use such as portable machinery, because of low voltage drive and low on resistance.

## FEATURE

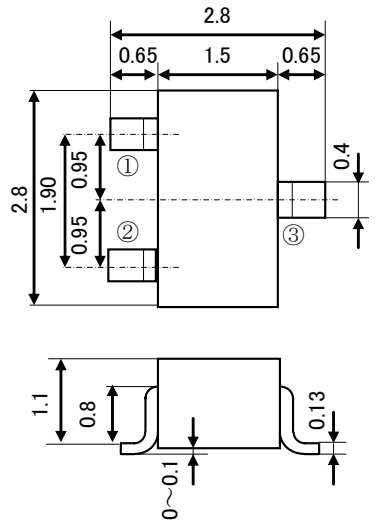
・Input impedance is high, and not necessary to consider a drive electric current.
・Drive voltage 2.5V
・Low on Resistance. $R_{DS(on)}$=75mΩ(TYP).
・Small package for easy mounting.

## APPLICATION

Switching

## OUTLINE DRAWING

Unit:mm



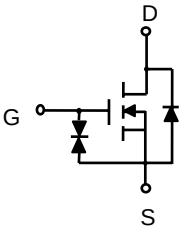

JEITA:SC-59
JEDEC:Similar to TO-236
TERMINAL CONNECTER
①:GATE
②:SOURCE
③:DRAIN

## MAXIMUM RATINGS(Ta=25℃)

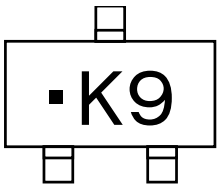
| Symbol | Parameter | Rating | Unit |
|---|---|---|---|
| $V_{DSS}$ | Drain-Source Voltage | 30 | V |
| $V_{GSS}$ | Gate-Source Voltage | ±10 | V |
| $I_D$ | Drain Current(DC) | 2.5 | A |
| $I_{DP}$ | Drain current(Pulse) ※1 | 4 | A |
| $P_D$ | Total Power Dissipation | 200 | mW |
| $T_{ch}$ | Channel Temperature | +150 | ℃ |
| $T_{stg}$ | Storage Temperature | −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 | 30 | − | − | V |
| Gate-Source Leak current | $I_{GSS}$ | $V_{GS}$=±10V, $V_{DS}$=0V | − | − | ±10 | μA |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=30V, $V_{GS}$=0V | − | − | 10 | μA |
| Gate Threshold Voltage | $V_{th}$ | $I_D$=−250μA, $V_{DS}$=$V_{GS}$ | 0.4 | − | 1.2 | V |
| Forward Transfer Admittance | $\|Y_{fs}\|$ | $V_{DS}$=10V, $I_D$=1A | − | 2.5 | − | S |
| Static Drain-Source On-State Resistance | $R_{DS(ON)}$ | $I_D$=1A, $V_{GS}$=4.5V | − | 75 | − | mΩ |
| Input Capacitance | $C_{iss}$ | $V_{DS}$=10V, $V_{GS}$=0V, f=1MHz | − | 350 | − | pF |
| Output Capacitance | $C_{oss}$ | | − | 60 | − | pF |
| Switching Time | $t_{on}$ | $V_{DD}$=15V, $I_D$=1A | − | 40 | − | ns |
| | $t_{off}$ | $V_{GS}$=0～10V | − | 450 | − | ns |

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