# RT3JGGM

Composite Transistor
For high speed switching
Silicon P-channel MOSFET

## DESCRIPTION

RT3JGGM is a composite transistor built with two INJ0103AX chips in SC-88 package.

## FEATURE

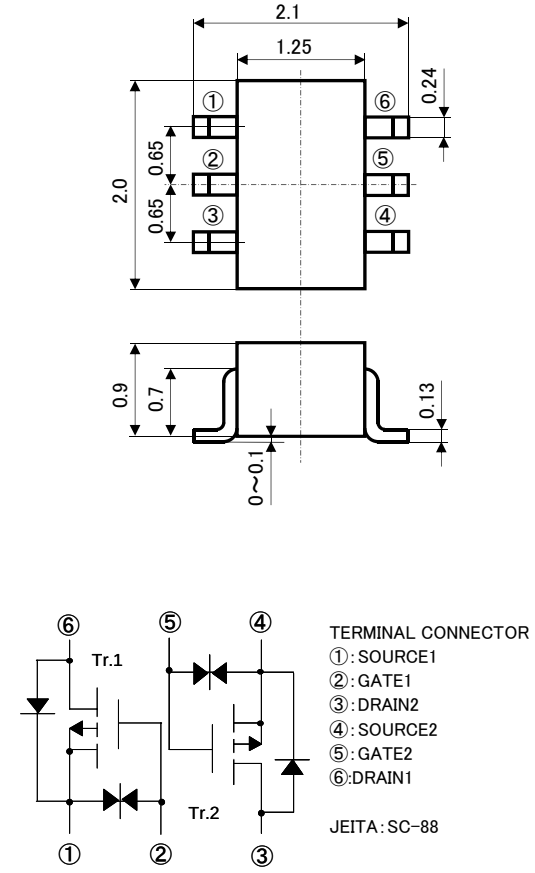
・Input impedance is high, and not necessary to consider a drive electric current.
・Drive voltage −1.8V
・Low on Resistance.
$R_{DS(ON)}$=0.67Ω (TYP) @$I_D$=−400mA, $V_{GS}$=−4.5V
$R_{DS(ON)}$=1.1Ω (TYP) @$I_D$=−300mA, $V_{GS}$=−2.5V
$R_{DS(ON)}$=1.6Ω (TYP) @$I_D$=−10mA, $V_{GS}$=−1.8V
・High speed switching.
・Small package for easy mounting.

## APPLICATION

High speed switching , Analog switching

## OUTLINE DRAWING

Unit : mm

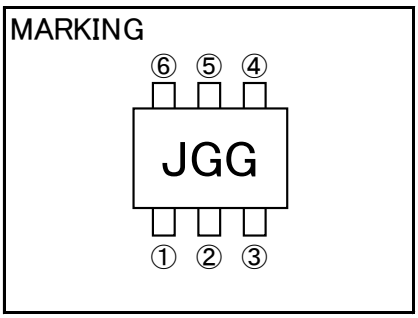



## MAXIMUM RATING (Ta=25℃) (Tr1,Tr2 Common)

| SYMBOL | PARAMETER | RATING | UNIT |
|---|---|---|---|
| $V_{DSS}$ | Drain-source voltage | −20 | V |
| $V_{GSS}$ | Gate-source voltage | ±8 | V |
| $I_D$ | Drain current(DC) | −550 | mA |
| $I_{DP}$ | Drain current(Pulse) | −2.2※1 | A |
| $P_D$ | Total power dissipation | 150 | mW |
| | | 600※2 | mW |
| $T_{ch}$ | Channel temperature | ＋150 | ℃ |
| $T_{stg}$ | Range of Storage temperature | −55～＋150 | ℃ |

※1 : Pw≦10μs, Duty cycle≦1%
※2 : Package mounted on glass-epoxy substrate
(20mm × 20mm × 1mm , Cu pad 100mm$^2$)

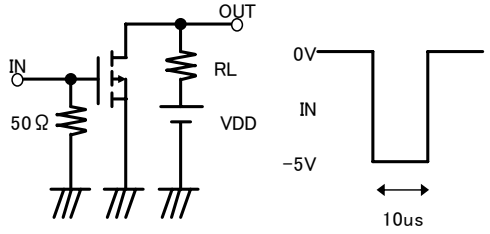
## MARKING



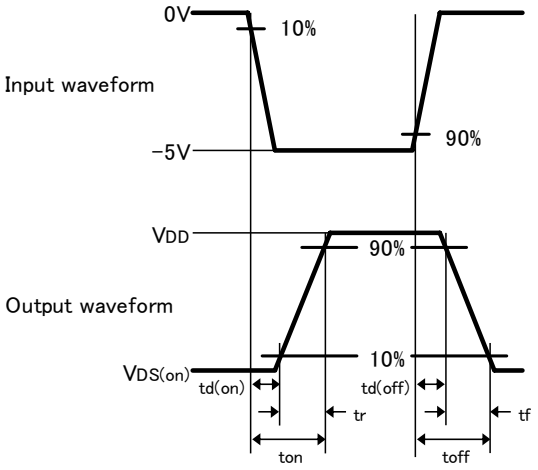
## ELECTRICAL CHARACTERISTICS (Ta=25°C) (Tr1,Tr2 Common)

| SYMBOL | Parameter | Test conditions | Limits | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min | Typ | Max | |
| $V_{(BR)DSS}$ | Drain-source breakdown voltage | $I_D$=-100μA, $V_{GS}$=0V | -20 | - | - | V |
| $I_{GSS}$ | Gate-source leak current | $V_{GS}$=±5V, $V_{DS}$=0V | - | - | ±0.5 | μA |
| $I_{DSS}$ | Zero gate voltage drain current | $V_{DS}$=-20V, $V_{GS}$=0V | - | - | -1.0 | μA |
| $V_{th}$ | Gate threshold voltage | $I_D$=-250μA, $V_{DS}$=$V_{GS}$ | -0.6 | - | -1.2 | V |
| $\lvert Y_{fs} \rvert$ | Forward transfer admittance | $V_{DS}$=-5V, $I_D$=-200mA | - | 560 | - | mS |
| $R_{DS(ON)}$ | Static drain-source on-state resistance | $I_D$=-400mA, $V_{GS}$=-4.5V | - | 0.67 | - | Ω |
| | | $I_D$=-300mA, $V_{GS}$=-2.5V | - | 1.1 | - | |
| | | $I_D$=-10mA, $V_{GS}$=-1.8V | - | 1.6 | - | |
| $C_{iss}$ | Input capacitance | $V_{DS}$=-10V, $V_{GS}$=0V, f=1MHz | - | 57 | - | pF |
| $C_{oss}$ | Output capacitance | | - | 20 | - | pF |
| $t_{on}$ | Switching time | $V_{DD}$=-10V, $I_D$=-400mA<br>$V_{GS}$=0～-5V | - | 42 | - | ns |
| $T_{off}$ | | | - | 140 | - | |

Switching time test condition

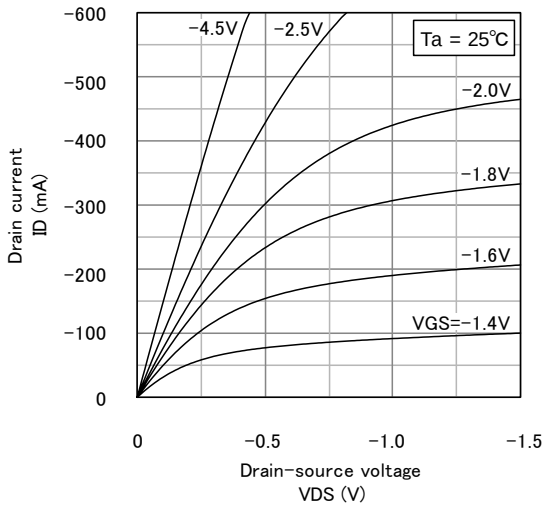



Duty ≦ 1%
Input : tr, tf < 10ns
VDD = -10V
Common source
Ta = 25°C

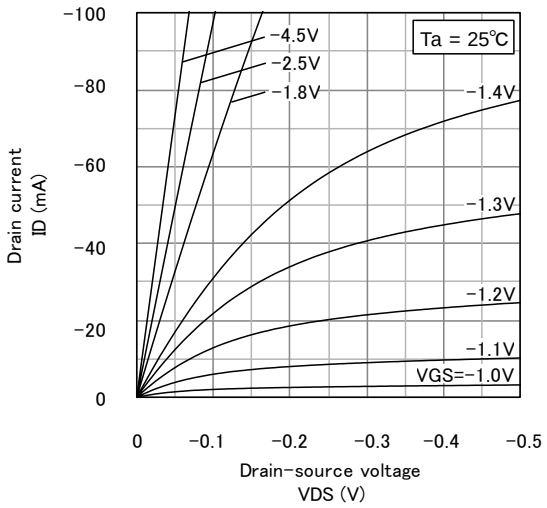


## TYPICAL CHARACTERISTICS

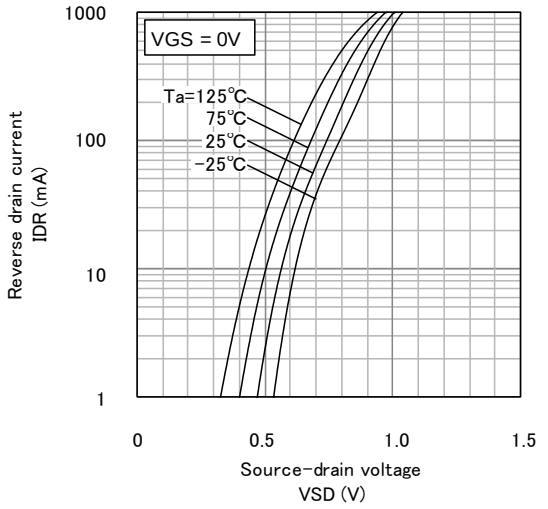
ID – VDS



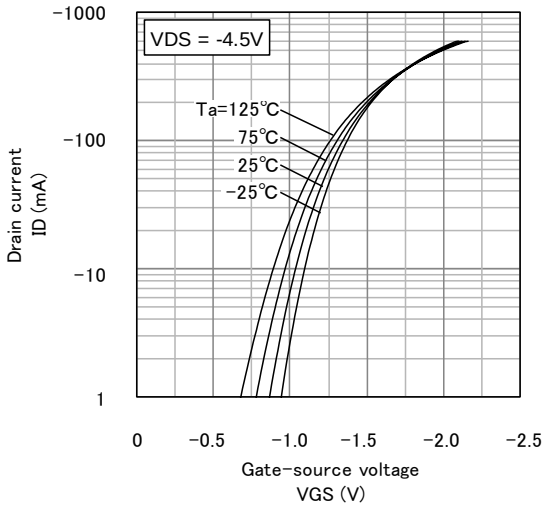

ID – VDS (Low voltage legion)



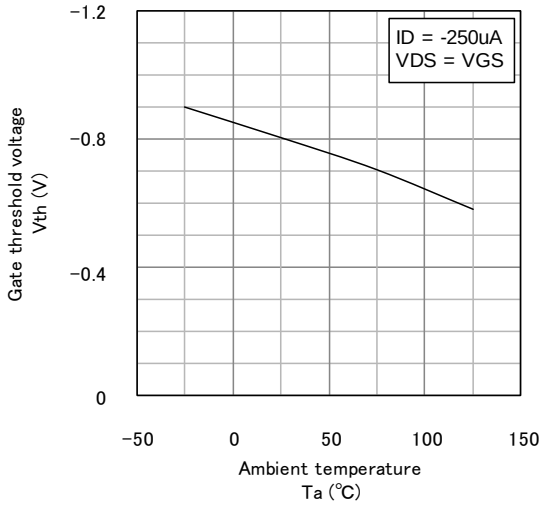

IDR – VSD



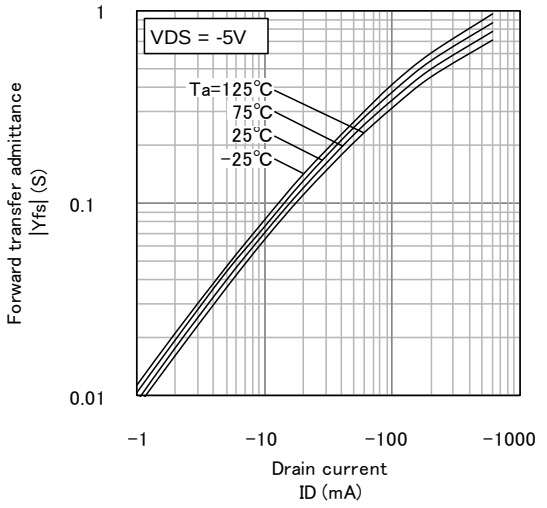

ID – VGS



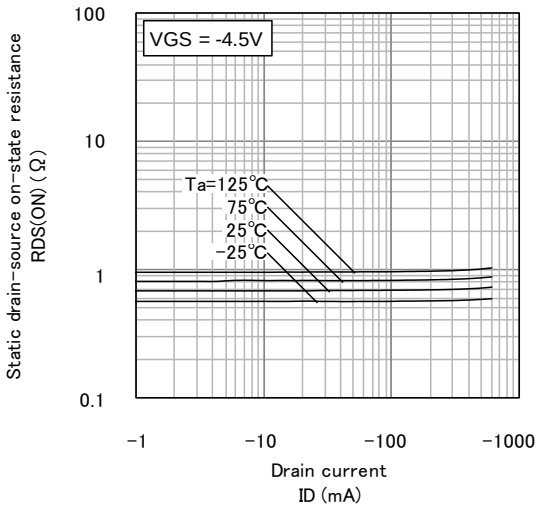

Vth – Ta



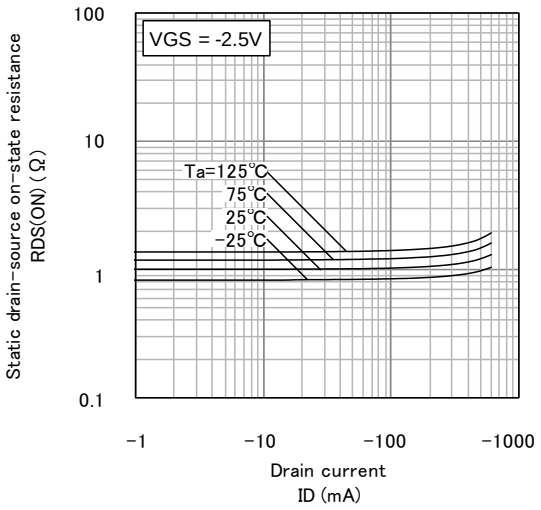

|Yfs| – ID



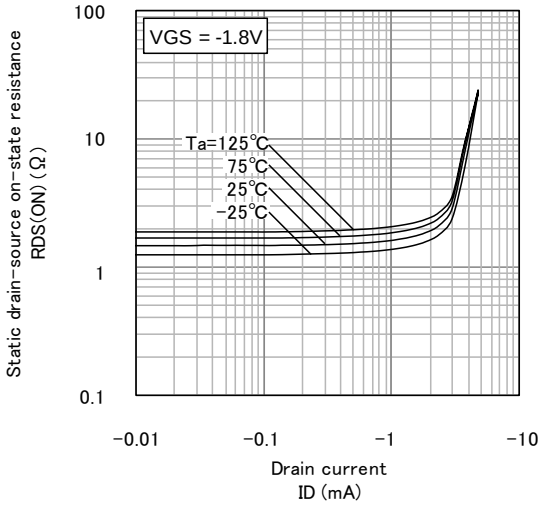
RDS(ON) – ID



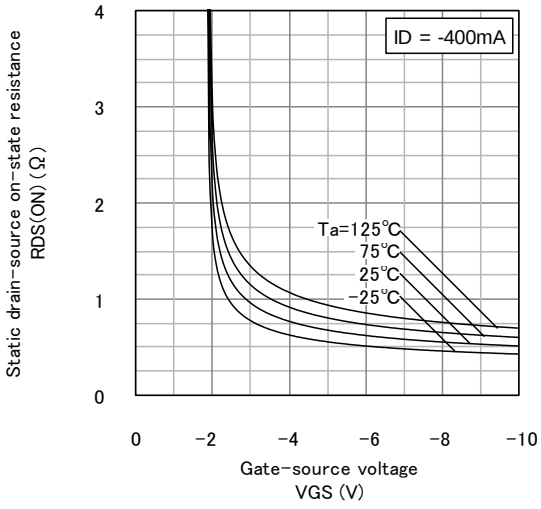

RDS(ON) – ID



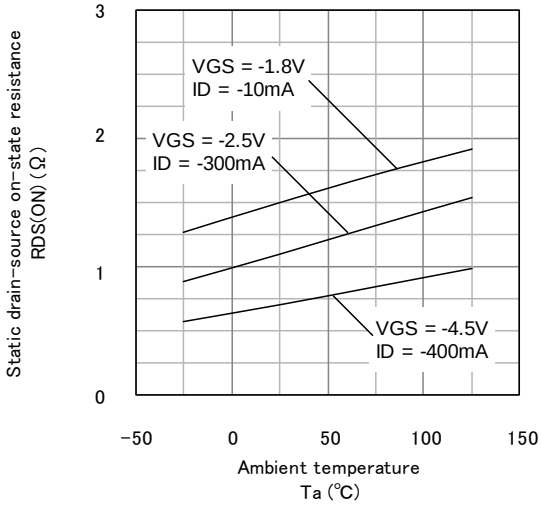

RDS(ON) – ID



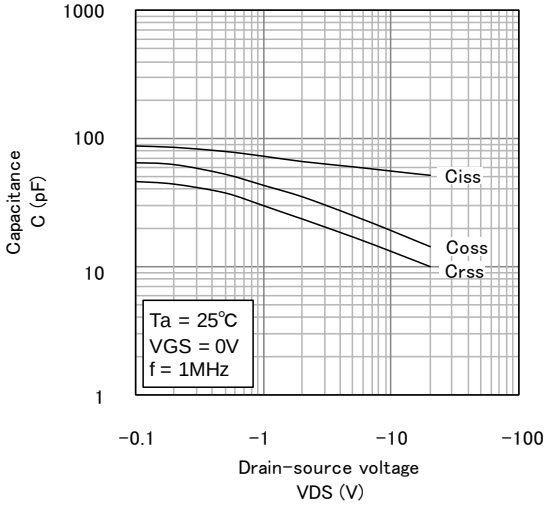

RDS(ON) – VGS



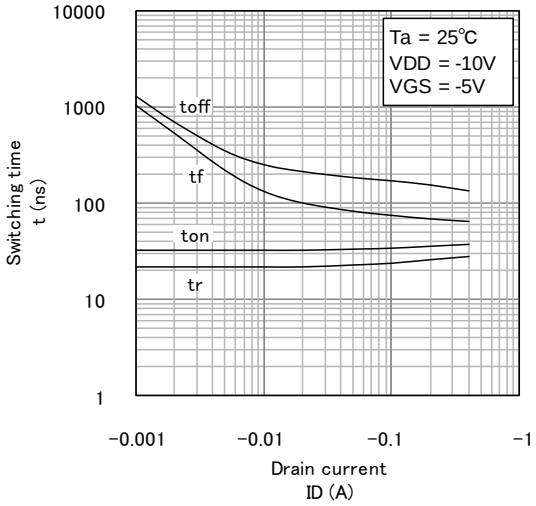

RDS(ON) – Ta



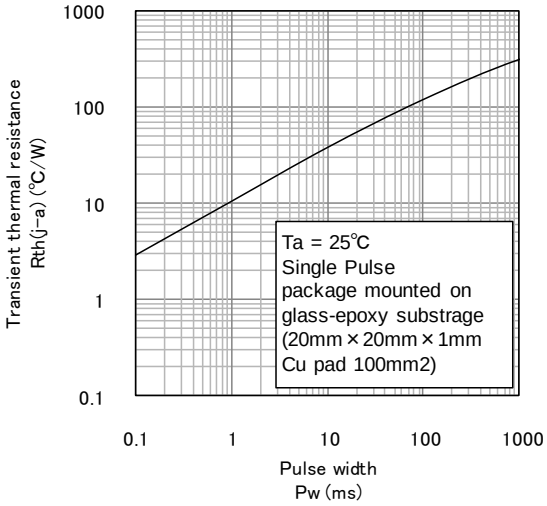

C – VDS



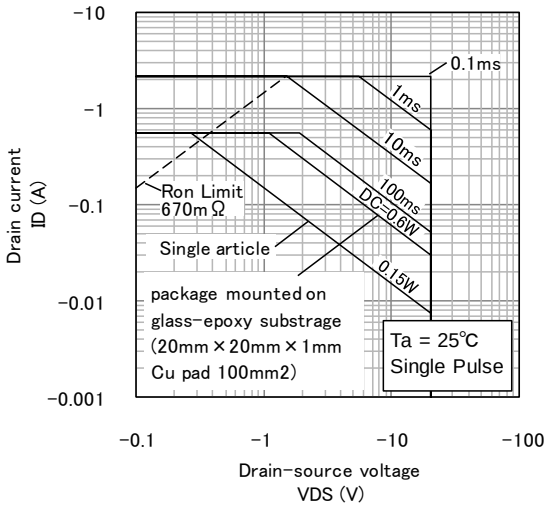
t - ID



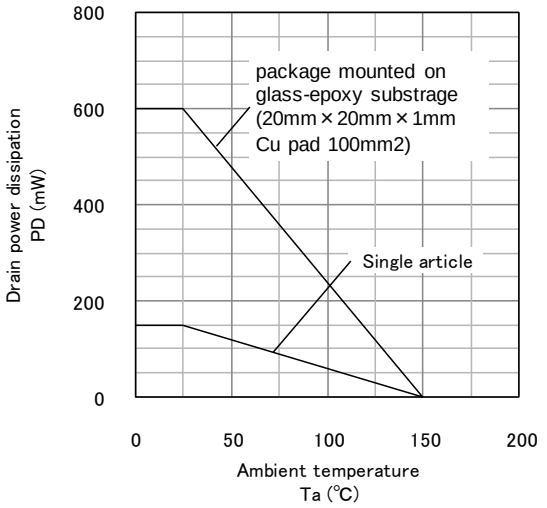

Rth(j-a) - Pw




ASO




PD - Ta



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