# PRELIMINARY

# RT3J22M

Composite Transistor For high speed switching Silicon P-channel MOSFET

### DESCRIPTION

RT3J22M is a composite transistor built with two INJ0002AX chips in SC-88 package.

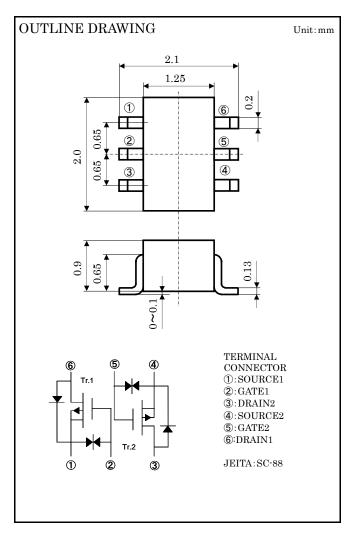
### FEATURE

•Input impedance is high, and not necessary to consider a drive electric current.

- •Vth is low, and drive by low voltage is possible. Vth= $0.6 \sim 1.2 V$
- •Low on Resistance. Ron= $3\Omega(TYP)$
- •High speed switching.
- •Small package for easy mounting.

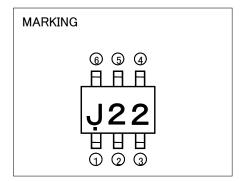
### APPLICATION

high speed switching , Analog switching



### MAXIMUM RATING (Ta=25°C)

SYMBOL	PARAMETER	RATING	UNIT
V <sub>DSS</sub>	Drain-source voltage	-30	V
VGSS	Gate-source voltage	±8	V
ID	Drain current	-200	mA
PD	Total power dissipation(Ta=25°C)	150	mW
$T_{ch}$	Channel temperature	+125	°C
$\mathrm{T}_{\mathrm{stg}}$	Range of Storage temperature	-55~+125	°C



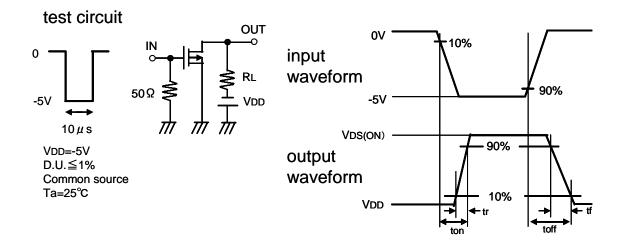
## RT3J22M

Composite Transistor For high speed switching Silicon P-channel MOSFET

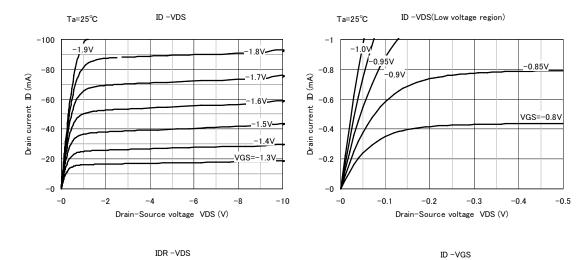
### ELECTRICAL CHARACTERISTICS (Ta=25°C)

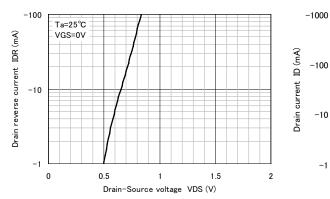
Symbol	Parameter	Test conditions	Limits			Unit
			Min	Тур	Max	Unit
V(BR)DSS	Drain-source breakdown voltage	I <sub>D</sub> =-100 μ A, V <sub>GS</sub> =0V	-30	-	-	V
Igss	Gate-source leak current	$V_{GS} = \pm 5V, V_{DS} = 0V$	-	_	±0.5	μA
Idss	Zero gate voltage drain current	V <sub>DS</sub> =-30V ,V <sub>GS</sub> =0V	-	_	-50	μA
$V_{\text{th}}$	Gate threshold voltage	$I_{D} = -250 \mu$ A, V <sub>DS</sub> = V <sub>GS</sub>	-0.6	-	-1.2	V
Y <sub>fs</sub>	Forward transfer admittance	V <sub>DS</sub> =-10V, I <sub>D</sub> =-0.1A	-	220	-	mS
Rds(on)	Static drain-source on-state resistance	I <sub>D</sub> =-100mA, V <sub>GS</sub> =-4.0V	-	3	-	Ω
Ciss	Input capacitance	$V_{DS}$ =-10V, $V_{GS}$ =0V,f=1MHz	-	35	-	pF
Coss	Output capacitance	V <sub>DS</sub> =-10V, V <sub>GS</sub> =0V,f=1MHz	-	7.3	-	pF
ton	- Switching time	V <sub>DD</sub> =-5V , I <sub>D</sub> =-10mA	_	14	_	
toff		V <sub>GS</sub> =0∼−5V	-	100	-	ns

### Switching time test condition

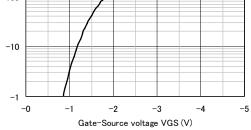


### **TYPICAL CHARACTERISTICS**



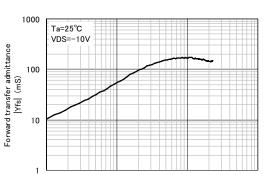






Ta=25°C

VDS=-10V

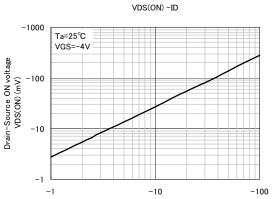


Drain current ID (mA)

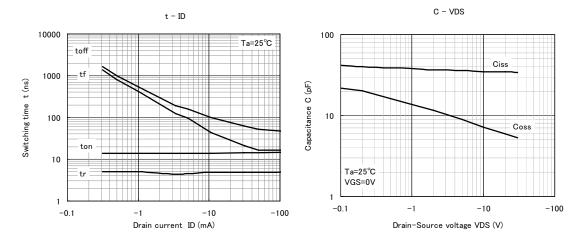
-100

-10

-1







-1000

ISAHAYA ELECTRONICS CORPORATION



Marketing division, Marketing planning department

6-41 Tsukuba, Isahaya, Nagasaki, 854-0065 Japan

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

ISAHAYA Electronics Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (1) placement of substitutive, auxiliary, (2) use of non-farmable material or (3) prevention against any malfunction or mishap.

#### Notes regarding these materials

These materials are intended as a reference to our customers in the selection of the ISAHAYA products best suited to the customer's application; they don't convey any license under any intellectual property rights, or any other rights, belonging

Customer's application; they don't convey any license under any intellectual property rights, or any other rights, belonging ISAHAYA or third party. ISAHAYA Flectronics Corporation assumes no responsibility for any damage, or infringement of any third party's rights, originating in the use of any product data, diagrams, charts or circuit application examples contained in these materials. •All information contained in these materials, including product data, diagrams and charts, represent information on products at the time of publication of these materials, and are subject to change by ISAHAYA Electronics Corporation without notice due to product improvements or other reasons. It is therefore recommended that customers contact ISAHAYA Electronics Corporation or an authorized ISAHAYA products distributor for the latest product information before purchasing product listed become

ISAHAYA Electronics Corporation products are not designed or manufactured for use in a device or system that is used under circumstances in which human life is potentially at stake. Please contact ISAHAYA electronics corporation or an authorized ISAHAYA products distributor when considering the use of a product contained herein for any specific purposes, such as apparatus or systems for transportation, vehicular, medical, aerospace, nuclear, or undersea repeater use.
The prior written approval of ISAHAYA Electronics Corporation is necessary to reprint or reproduce in whole or in part these

materials.

If these products or technologies are subject to the Japanese export control restrictions, they must be exported under a license from the Japanese government and cannot be imported into a country other than the approved destination. Any diversion or re-export contrary to be export control laws and regulations of Japan and/or the country of destination is prohibited. •Please contact ISAHAYA Electronics Corporation or authorized ISAHAYA products distributor for further details on these

materials or the products contained therein.