

Transistors

# 4V Drive Nch MOS FET

## RHU003N03

●Structure

Silicon N-channel MOS FET

●Features

- 1) Low On-resistance.
- 2) 4V drive.

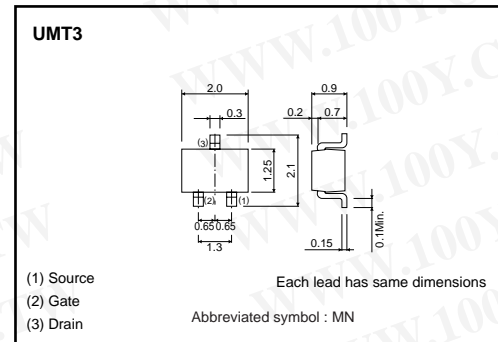
●Applications

Switching

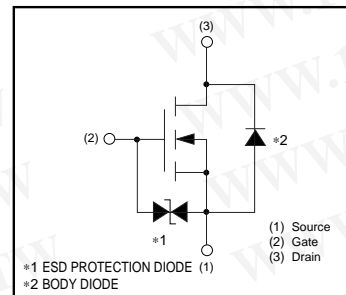
●Packaging specifications

Type	Package	Taping
	Code	T106
	Basic ordering unit (pieces)	3000
RHU003N03		○

●External dimensions (Unit : mm)



●Inner circuit



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Drain-source voltage	V <sub>DSS</sub>	30	V
Gate-source voltage	V <sub>GSS</sub>	±20	V
Drain current	Continuous	I <sub>D</sub>	±300 mA
	Pulsed	I <sub>DP</sub> *1	±1.2 A
Total power dissipation	P <sub>D</sub> *2	200	mW
Channel temperature	T <sub>ch</sub>	150	°C
Range of storage temperature	T <sub>stg</sub>	-55 to +150	°C

\*1 Pw≤10μs, Duty cycle≤1%

\*2 Each terminal mounted on a recommended land

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	R <sub>th(ch-a)</sub> *	625	°C/W

\* Each terminal mounted on a recommended land

## Transistors

## ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I <sub>GSS</sub>	–	–	±10	μA	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V
Drain-source breakdown voltage	V <sub>(BR)DSS</sub>	30	–	–	V	I <sub>D</sub> =1mA, V <sub>GS</sub> =0V
Zero gate voltage drain current	I <sub>DSS</sub>	–	–	1	μA	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V
Gate threshold voltage	V <sub>GS(th)</sub>	1.0	–	2.5	V	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA
Static drain-source on-state resistance	R <sub>DS(on)</sub> *	–	0.8	1.2	Ω	I <sub>D</sub> =300mA, V <sub>GS</sub> =10V
		–	1.2	1.9	Ω	I <sub>D</sub> =300mA, V <sub>GS</sub> =4.5V
		–	1.4	2.3	Ω	I <sub>D</sub> =300mA, V <sub>GS</sub> =4V
Forward transfer admittance	Y <sub>fs</sub>  *	0.2	–	–	S	V <sub>DS</sub> =10V, I <sub>D</sub> =300mA
Input capacitance	C <sub>iss</sub>	–	20	–	pF	V <sub>DS</sub> =10V
Output capacitance	C <sub>oss</sub>	–	13	–	pF	V <sub>GS</sub> =0V
Reverse transfer capacitance	C <sub>rss</sub>	–	4	–	pF	f=1MHz
Turn-on delay time	t <sub>d(on)</sub> *	–	7	–	ns	V <sub>DD</sub> ≐15V
Rise time	t <sub>r</sub> *	–	6	–	ns	I <sub>D</sub> =150mA
Turn-off delay time	t <sub>d(off)</sub> *	–	9	–	ns	V <sub>GS</sub> =10V
Fall time	t <sub>f</sub> *	–	40	–	ns	R <sub>L</sub> =100Ω

\*Pulsed

## ●Body diode characteristics (Source-drain) (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V <sub>SD</sub>	–	–	1.2	V	I <sub>S</sub> =0.16A, V <sub>GS</sub> =0V

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## Appendix

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