

RJU003N03

Transistors

# 2.5V Drive Nch MOS FET

## RJU003N03

●Structure

Silicon N-channel MOS FET

●Features

- 1) Low On-resistance.
- 2) Low voltage drive (2.5V drive).

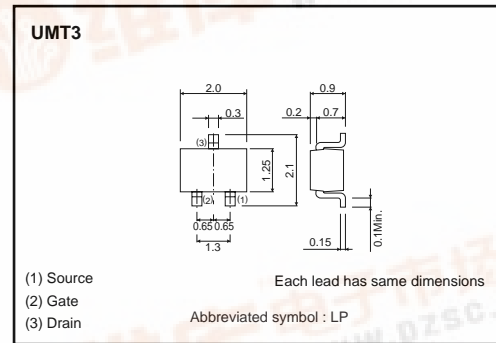
●Applications

Switching

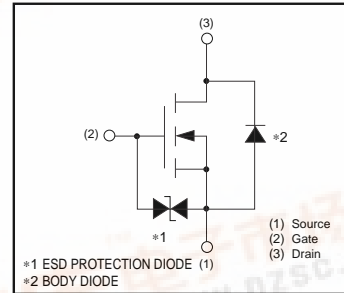
●Packaging specifications and hFE

Type	Package	Taping
	Code	T106
	Basic ordering unit (pieces)	3000
RJU003N03		○

●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>	±12	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	$I_{GSS}$	–	–	$\pm 10$	$\mu A$	$V_{GS}=\pm 12V, V_{DS}=0V$
Drain-source breakdown voltage	$V_{(BR) DSS}$	30	–	–	V	$I_D=1mA, V_{GS}=0V$
Zero gate voltage drain current	$I_{DSS}$	–	–	1	$\mu A$	$V_{DS}=30V, V_{GS}=0V$
Gate threshold voltage	$V_{GS(th)}$	0.8	–	1.5	V	$V_{DS}=10V, I_D=1mA$
Static drain-source on-state resistance	$R_{DS(on)}^*$	–	0.8	1.1	$\Omega$	$I_D=300mA, V_{GS}=4.5V$
		–	0.9	1.3	$\Omega$	$I_D=300mA, V_{GS}=4V$
		–	1.4	1.9	$\Omega$	$I_D=300mA, V_{GS}=2.5V$
Forward transfer admittance	$ Y_{fs} ^*$	0.4	–	–	S	$V_{DS}=10V, I_D=300mA$
Input capacitance	$C_{iss}$	–	24	–	pF	$V_{DS}=10V$
Output capacitance	$C_{oss}$	–	11	–	pF	$V_{GS}=0V$
Reverse transfer capacitance	$C_{rss}$	–	5	–	pF	$f=1MHz$
Turn-on delay time	$t_{d(on)}^*$	–	6	–	ns	$V_{DD}=15V$
Rise time	$t_r^*$	–	4	–	ns	$I_D=150mA$
Turn-off delay time	$t_{d(off)}^*$	–	9	–	ns	$V_{GS}=4V$
Fall time	$t_f^*$	–	32	–	ns	$R_L=100\Omega$ $R_G=10\Omega$

\*Pulsed

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	$V_{SD}$	–	–	1.2	V	$I_S=200mA, V_{GS}=0V$

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