2.5V Drive Nch MOS FET

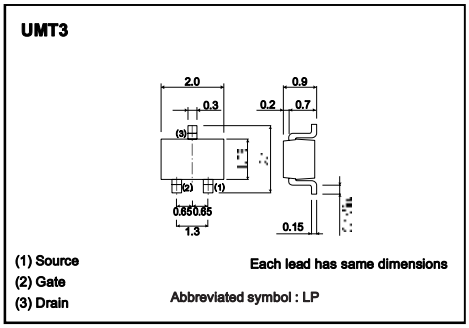
RJU003N03

●**Structure**
Silicon N-channel MOS FET

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

●**Applications**
Switching

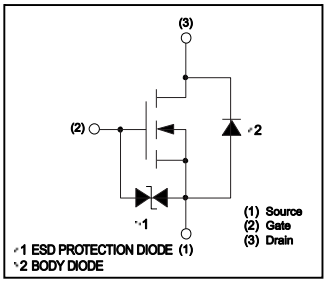
●**External dimensions** (Unit : mm)



●**Packaging specifications and h_{FE}**

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

●**Inner circuit**



●**Absolute maximum ratings** (Ta=25℃)

Parameter		Symbol	Limits	Unit
Drain-source voltage		V_{DSS}	30	V
Gate-source voltage		V_{GSS}	±12	V
Drain current	Continuous	I_D	±300	mA
	Pulsed	I_{DP} *1	±1.2	A
Total power dissipation		P_D *2	200	mW
Channel temperature		Tch	150	°C
Range of storage temperature		Tstg	−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	Rth(ch-a) *	625	°C/W

* Each terminal mounted on a recommended land

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Gate-source leakage	I_{GSS}	–	–	±10	μA	V_{GS}=±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	μA	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	Ω	I_D= 300mA, V_{GS}= 4.5V
		–	0.9	1.3	Ω	I_D= 300mA, V_{GS}= 4V
		–	1.4	1.9	Ω	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 R_L=100Ω
Fall time	t_f*	–	32	–	ns	R_G=10Ω

*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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