

2.5V Drive Pch MOS FET

RTU002P02

●Structure

Silicon P-channel MOS FET

●Features

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

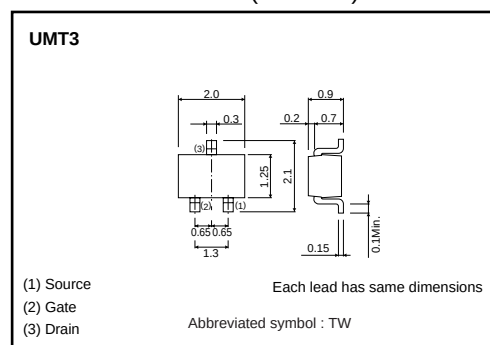
●Applications

Switching

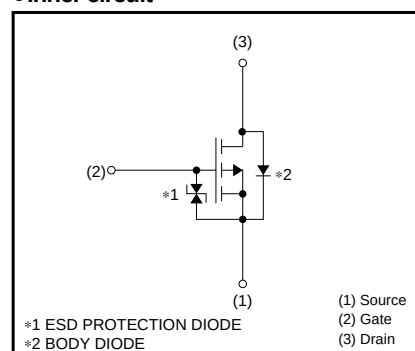
●Package specifications

Type	Package	Taping
	Code	T106
	Basic ordering unit (pieces)	3000
RTU002P02		○

●External dimensions (Unit : mm)



●Inner circuit



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Drain-source voltage	V_{DS}	-20	V
Gate-source voltage	V_{GS}	±12	V
Drain current	Continuous	I_D	±0.25 A
	Pulsed	I_{DP} *1	±0.5 A
Total power dissipation	P_D *2	0.2	W
Channel temperature	T_{ch}	150	°C
Range of storage temperature	T_{stg}	-55 to +150	°C

*1 $P_w \leq 10 \mu s$, Duty cycle $\leq 1\%$

*2 Each terminal mounted on a recommended land

●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	$R_{th(ch-a)}$ *	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}	—	—	± 10	μA	$V_{GS} = \pm 12V, V_{DS} = 0V$
Drain-source breakdown voltage	$V_{(BR) DSS}$	-20	—	—	V	$I_D = -1mA, V_{GS} = 0V$
Zero gate voltage drain current	I_{DSS}	—	—	-1	μA	$V_{DS} = -20V, V_{GS} = 0V$
Gate threshold voltage	$V_{GS(th)}$	-0.7	—	-2.0	V	$V_{DS} = -10V, I_D = -1mA$
Static drain-source on-state resistance	$R_{DS(on)}$ *	—	1.0	1.5	Ω	$I_D = -0.25A, V_{GS} = -4.5V$
		—	1.1	1.6	Ω	$I_D = -0.25A, V_{GS} = -4V$
		—	2.0	3.0	Ω	$I_D = -0.15A, V_{GS} = -2.5V$
Forward transfer admittance	$ Y_{fs} $ *	0.2	—	—	S	$V_{DS} = -10V, I_D = -0.15A$
Input capacitance	C_{iss}	—	50	—	pF	$V_{DS} = -10V$
Output capacitance	C_{oss}	—	5	—	pF	$V_{GS} = 0V$
Reverse transfer capacitance	C_{rss}	—	5	—	pF	$f = 1MHz$
Turn-on delay time	$t_{d(on)}$ *	—	9	—	ns	$V_{DD} \doteq -15V$
Rise time	t_r *	—	6	—	ns	$I_D = -0.15A$
Turn-off delay time	$t_{d(off)}$ *	—	35	—	ns	$V_{GS} = -4.5V$
Fall time	t_f *	—	45	—	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	$I_S = -0.1A, V_{GS} = 0V$

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