

## Transistors

## 2.5V Drive Pch MOS FET

## RTM002P02

## ●Structure

Silicon P-channel MOS FET

## ●Features

- 1) Low On-resistance.
- 2) Small package (VMT3).
- 3) 2.5V drive.

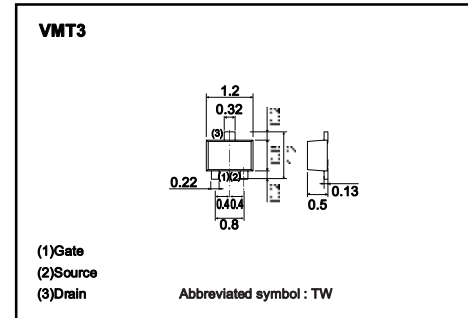
## ●Applications

Switching

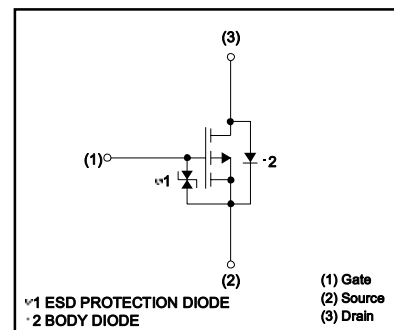
## ●Packaging specifications

Type	Package	Taping
	Code	T2L
	Basic ordering unit (pieces)	8000
RTM002P02		○

## ●External dimensions (Unit : mm)



## ●Inner circuit

●Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit	
Drain-source voltage	$V_{DS}$	-20	V	
Gate-source voltage	$V_{GS}$	$\pm 12$	V	
Drain current	Continuous	$I_D$	$\pm 0.2$	A
	Pulsed	$I_{DP}$ *1	$\pm 0.4$	A
Total power dissipation	$P_D$ *2	0.15	W	
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$	
Range of storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$	

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

\*2 Each terminal mounted on a recommended land

## ●Thermal resistance

Parameter	Symbol	Limits	Unit
Channel to ambient	$R_{th(ch-a)}$ *	833	$^\circ\text{C/W}$

\* 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	$V_{(BR)DSS}$	-20	-	-	V	$I_D = -1mA, V_{GS} = 0V$
Zero gate voltage drain current	$I_{DSS}$	-	-	-1	$\mu A$	$V_{DS} = -20V, V_{GS} = 0V$
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	$\Omega$	$I_D = -0.2A, V_{GS} = -4.5V$
		-	1.1	1.6	$\Omega$	$I_D = -0.2A, V_{GS} = -4V$
		-	2.0	3.0	$\Omega$	$I_D = -0.15A, V_{GS} = -2.5V$
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	$V_{DD} = -15V$
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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