Transistors

# 4V Drive Pch MOS FET

## RSM002P03

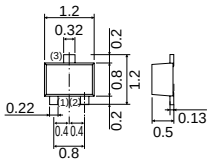
### ●Structure
Silicon P-channel MOS FET

### ●Features
1) Low On-resistance.
2) Small package (VMT3).
3) 4V drive.

### ●Applications
Switching

### ●External dimensions (Unit : mm)

**VMT3**



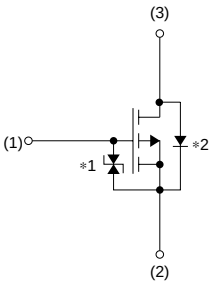

(1)Gate
(2)Source
(3)Drain

Abbreviated symbol : WP

### ●Packaging specifications

| | | |
|---|---|---|
| Type | Package | Taping |
| | Code | T2L |
| | Basic ordering unit (pieces) | 8000 |
| RSM002P03 | | ○ |

### ●Inner circuit




∗1 ESD PROTECTION DIODE
∗2 BODY DIODE

(1) Gate
(2) Source
(3) Drain

### ●Absolute maximum ratings (Ta=25°C)

| Parameter | | Symbol | Limits | Unit |
|---|---|---|---|---|
| Drain-source voltage | | $V_{DSS}$ | −30 | V |
| Gate-source voltage | | $V_{GSS}$ | ±20 | V |
| Drain current | Continuous | $I_D$ | ±0.2 | A |
| | Pulsed | $I_{DP}$ ∗1 | ±0.4 | A |
| Total power dissipation | | $P_D$ ∗2 | 0.15 | W |
| 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) ∗ | 833 | °C/W |

∗ Each terminal mounted on a recommended land



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

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Gate-source leakage | $I_{GSS}$ | – | – | ±10 | μA | $V_{GS}$= ±20V, $V_{DS}$=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 | $V_{GS\ (th)}$ | –1.0 | – | –2.5 | V | $V_{DS}$= –10V, $I_D$= –1mA |
| Static drain-source on-state resistance | $R_{DS\ (on)}$* | – | 0.9 | 1.4 | Ω | $I_D$= –0.2A, $V_{GS}$= –10V |
| | | – | 1.4 | 2.1 | Ω | $I_D$= –0.15A, $V_{GS}$= –4.5V |
| | | – | 1.6 | 2.4 | Ω | $I_D$= –0.15A, $V_{GS}$= –4.0V |
| Forward transfer admittance | $\|Y_{fs}\|$ * | 0.2 | – | – | S | $V_{DS}$= –10V, $I_D$= –0.15A |
| Input capacitance | $C_{iss}$ | – | 30 | – | pF | $V_{DS}$= –10V |
| Output capacitance | $C_{oss}$ | – | 4 | – | pF | $V_{GS}$= 0V |
| Reverse transfer capacitance | $C_{rss}$ | – | 5 | – | pF | f=1MHz |
| Turn-on delay time | $t_{d\ (on)}$ * | – | 8 | – | ns | $V_{DD}$≒ –15V |
| Rise time | $t_r$ * | – | 5 | – | ns | $I_D$= –0.15A |
| Turn-off delay time | $t_{d\ (off)}$ * | – | 30 | – | ns | $V_{GS}$= –10V |
| Fall time | $t_f$ * | – | 40 | – | ns | $R_L$= 100Ω |
| | | | | | | $R_G$= 10Ω |

*Pulsed

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

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| Forward voltage | $V_{SD}$ | – | – | –1.2 | V | $I_S$= –0.1A, $V_{GS}$=0V |

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