Leiditech

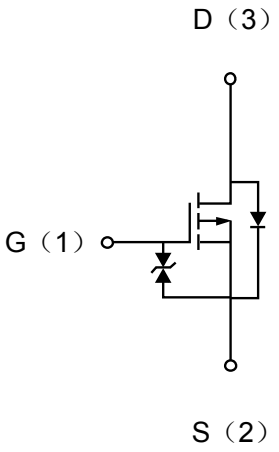
# PPT002P02

P- Channel MOSFMT

## Description

The MOSFET provide the best combination of fast switching, low on-resistance and cost-effectiveness.

| MOSFET Product Summary | | |
|---|---|---|
| $V_{DS}$(V) | $R_{DS(on)}$(Ω) | $I_D$(mA) |
| -20 | 0.6@ $V_{GS}$=-4.5V | ±300 |
| | 0.9@ $V_{GS}$=-2.5V | |
| | 1.5@ $V_{GS}$=-1.8V | |




## Absolute maximum rating@25,C

| Parameter | | Symbol | Value | Units |
|---|---|---|---|---|
| Drain-Source Voltage | | $V_{DS}$ | -20 | V |
| Gate-Source Voltage | | $V_{GS}$ | ±10 | V |
| Continuous Drain Curren($T_J$=150℃) | Continuous | $I_D$ | ±300 | mA |
| | Pulsed | $I_{DP}$ | ±800 | |
| Source current(Body diode) | Continuous | $I_S$ | -100 | mA |
| | Pulsed | $I_{SP}$ | -800 | |
| Total power dissipation | | $P_D$ | 150 | mW |
| Channel temperature | | $T_{CH}$ | 150 | ℃ |
| Range of storage temperature | | $T_{STG}$ | -55 to +150 | ℃ |

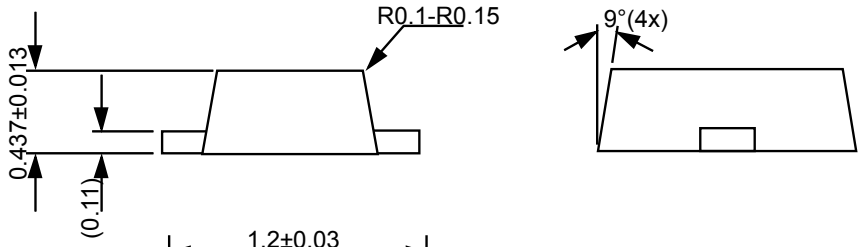
### Thermal resistance

| Parameter | Symbol | Limits | Units |
|---|---|---|---|
| Channel to ambient | Rth(ch-a) | 833 | ℃/W |

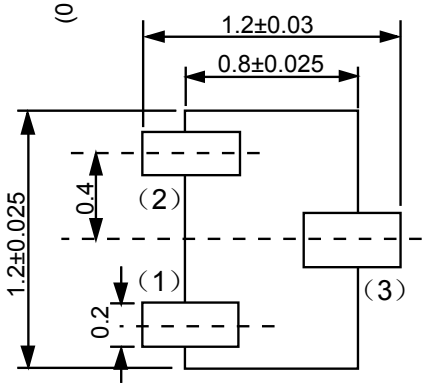
| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $I_D$ =-1mA,$V_{GS}$=0V | -20 | | - | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$ =-20V,$V_{GS}$=0V | - | - | -1 | μA |
| Gate-Body Leakage Current | $I_{GSS}$ | $V_{DS}$ =0V,$V_{GS}$=±8V | - | - | ±10 | μA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$ =-10V, $I_D$ =-100μA | -0.5 | - | -1.1 | V |
| Static Drain-Source On-Resistance | $R_{DS(ON)}$ | $V_{GS}$=-4.5V, $I_D$ =-300mA | - | 0.6 | 1.0 | Ω |
| | | $V_{GS}$=-2.5V, $I_D$ =-200mA | - | 0.9 | 1.5 | Ω |
| | | $V_{GS}$=-1.8V, $I_D$ =-100mA | | 1.5 | 2.2 | Ω |
| Forward transfer admittance | \| Yfs \| | $V_{DS}$=-10V, $I_D$ =-200mA | 0.3 | | | s |
| Input Capacitance | $C_{ISS}$ | $V_{GS}$=0V, $V_{DS}$ =-10V, f=1MHz | - | 110 | | pF |
| Output Capacitance | $C_{OSS}$ | | - | 9 | | pF |
| Reverse Transfer Capacitance | $C_{RSS}$ | | - | 5 | | pF |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{DD}$≒-10V, $V_{GS}$ =-4.5V, $R_G$=10Ω,$R_L$≒100Ω $I_D$ =-100mA | - | 5 | | ns |
| Turn-Off Delay Time | $t_{d(off)}$ | | - | 15 | | ns |
| Turn-On Rise Time | $t_r$ | | - | 4 | | ns |
| Turn-On Fall Time | $t_f$ | | - | 13 | | ns |
| Total Gate Charge | Qg | $V_{DD}$≒-10V , $V_{GS}$ =-4.5V, $I_D$ =-200mA $R_G$=10Ω,$R_L$≒50Ω | | 1.4 | | nC |
| Gate-Source Charge | Qgs | | | 0.3 | | nC |
| Gate-Drain Charge | Qgd | | | 0.3 | | nC |
| Drain-Source Diode Forward Voltage | $V_{SD}$ | $V_{GS}$=0V,$I_S$=-200mA | | - | -1.2 | V |

## Product dimension (SOT-723)

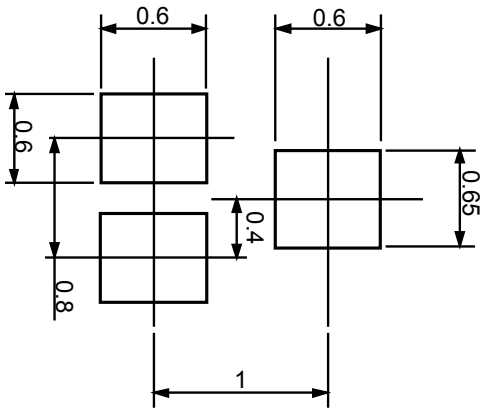
Side View




Bottom View




Unit：mm




Unit：mm

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