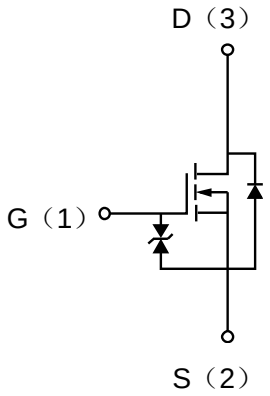
## Description

PNM723T30V01 is designed for high speed switching applications

The enhancement mode MOS is extremely high density cell and low on-resistance.

| MOSFET Product Summary | | | |
|---|---|---|---|
| $V_{DS}$(V) | $R_{DS(on)}$(Ω) | $V_{GS(th)}$(V) | $I_D$(A) |
| 30 | 7@ $V_{GS}$=2.5V,$I_D$=10mA | 0.5 to 1.5 | 0.1 |




## Electrical characteristics per line@25℃( unless otherwise specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| **OFF CHARACTERISTICS** | | | | | | |
| Drain-Source Breakdown Voltage | $V_{DSS}$ | $I_D$ =10μA,$V_{GS}$=0V | 30 | - | - | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$ =30V,$V_{GS}$=0V | - | - | 1 | μA |
| Gate-Body Leakage Current | $I_{GSS}$ | $V_{DS}$ =0V,$V_{GS}$=±20V | - | - | ±1 | μA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$ =$V_{GS}$, $I_D$ =250μA | 0.5 | - | 1.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(ON)}$ | $V_{GS}$=2.5V, $I_D$ =1mA | | 6.5 | 9 | Ω |
| | | $V_{GS}$=2.5V, $I_D$ =10mA | | 7 | 9 | Ω |
| | | $V_{GS}$=4V, $I_D$ =10mA | - | 4 | 6 | Ω |
| | | $V_{GS}$=10V, $I_D$ =100mA | - | 3 | 5 | Ω |
| Forward Transconductance | $g_{FS}$ | $V_{DS}$=5V, $I_D$ =0.1A | - | 0.2 | - | S |
| Source-Drain Diode Forward Voltage | VFSD (V) | ID=100mA,VGS=0V | | 0.75 | 1 | V |
| **DYNAMIC PARAMETERS** | | | | | | |
| Input Capacitance | $C_{ISS}$ | $V_{GS}$=0V, $V_{DS}$ =25V, f=1MHz | - | - | 40 | pF |
| Output Capacitance | $C_{OSS}$ | | - | - | 10 | pF |
| Reverse Transfer Capacitance | $C_{RSS}$ | | - | - | 5 | pF |

## Electrical characteristics per line@25℃( unless otherwise specified)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| **SWITCHING PARAMETERS** | | | | | | |
| Total Gate Charge | Qg | $V_{GS}$=4.5V, $V_{DS}$ =6V, $I_D$ =0.1A | | | 0.5 | nC |
| Gate-Source Charge | Qgs | | | | 0.2 | nC |
| Gate-Drain Charge | Qgd | | | | 0.2 | nC |
| Turn-On Delay Time | $t_{d(on)}$ | $V_{DS}$ =30V, $V_{GS}$ =10V, $R_G$=25Ω, RL=150Ω,$I_D$ =0.1A | - | 3 | | ns |
| Turn-On Rise Time | $t_r$ | | - | 3.5 | | ns |
| Turn-Off Delay Time | $t_{d(off)}$ | | - | 5 | | ns |
| Turn-On Fall Time | $t_f$ | | - | 2.5 | | ns |

## Absolute maximum rating@25℃

| Rating | | Symbol | Value | Units |
|---|---|---|---|---|
| Drain-Source Voltage | | $V_{DS}$ | 30 | V |
| Gate-Source Voltage | | $V_{GS}$ | ±20 | V |
| Drain Current | Continuous | $I_D$ | 0.10 | A |
| | Pulsed | $I_D$ | 0.36 | A |
| Total Power Dissipation | $T_A$=25℃ | $P_D$ | 150 | mW |

## Typical Characteristics

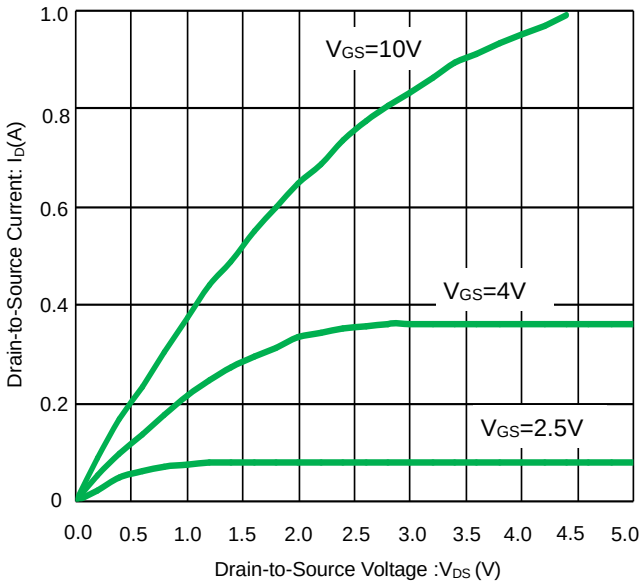



Fig 1. On-Region Characteristics

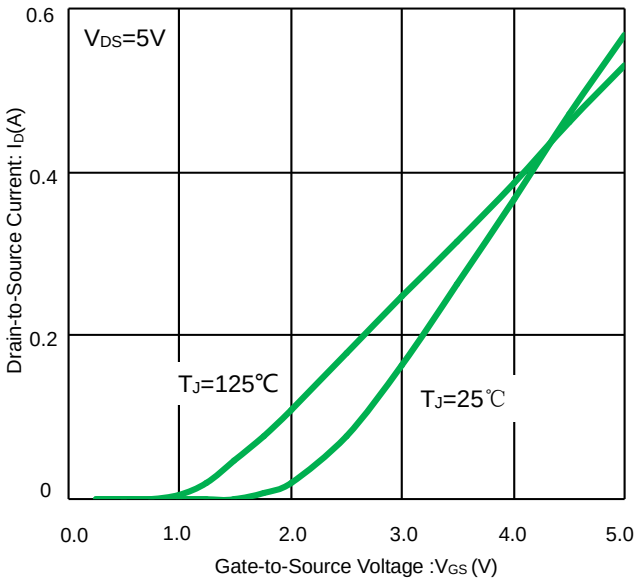



Fig 2. Transfer Characteristics

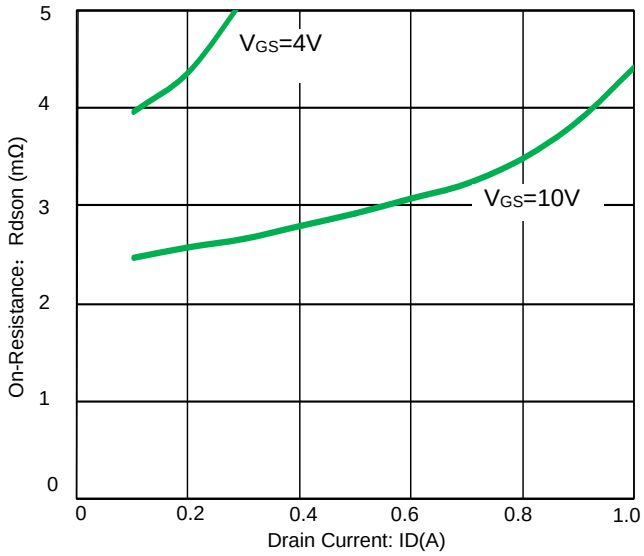



Fig 3. On-Resistance v.s. Drain Current and Gate Voltage

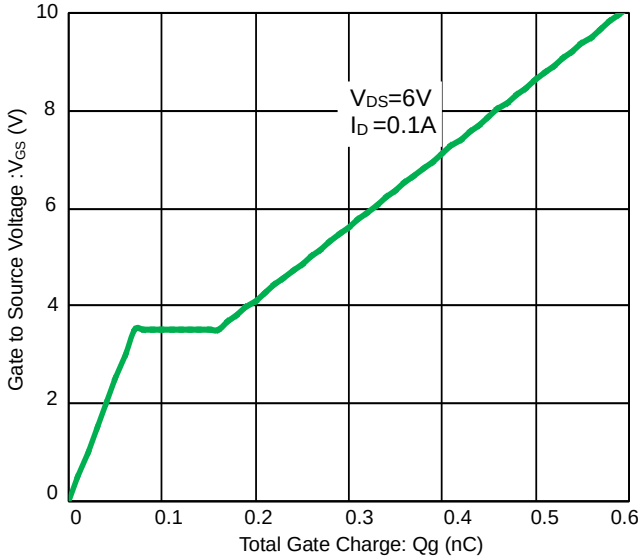



Fig 4. Gate Charge Characteristics

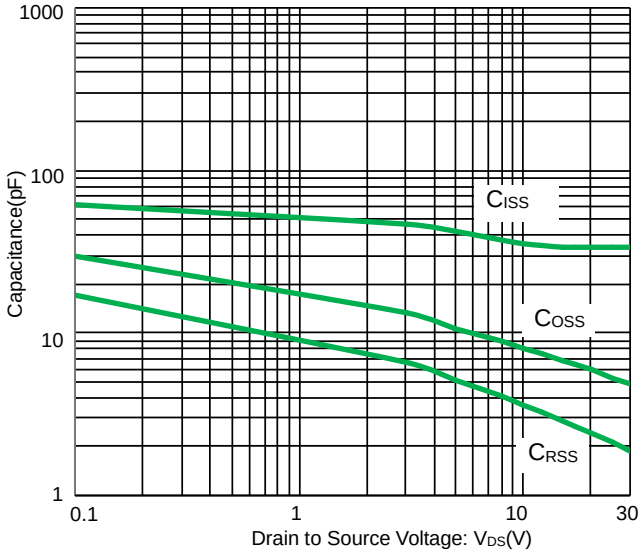



Fig 5. Capacitance Characteristic

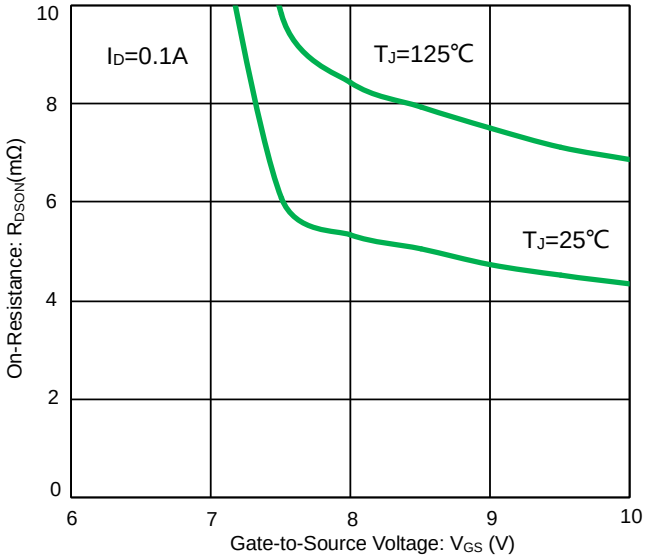



Fig 6. On-Resistance vs. Gate-to-Source Voltage

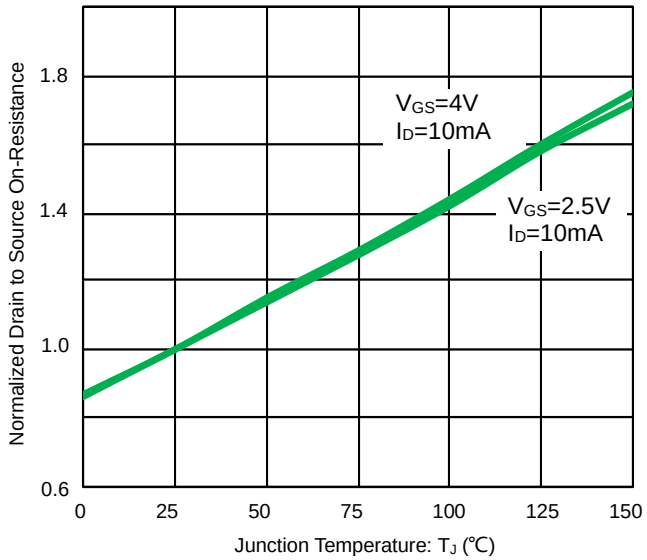



Fig 7. Normalized On-Resistance vs. Junction Temperature

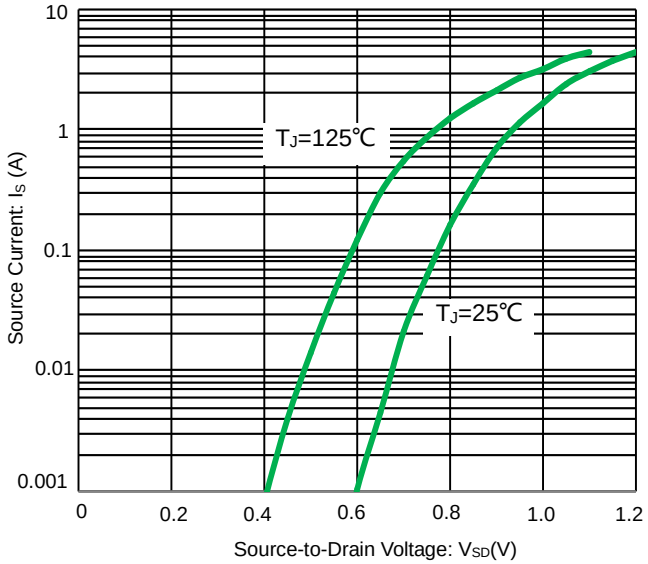
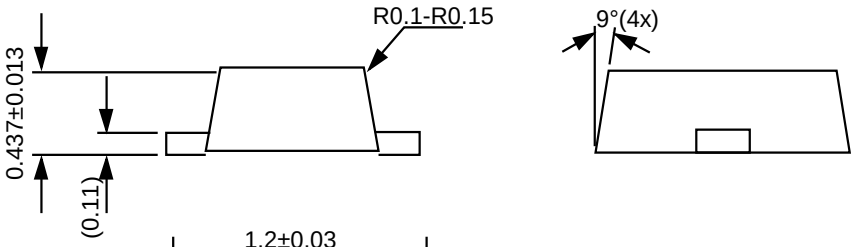


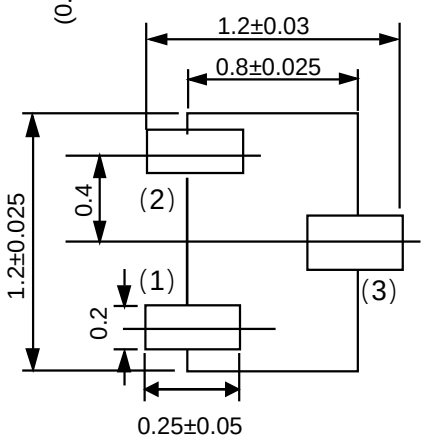

Fig 8. Body diode forward voltage

## Product dimension (SOT-723)

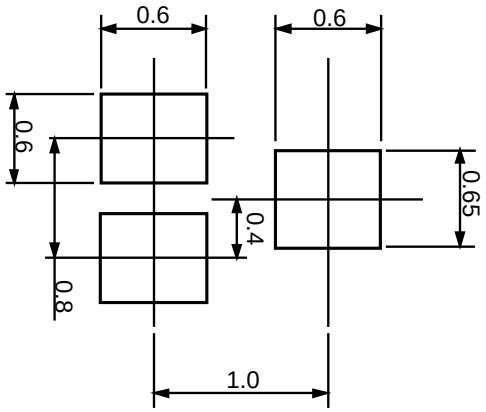
Side View




Bottom View



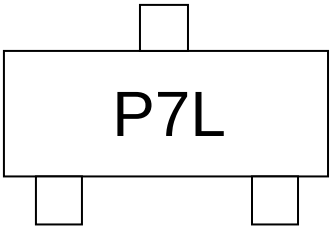

Unit：mm




**Suggested PCB Layout**

Unit：mm

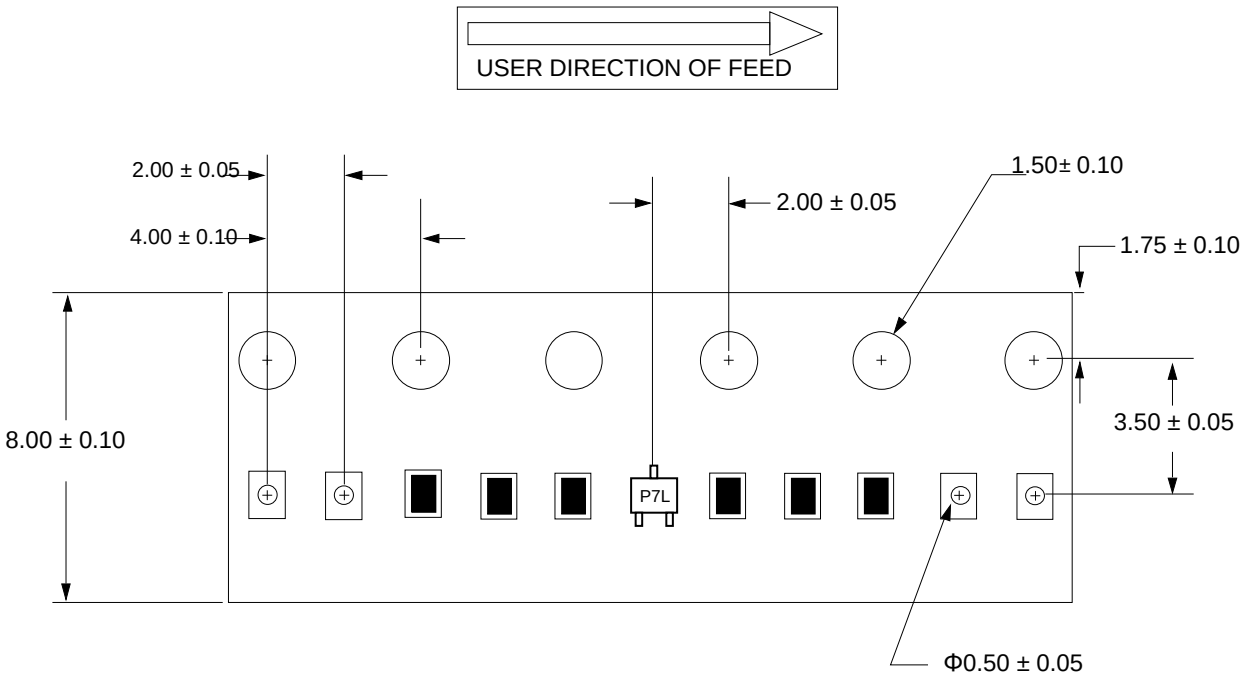
## Marking information




## Ordering information

| Device | Package | Reel | Shipping |
|---|---|---|---|
| PNM723T30V01 | SOT-723 (Pb-Free) | 7" | 10000 / Tape & Reel |

## Load with information




Unit：mm

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