

Transistors

2.5V Drive Nch MOS FET

RJU003N03

●Structure

Silicon N-channel MOS FET

●Features

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

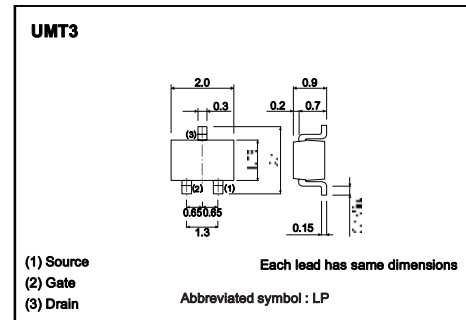
●Applications

Switching

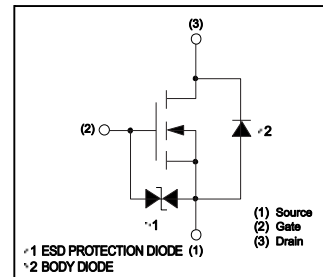
●Packaging specifications and hFE

| Type | Package | Taping |
|-----------|------------------------------|--------|
| | Code | T106 |
| | Basic ordering unit (pieces) | 3000 |
| RJU003N03 | | ○ |

■External dimensions (Unit : mm)



●Inner circuit



●Absolute maximum ratings (Ta=25°C)

| Parameter | Symbol | Limits | Unit | |
|------------------------------|------------------------------|-------------------------------|------|----|
| Drain-source voltage | V _{DSS} | 30 | V | |
| Gate-source voltage | V _{GSS} | ±12 | V | |
| Drain current | Continuous | I _D | ±300 | mA |
| | Pulsed | I _{DP} ^{∗1} | ±1.2 | A |
| Total power dissipation | P _D ^{∗2} | 200 | mW | |
| Channel temperature | T _{ch} | 150 | °C | |
| Range of storage temperature | T _{stg} | -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 | 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} =±12V, 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)} | 0.8 | – | 1.5 | V | V _{DS} =10V, I _D =1mA |
| Static drain-source on-state resistance | R _{DS(on)} | – | 0.8 | 1.1 | Ω | I _D =300mA, V _{GS} =4.5V |
| | | – | 0.9 | 1.3 | Ω | I _D =300mA, V _{GS} =4V |
| | | – | 1.4 | 1.9 | Ω | I _D =300mA, V _{GS} =2.5V |
| Forward transfer admittance | Y _{fs} | 0.4 | – | – | S | V _{DS} =10V, I _D =300mA |
| Input capacitance | C _{iss} | – | 24 | – | pF | V _{DS} =10V |
| Output capacitance | C _{oss} | – | 11 | – | pF | V _{GS} =0V |
| Reverse transfer capacitance | C _{rss} | – | 5 | – | pF | f=1MHz |
| Turn-on delay time | t _{d(on)} | – | 6 | – | ns | V _{DD} =15V |
| Rise time | t _r | – | 4 | – | ns | I _D =150mA |
| Turn-off delay time | t _{d(off)} | – | 9 | – | ns | V _{GS} =4V |
| Fall time | t _f | – | 32 | – | 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 =200mA, V _{GS} =0V |

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