

ZXM41N10F

SOT23 N-CHANNEL ENHANCEMENT MODE VERTICAL D MOSFET

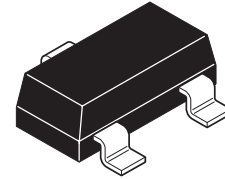
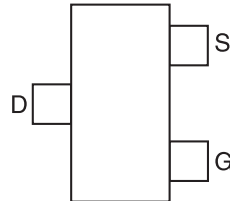
FEATURES

- $BV_{DSS} = 100V$

- Low Threshold

DEVICE MARKING

- 410



ABSOLUTE MAXIMUM RATINGS

PINOUT TOP VIEW

SOT23

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|----------------|-------------|-------------|
| Drain-source voltage | V_{DS} | 100 | V |
| Drain-gate voltage | V_{DGR} | 100 | V |
| Continuous drain current at $T_{amb}=25^{\circ}C$ | I_D | 170 | mA |
| Pulsed drain current | I_{DM} | 680 | mA |
| Gate-source voltage | V_{GS} | ± 20 | V |
| Power dissipation at $T_{amb}=25^{\circ}C$ | P_{tot} | 360 | mW |
| Operating and storage temperature range | $T_j; T_{stg}$ | -55 to +150 | $^{\circ}C$ |

ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^{\circ}C$ unless otherwise stated)

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | CONDITIONS |
|--|--------------|------|------|------|----------|---------------------------------|
| Drain-source breakdown voltage | BV_{DSS} | 100 | | | V | $I_D=0.25mA, V_{GS}=0V$ |
| Gate-source threshold voltage | $V_{GS(th)}$ | 0.5 | | 1.5 | V | $I_D=1mA, V_{DS}=V_{GS}$ |
| Gate-body leakage | I_{GSS} | | | 50 | nA | $V_{GS}=\pm 20V, V_{DS}=0V$ |
| Zero gate voltage drain current | I_{DSS} | | | 500 | nA | $V_{DS}=100V, V_{GS}=0V$ |
| Static drain-source on-state resistance ⁽¹⁾ | $R_{DS(on)}$ | | | 8 | Ω | $V_{GS}=4.5V, I_D=150mA$ |
| | | | | 12 | Ω | $V_{GS}=3V, I_D=50mA$ |
| Forward transconductance ⁽¹⁾⁽²⁾ | g_{fs} | 80 | | | mS | $V_{DS}=25V, I_D=100mA$ |
| Input capacitance ⁽²⁾ | C_{iss} | | 25 | | pF | $V_{DS}=25V, V_{GS}=0V, f=1MHz$ |
| Common source output capacitance ⁽²⁾ | C_{oss} | | 9 | | pF | |
| Reverse transfer capacitance ⁽²⁾ | C_{rss} | | 4 | | pF | |
| Turn-on delay time ⁽²⁾⁽³⁾ | $t_{d(on)}$ | | 10 | | ns | $V_{DD} \approx 30V, I_D=280mA$ |
| Rise time ⁽²⁾⁽³⁾ | t_r | | 10 | | ns | |
| Turn-off delay time ⁽²⁾⁽³⁾ | $t_{d(off)}$ | | 15 | | ns | |
| Fall time ⁽²⁾⁽³⁾ | t_f | | 25 | | ns | |

NOTES:

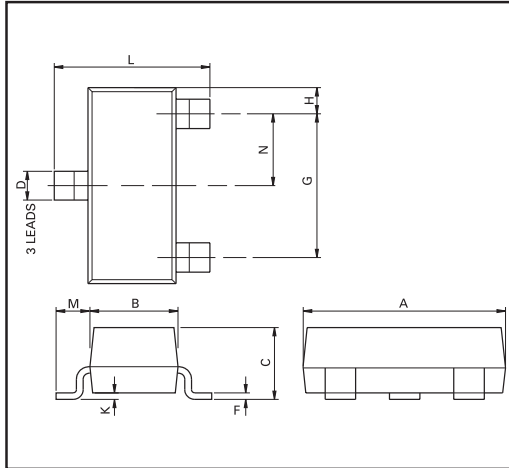
⁽¹⁾ Measured under pulsed conditions. Width=300 μ s. Duty cycle \leq 2% ⁽²⁾ Sample test.

⁽³⁾ Switching times measured with 50 Ω source impedance and <5ns rise time on a pulse generator

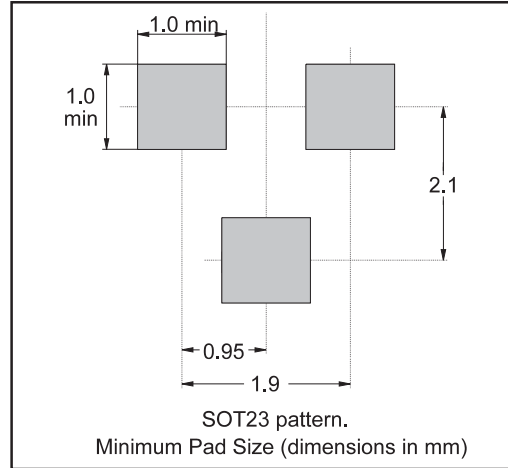
ISSUE 2 - OCTOBER 2006

ZXM41N0F

PACKAGE OUTLINE



PAD LAYOUT DETAILS



Controlling dimensions are in millimeters. Approximate conversions are given in inches

PACKAGE DIMENSIONS

| DIM | Millimeters | | Inches | | DIM | Millimeters | | Inches | |
|-----|-------------|------|-----------|--------|-----|-------------|------|------------|--------|
| | Min | Max | Min | Max | | Min | Max | Max | Max |
| A | 2.67 | 3.05 | 0.105 | 0.120 | H | 0.33 | 0.51 | 0.013 | 0.020 |
| B | 1.20 | 1.40 | 0.047 | 0.055 | K | 0.01 | 0.10 | 0.0004 | 0.004 |
| C | — | 1.10 | — | 0.043 | L | 2.10 | 2.50 | 0.083 | 0.0985 |
| D | 0.37 | 0.53 | 0.015 | 0.021 | M | 0.45 | 0.64 | 0.018 | 0.025 |
| F | 0.085 | 0.15 | 0.0034 | 0.0059 | N | 0.95 NOM | | 0.0375 NOM | |
| G | 1.90 NOM | | 0.075 NOM | | Θ | 10° TYP | | 10° TYP | |

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ISSUE 2 - OCTOBER 2006