

GTM CORPORATION

ISSUED DATE :2005/11/30
REVISED DATE :

G3018

N-CHANNEL MOSFET

| | |
|---------|-------|
| BVDSS | 30V |
| RDS(ON) | 8Ω |
| ID | 115mA |

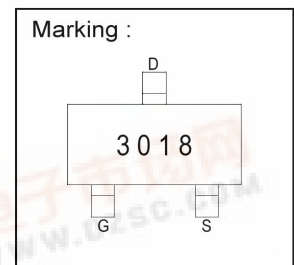
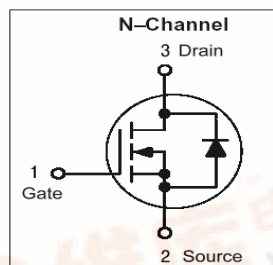
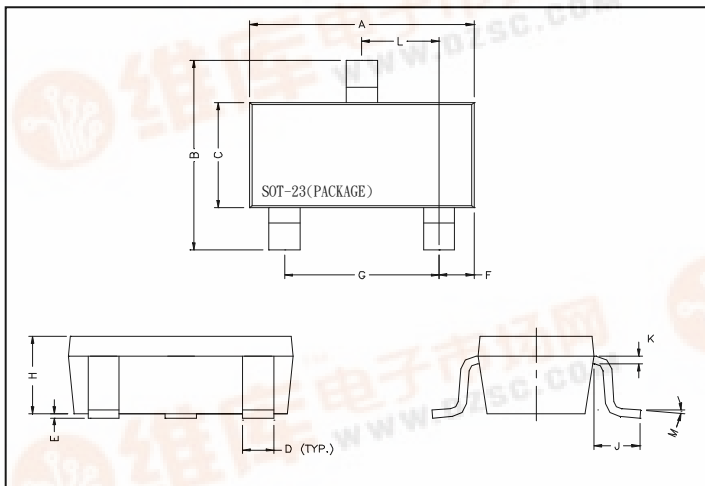
Description

N-channel enhancement-mode MOSFET

Features

- Low on-resistance.
- Fast switching speed.
- Low voltage drive (2.5V) makes this device ideal for portable equipment.
- Easily designed drive circuits.
- Easy to parallel.

Package Dimensions



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 2.70 | 3.10 | G | 1.90 | REF. |
| B | 2.40 | 2.80 | H | 1.00 | 1.30 |
| C | 1.40 | 1.60 | K | 0.10 | 0.20 |
| D | 0.35 | 0.50 | J | 0.40 | - |
| E | 0 | 0.10 | L | 0.85 | 1.15 |
| F | 0.45 | 0.55 | M | 0° | 10° |

Absolute Maximum Ratings

| Parameter | Symbol | Ratings | Unit |
|--|-------------------------|------------|------|
| Drain-Source Voltage | V_{DS} | 30 | V |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Continuous Drain Current ³ | $I_D @ T_A=25^\circ C$ | 115 | mA |
| Continuous Drain Current ³ | $I_D @ T_A=100^\circ C$ | 75 | mA |
| Pulsed Drain Current ^{1,2} | I_{DM} | 800 | mA |
| Power Dissipation | $P_D @ T_A=25^\circ C$ | 0.225 | W |
| Linear Derating Factor | | 0.0018 | W/°C |
| Operating Junction and Storage Temperature Range | T_j, T_{stg} | -40 ~ +150 | °C |

Thermal Data

| Parameter | Symbol | Ratings | Unit |
|---|-------------|---------|------|
| Thermal Resistance Junction-ambient ³ Max. | R_{thj-a} | 556 | °C/W |

Electrical Characteristics(Tj = 25°C Unless otherwise specified)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|-----------------------------------|---------------------|------|------|------|------|--|
| Drain-Source Breakdown Voltage | BV _{DSS} | 30 | - | - | V | V _{GS} =0, I _D =250uA |
| Gate Threshold Voltage | V _{GS(th)} | 0.8 | - | 2.0 | V | V _{DS} =V _{GS} , I _D =0.1mA |
| Forward Transconductance | g _{fs} | 20 | - | - | mS | V _{DS} =3V, I _D =10mA |
| Gate-Source Leakage Current | I _{GSS} | - | - | ±1 | uA | V _{GS} = ±20V |
| Drain-Source Leakage Current | I _{DSS} | - | - | 1 | uA | V _{DS} =30V, V _{GS} =0 |
| Static Drain-Source On-Resistance | R _{DS(ON)} | - | 5 | 8 | Ω | V _{GS} =4V, I _D =10mA |
| | | - | 7 | 13 | | V _{GS} =2.5V, I _D =1mA |
| Input Capacitance | C _{iss} | - | - | 50 | pF | V _{GS} =0V V _{DS} =5V f=1.0MHz |
| Output Capacitance | C _{oss} | - | - | 25 | | |
| Reverse Transfer Capacitance | C _{rss} | - | - | 5 | | |

Source-Drain Diode

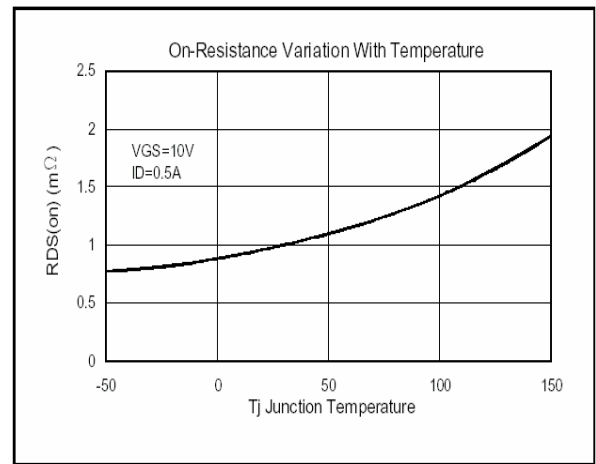
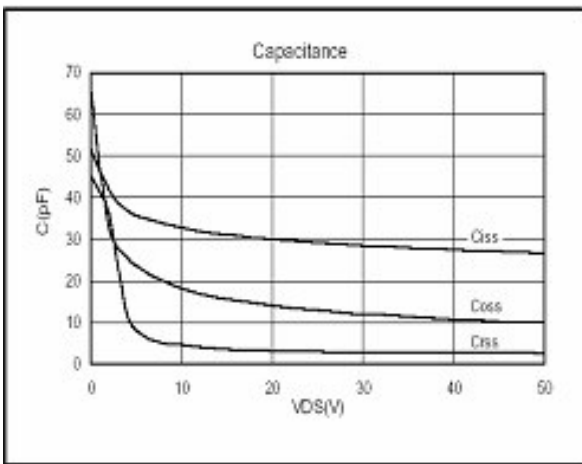
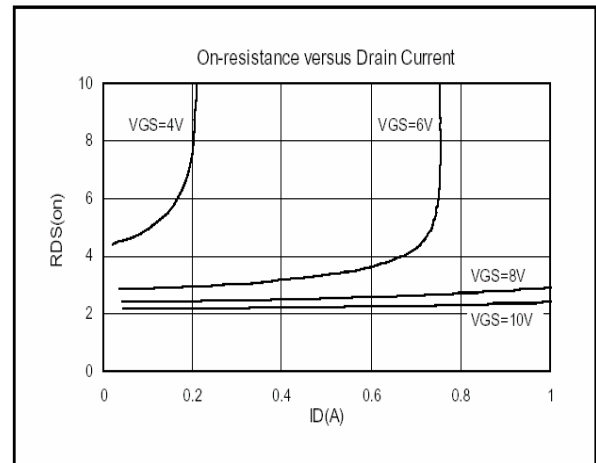
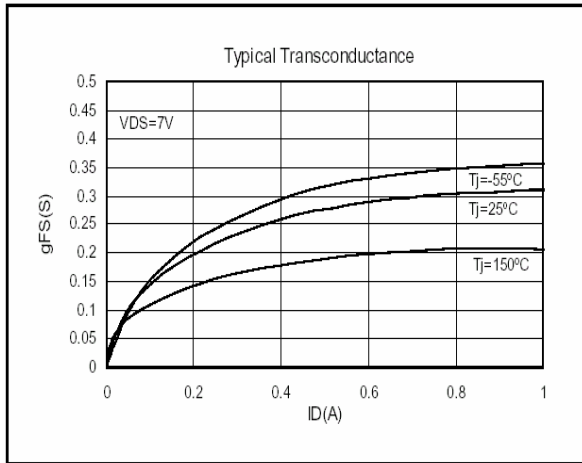
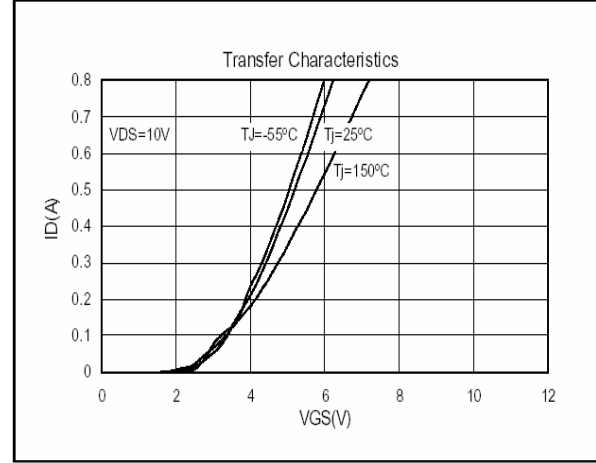
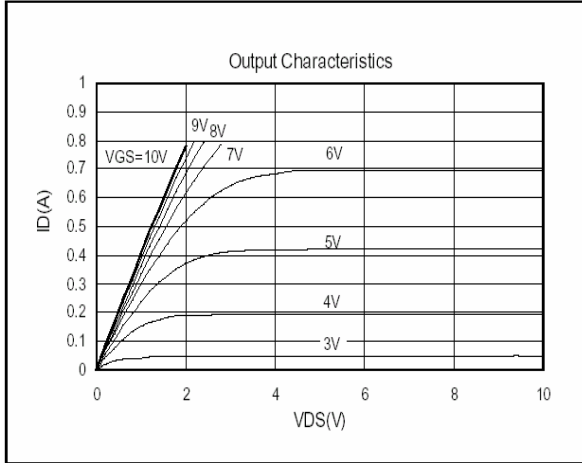
| Parameter | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---------------------------------|-----------------|------|------|------|------|--|
| Forward On Voltage ² | V _{SD} | - | 0.84 | 1.5 | V | I _S =100mA, V _{GS} =0V |

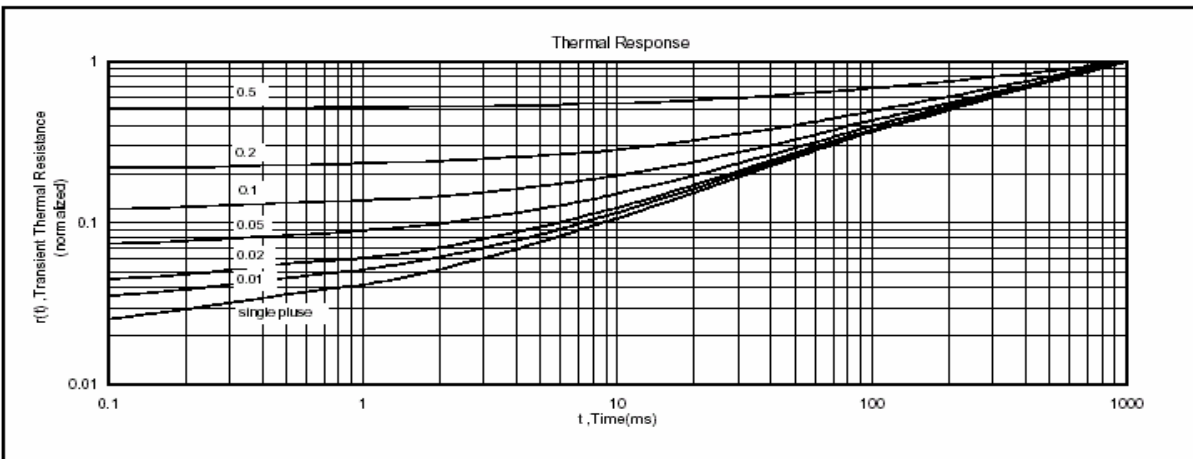
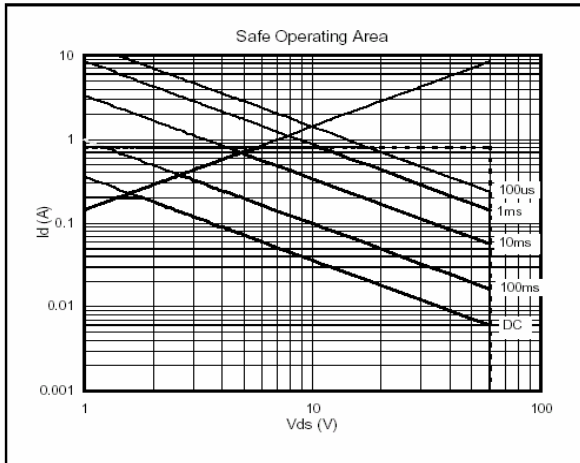
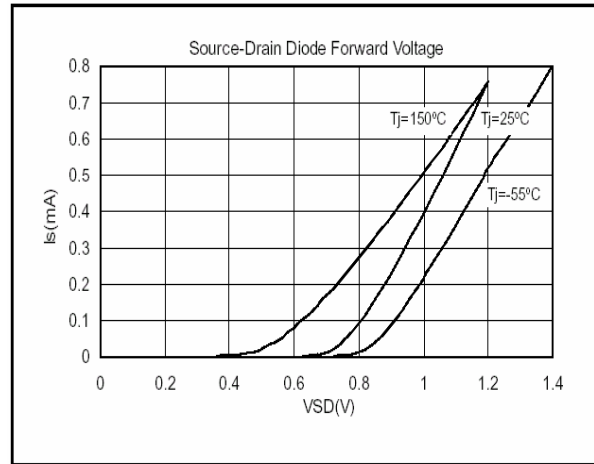
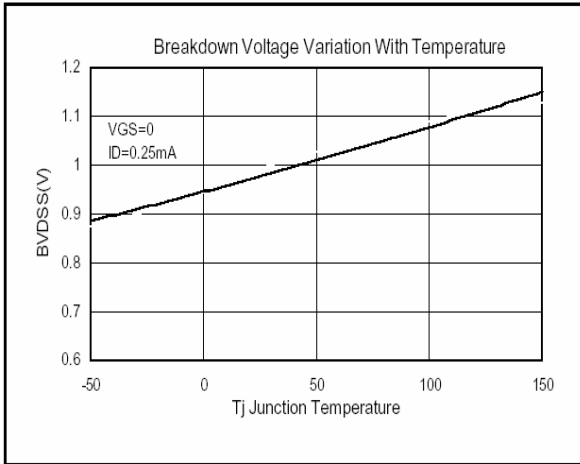
Notes: 1. Pulse width limited by Max. junction temperature.

2. Pulse width ≤ 300us, duty cycle ≤ 2%.

3. Surface mounted on 1 in² copper pad of FR4 board; 270°C/W when mounted on Min. copper pad.

Characteristics Curve





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