## Description

### JMT N-channel Enhancement Mode Power MOSFET

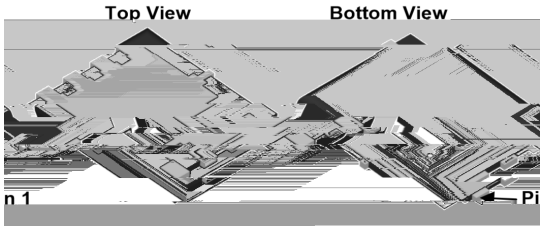
**Features**

- 40V, 50A
  $R_{DS(ON)}$ < 6.6mΩ @ $V_{GS}$ = 10V
  $R_{DS(ON)}$ < 9.4mΩ @ $V_{GS}$ = 4.5V
- Advanced Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- Lead Free

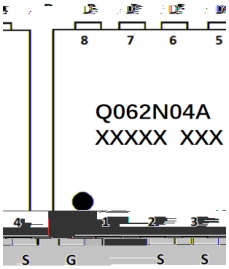
**Applications**

- Load Switch
- PWM Application
- Power Management

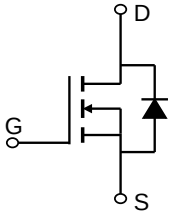
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PDFN3x3-8L




Marking and Pin Assignment




Schematic Diagram

### Package Marking and Ordering Information

| Device Marking | Device | Outline | Package | Reel Size | Reel(pcs) | Per Carton (pcs) |
|---|---|---|---|---|---|---|
| Q062N04A | JMTQ062N04A | TAPING | PDFN3x3-8L | 13" | 5000 | 50000 |

### Absolute Maximum Ratings (@ $T_C$ = 25°C unless otherwise specified)

| Symbol | Parameter | | Value | Units |
|---|---|---|---|---|
| $V_{DS}$ | Drain-to-Source Voltage | | 40 | V |
| $V_{GS}$ | Gate-to-Source Voltage | | ±20 | V |
| | | T | 50 | |
| | | | 32 | |
| | Pulsed Drain Current (1) | | 200 | |
| | Single Pulsed Avalanche Energy (2) | | 100 | |
| | | Power Dissipation | | 39 |
| | | Thermal Resistance, Junction to Ambient (3) | 43 | |
| | Thermal Resistance, Junction to Case | | 3.2 | |
| | | | | |

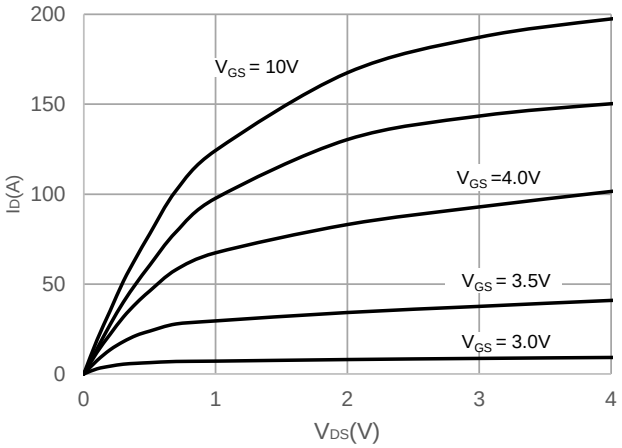
## Electrical Characteristics ($T_J$ = 25°C unless otherwise specified)

| Symbol | Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| **Off Characteristics** | | | | | |
| $V_{(BR)DSS}$ | | 40 | - | - | V |
| $I_{DSS}$ | | - | - | 1.0 | A |
| $I_{GSS}$ | | - | - | ±100 | nA |
| | | | | | |
| $V_{GS(th)}$ | | 1.3 | 1.8 | 2.3 | V |
| | | - | 5.1 | 6.6 | m |
| | | - | 7.2 | 9.4 | m |
| | | | | | |
| $C_{iss}$ | | - | 3031 | - | pF |
| $C_{oss}$ | | - | 213 | - | pF |
| $C_{rss}$ | | - | 179 | - | pF |
| $Q_g$ | | - | 59 | - | nC |
| $Q_{gs}$ | | - | 12 | - | nC |
| $Q_{gd}$ | | - | 12 | - | nC |
| | | | | | |
| $t_{d(on)}$ | | - | 11 | - | ns |
| $t_r$ | | - | 32 | - | ns |
| $t_{d(off)}$ | | - | 52 | - | ns |
| $t_f$ | | - | 13 | - | ns |
| | | | | | |
| $I_S$ | | - | - | 50 | A |
| $I_{SM}$ | | - | - | 200 | A |
| $V_{SD}$ | | - | - | 1.2 | V |
| trr | | - | 13 | - | ns |
| Qrr | | - | 7 | - | nC |

Notes

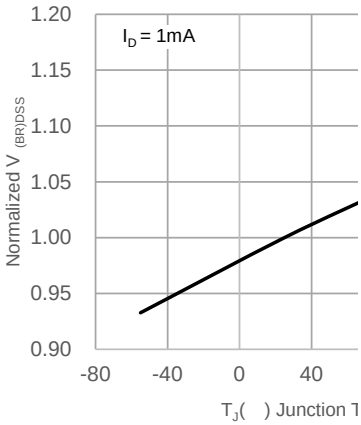
## Typical Performance Characteristics

Figure 1: Output Characteristics



# Typical Performance C

Figure 7: Normalized Bı
Junction Te



## Test Circuit

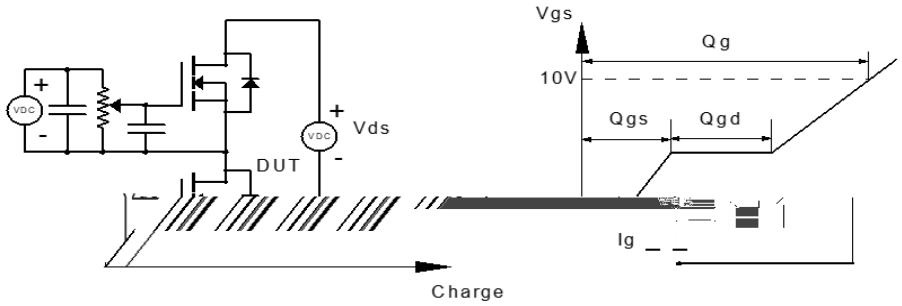



Figure 1: Gate Charge Test Circuit & Waveform

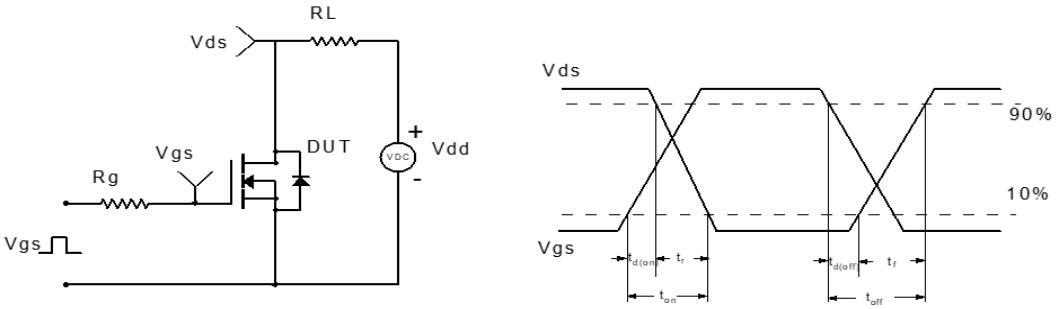



Figure 2: Resistive Switching Test Circuit & Waveform

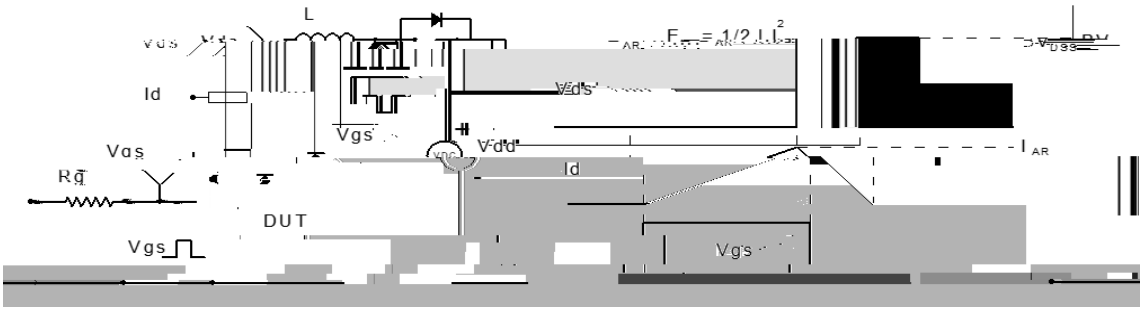



Figure 3: Unclamped Inductive Switching Test Circuit& Waveform

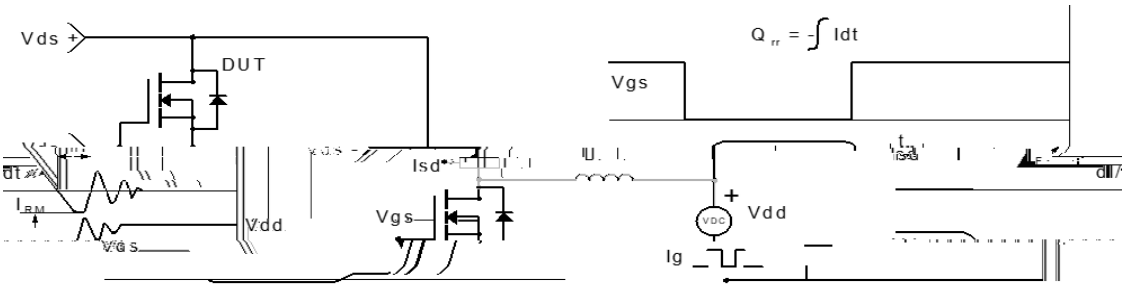



Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(PDFN3x3-8L)