



PCN# : P642AAB
Issue Date : Apr. 12, 2016

Information Only Notification

This is to inform you that a change is being made to the following products.

This is a minor change that has no impact on product quality, reliability, electrical or mechanical performance. Affected products will remain fully compliant to all published specifications. Notification is being made for informational purposes only and there is no approval required. Products incorporating this change may be shipped interchangeably with existing unchanged products on or after the issue date of this notification.

Please contact your local Customer Quality Engineer if you have any questions regarding this notification.

Implementation of change:

Description of Change (From) :

- 1) Features: Typical $Q_g(\text{tot}) = 71 \text{ nC}$ at $V_{GS} = 10V$, $I_D = 80 \text{ A}$ (page 1)
- 2) Highlighted items from Electrical Characteristics table (see attachment)

Dynamic Characteristics

| | | | | | | |
|---------------------|-------------------------------|---|-------------------------------|------|----|----------|
| C_{iss} | Input Capacitance | $V_{DS} = 25V$, $V_{GS} = 0V$, $f = 1\text{MHz}$ | - | 5120 | - | pF |
| C_{oss} | Output Capacitance | | - | 1450 | - | pF |
| C_{riss} | Reverse Transfer Capacitance | | - | 88 | - | pF |
| R_g | Gate Resistance | $f = 1\text{MHz}$ | - | 2.8 | - | Ω |
| $Q_{g(\text{Tot})}$ | Total Gate Charge | $V_{GS} = 0 \text{ to } 10V$ | $V_{DD} = 32V$ $I_D = 80A$ | 71 | 92 | nC |
| $Q_{g(\text{th})}$ | Threshold Gate Charge | $V_{GS} = 0 \text{ to } 2V$ | | 9.5 | - | nC |
| Q_{gs} | Gate-to-Source Gate Charge | | | 25 | - | nC |
| Q_{gd} | Gate-to-Drain "Miller" Charge | | | 13 | - | nC |

Switching Characteristics

| | | | | | | |
|--------------|----------------|--|---|----|----|----|
| t_{on} | Turn-On Time | $V_{DD} = 20V$, $I_D = 80A$, $V_{GS} = 10V$, $R_{GEN} = 6\Omega$ | - | - | 62 | ns |
| $t_{d(on)}$ | Turn-On Delay | | - | 22 | - | ns |
| t_r | Rise Time | | - | 24 | - | ns |
| $t_{d(off)}$ | Turn-Off Delay | | - | 39 | - | ns |
| t_f | Fall Time | | - | 19 | - | ns |
| t_{off} | Turn-Off Time | | - | - | 81 | ns |

Drain-Source Diode Characteristics

| | | | | | | |
|----------|-------------------------------|---|---|----|------|----|
| V_{SD} | Source-to-Drain Diode Voltage | $I_{SD} = 80A$, $V_{GS} = 0V$ | - | - | 1.25 | V |
| | | $I_{SD} = 40A$, $V_{GS} = 0V$ | - | - | 1.2 | V |
| t_{rr} | Reverse-Recovery Time | $I_F = 80A$, $dI_{SD}/dt = 100A/\mu s$ | - | 74 | 95 | ns |
| Q_{rr} | Reverse-Recovery Charge | $V_{DD} = 32V$ | - | 85 | 110 | nC |

Note:

4: The maximum value is specified by design at $T_J = 175^\circ\text{C}$. Product is not tested to this condition in production.

Description of Change (To) :

- 1) Features: Typical $Q_g(\text{tot}) = 68 \text{ nC}$ at $V_{GS} = 10\text{V}$, $I_D = 80 \text{ A}$ (page 1)
- 2) Highlighted items updated in Electrical Characteristics table (see attachment)

Dynamic Characteristics

| | | | | | | |
|---------------------|-------------------------------|---|---|------|----|----------|
| C_{iss} | Input Capacitance | $V_{DS} = 20\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$ | - | 5150 | - | pF |
| C_{oss} | Output Capacitance | | - | 1770 | - | pF |
| C_{rss} | Reverse Transfer Capacitance | | - | 89 | - | pF |
| R_g | Gate Resistance | $f = 1\text{MHz}$ | - | 2.8 | - | Ω |
| $Q_{g(\text{Tot})}$ | Total Gate Charge | $V_{GS} = 0 \text{ to } 10\text{V}$ | $V_{DD} = 32\text{V}$ $I_D = 80\text{A}$ | 68 | 92 | nC |
| $Q_{g(\text{th})}$ | Threshold Gate Charge | $V_{GS} = 0 \text{ to } 2\text{V}$ | | 9.3 | 14 | nC |
| Q_{gs} | Gate-to-Source Gate Charge | | | 22 | - | nC |
| Q_{gd} | Gate-to-Drain "Miller" Charge | | | 12 | - | nC |

Switching Characteristics

| | | | | | | |
|---------------------|----------------|---|---|----|----|----|
| t_{on} | Turn-On Time | $V_{DD} = 20\text{V}$, $I_D = 80\text{A}$, $V_{GS} = 10\text{V}$, $R_{GEN} = 6\Omega$ | - | - | 51 | ns |
| $t_{d(\text{on})}$ | Turn-On Delay | | - | 19 | - | ns |
| t_r | Rise Time | | - | 20 | - | ns |
| $t_{d(\text{off})}$ | Turn-Off Delay | | - | 41 | - | ns |
| t_f | Fall Time | | - | 19 | - | ns |
| t_{off} | Turn-Off Time | | - | - | 79 | ns |

Drain-Source Diode Characteristics

| | | | | | | |
|----------|-------------------------------|---|---|----|------|----|
| V_{SD} | Source-to-Drain Diode Voltage | $I_{SD} = 80\text{A}$, $V_{GS} = 0\text{V}$ | - | - | 1.25 | V |
| | | $I_{SD} = 40\text{A}$, $V_{GS} = 0\text{V}$ | - | - | 1.2 | V |
| t_{rr} | Reverse-Recovery Time | $I_F = 80\text{A}$, $dI_{SD}/dt = 100\text{A}/\mu\text{s}$ | - | 74 | 96 | ns |
| Q_{rr} | Reverse-Recovery Charge | $V_{DD} = 32\text{V}$ | - | 83 | 108 | nC |

Note:

4: The maximum value is specified by design at $T_J = 175^\circ\text{C}$. Product is not tested to this condition in production.

Reason for Change:
This is a datasheet change only.

Parameters updated per re-characterization test results.

Affected Product(s):

| | | |
|---------------|--|--|
| FDMS9408_F085 | | |
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