

1200V SiC MOSFET

AFS37M12T2Q2

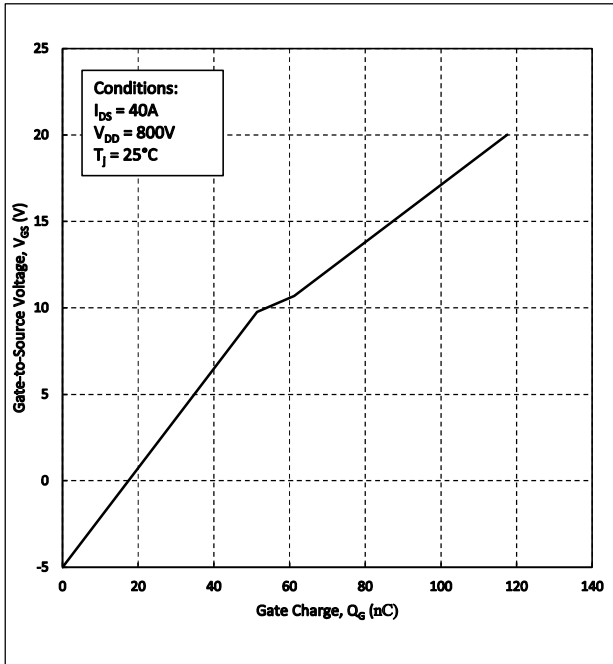


Figure 13. Gate Charge Characteristics

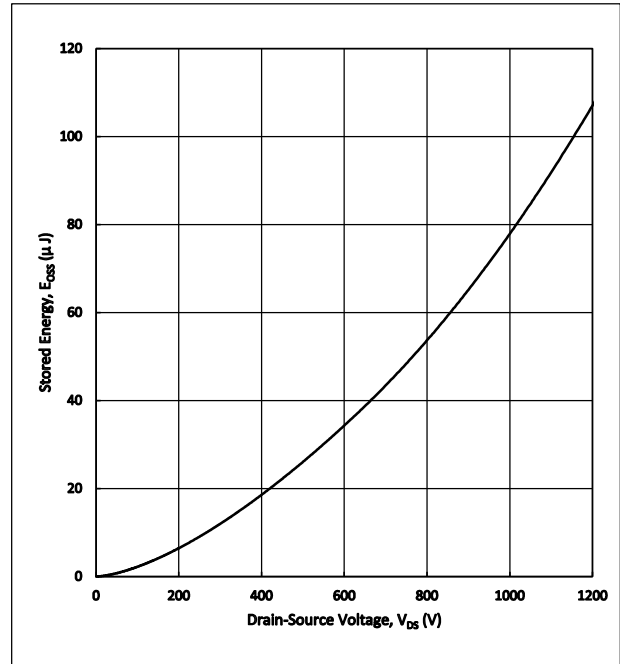


Figure 14. Output Capacitor Stored Energy

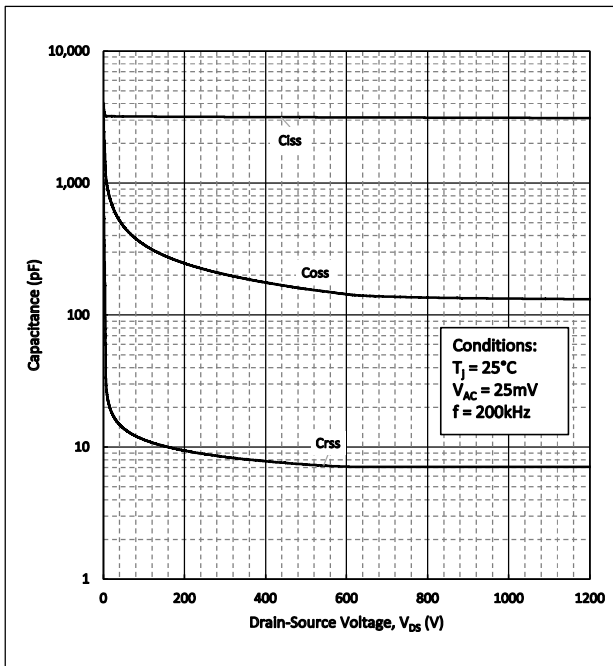


Figure 15. Capacitance vs Drain-Source Voltage

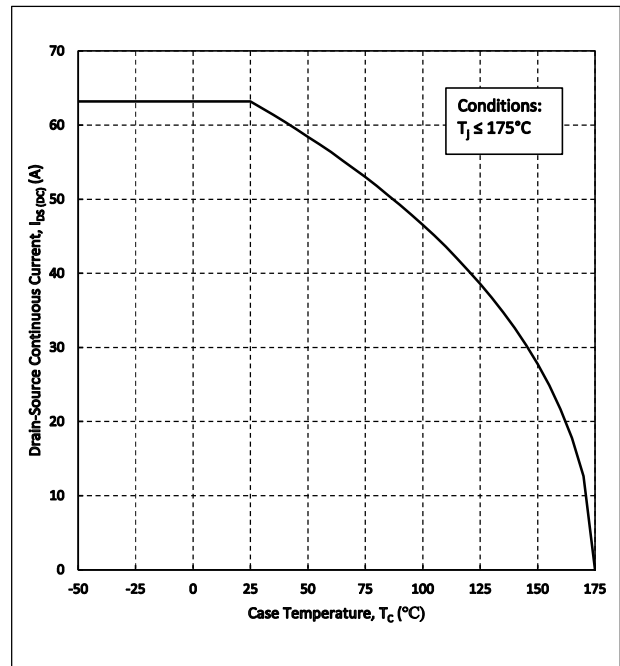


Figure 16. Continuous Drain Current Derating vs. Case Temperature

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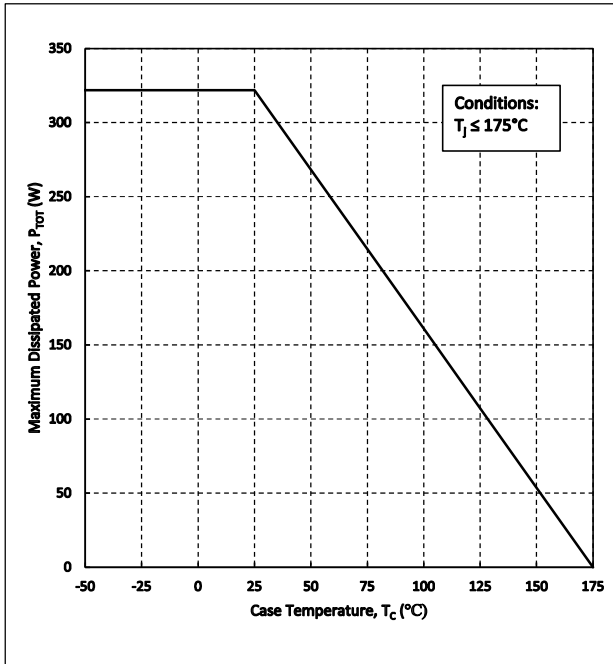


Figure 17. Maximum Power Dissipation Derating vs Case Temperature

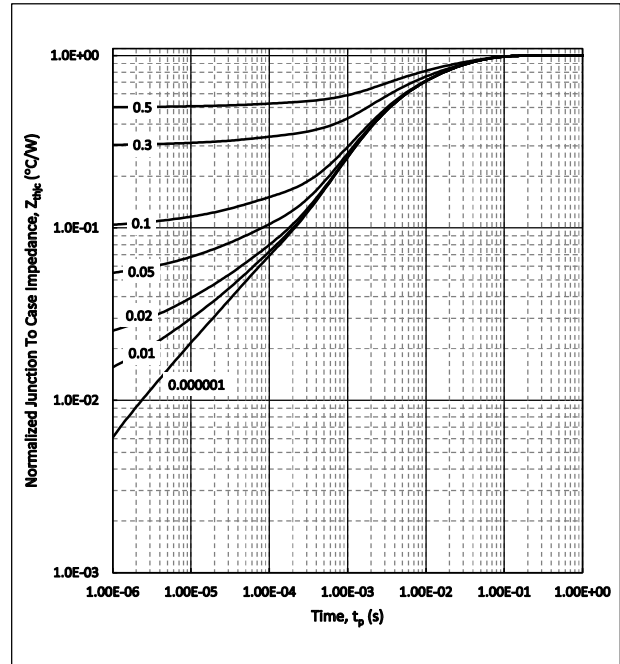


Figure 18. Transient Thermal impedance (Junction to Case)

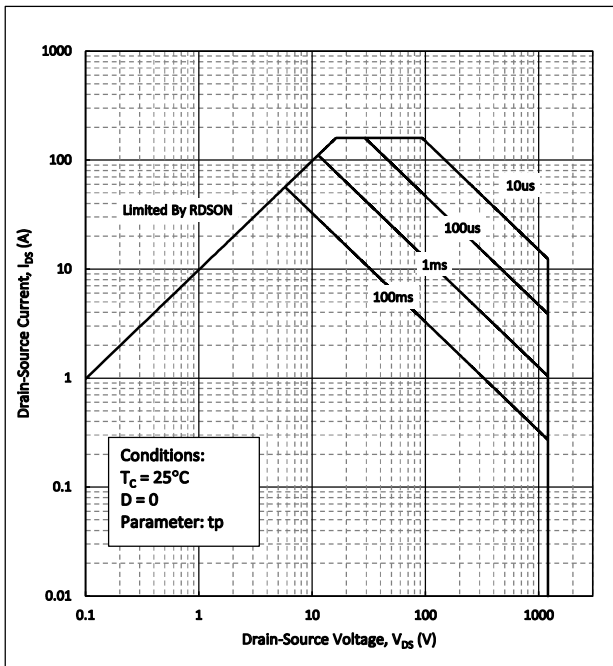


Figure 19. Safe Operating Area

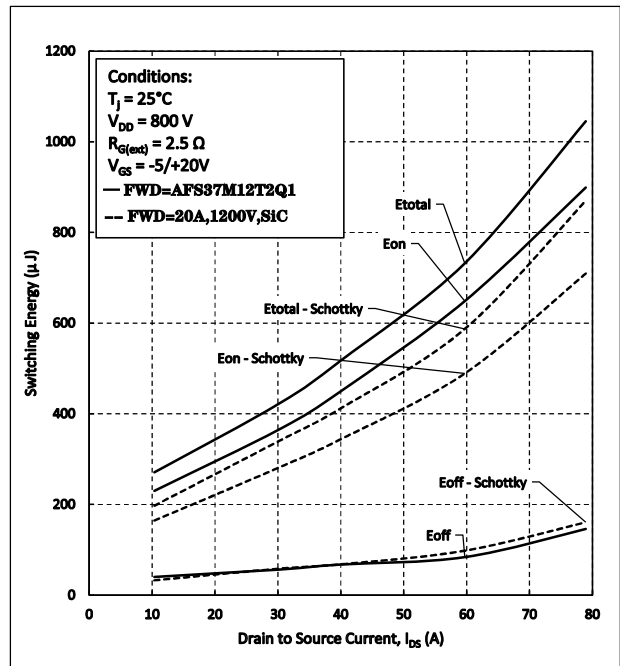


Figure 20. Clamped Inductive Switching Energy vs. Drain Current

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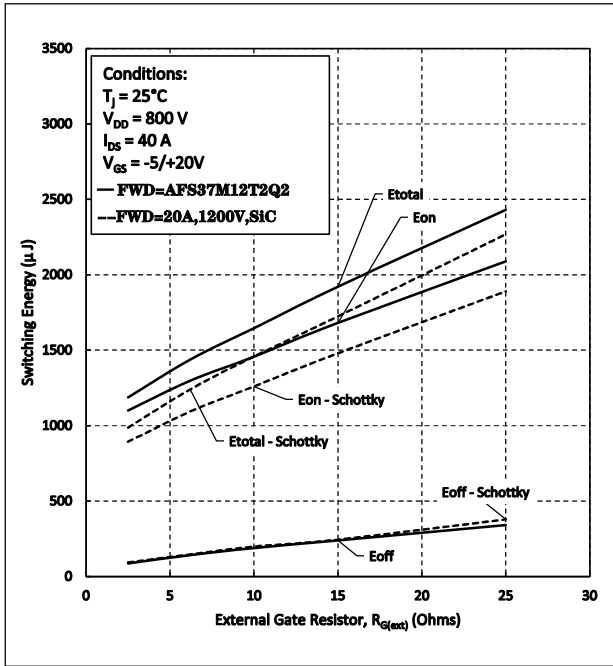


Figure 21. Clamped Inductive Switching Energy vs. $R_{G(ext)}$

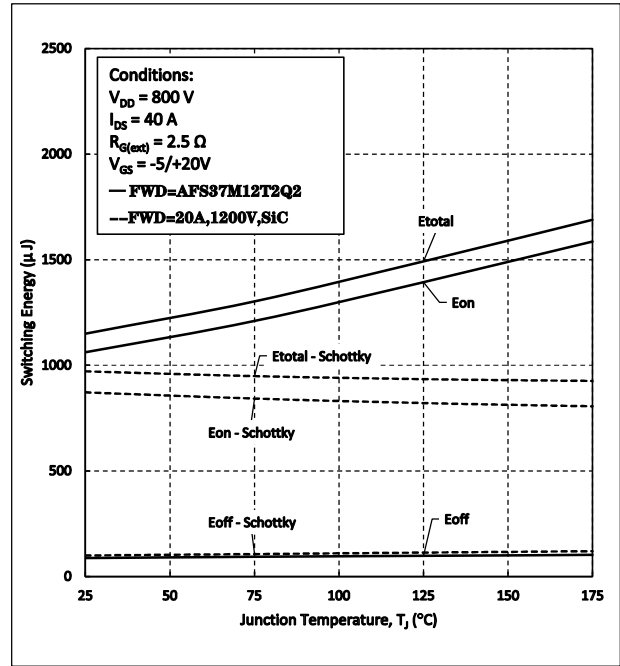


Figure 22. Clamped Inductive Switching Energy vs. Temperature

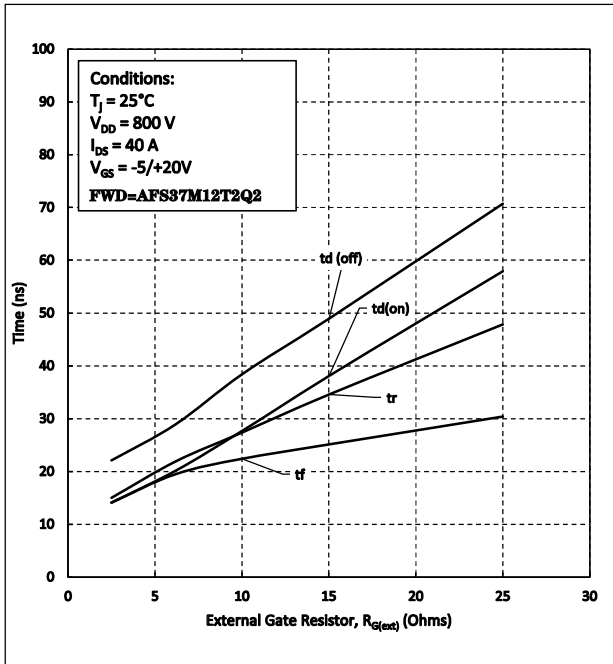


Figure 23. Switching Times vs $R_{G(ext)}$

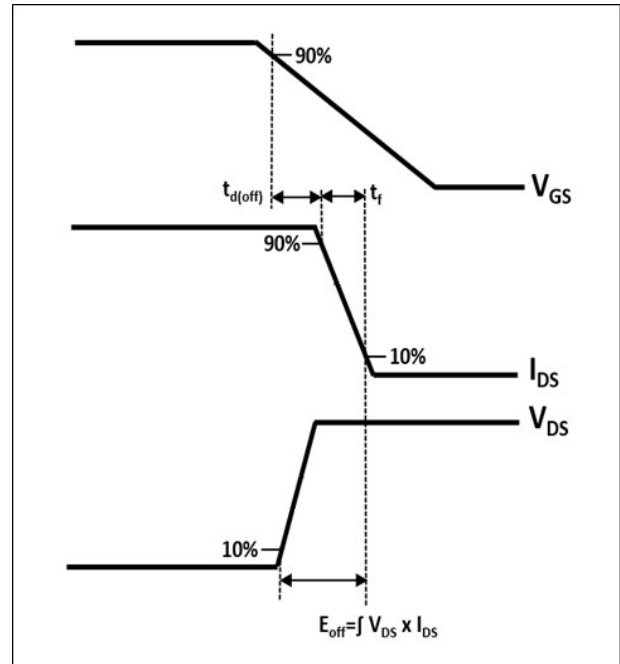


Figure 24. Turn-off Transient Definitions

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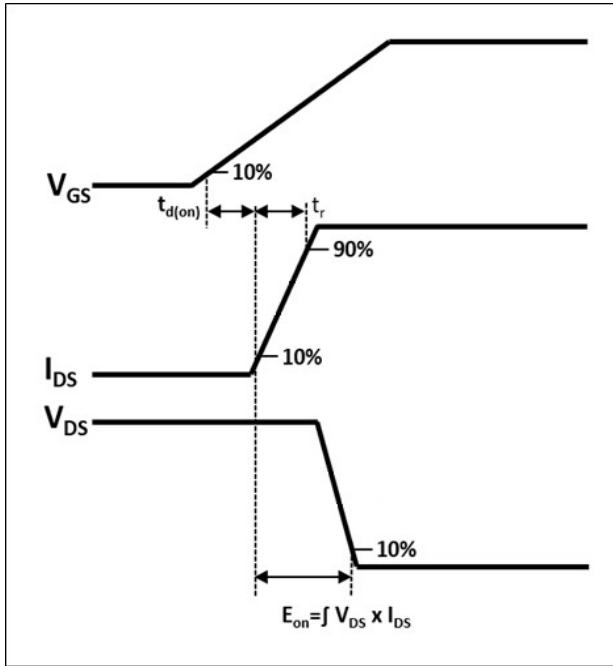


Figure 25. Turn-on Transient Definitions

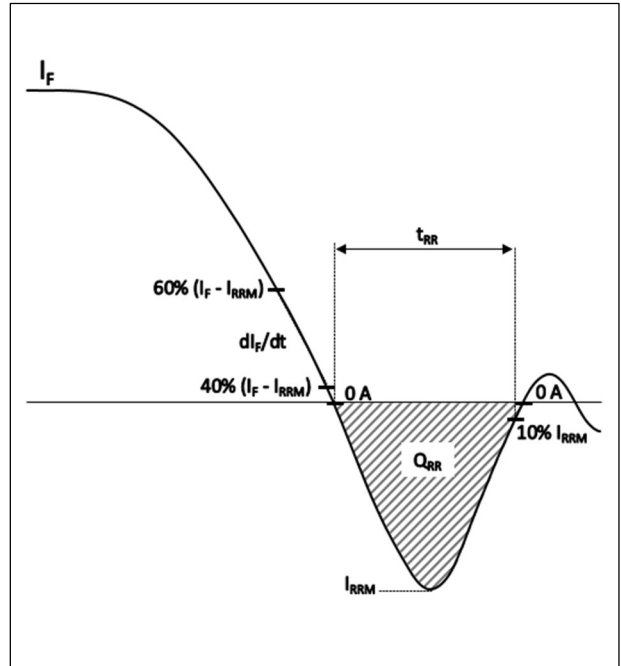
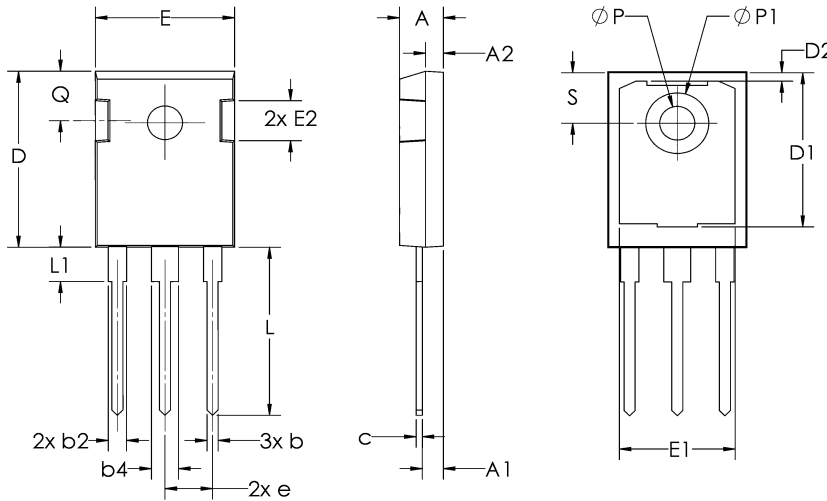


Figure 26. Reverse Recovery Definitions

Package Dimensions TO-247-3L



| Sym | Millimeters | | Inches | |
|-----|-------------|-------|-----------|-------|
| | Min | Max | Min | Max |
| A | 4.70 | 5.31 | 0.185 | 0.209 |
| A1 | 2.21 | 2.59 | 0.087 | 0.102 |
| A2 | 1.50 | 2.49 | 0.059 | 0.098 |
| b | 0.99 | 1.40 | 0.039 | 0.055 |
| b2 | 1.65 | 2.39 | 0.065 | 0.094 |
| b4 | 2.59 | 3.43 | 0.102 | 0.135 |
| c | 0.38 | 0.89 | 0.015 | 0.035 |
| D | 20.80 | 21.46 | 0.819 | 0.845 |
| D1 | 13.08 | 17.65 | 0.515 | 0.695 |
| D2 | 0.51 | 1.35 | 0.020 | 0.053 |
| E | 15.49 | 16.26 | 0.610 | 0.640 |
| E1 | 13.46 | 14.16 | 0.530 | 0.557 |
| E2 | 3.43 | 5.49 | 0.135 | 0.216 |
| e | 5.44 BSC | | 0.214 BSC | |
| L | 19.81 | 20.32 | 0.780 | 0.800 |
| L1 | 4.10 | 4.50 | 0.161 | 0.177 |
| ØP | 3.56 | 3.66 | 0.140 | 0.144 |
| ØP1 | 7.06 | 7.39 | 0.278 | 0.291 |
| Q | 5.39 | 6.20 | 0.212 | 0.244 |
| S | 6.04 | 6.30 | 0.238 | 0.248 |

Notes

RoHS Compliance

The levels of RoHS restricted materials in this product are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances, or are used in an exempted application, in accordance with EU Directive 2011/65/EC (RoHS2), as implemented March, 2013. RoHS Declarations for this product can be obtained from the Product Documentation sections of www.leapers-power.com.

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