

DC



YJQ16N025A

Electrical Characteristics ($T_J=25$ unless otherwise noted)

| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
|---------------------------------------|--------------|----------------------------------|-----|-----|-----------|-------|
| Static Parameter | | | | | | |
| Drain-Source Breakdown Voltage | BV_{DSS} | $V_{GS}=0V, I_D$ | 25 | - | - | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=25V, V_{GS}=0V$ | - | - | 1 | |
| | | $V_{DS}=25V, V_{GS}=0V, T_J=150$ | - | - | 100 | |
| Gate-Body Leakage Current | I_{GSS} | $V_{GS}= \pm 20V, V_{DS}=0V$ | - | - | ± 100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}= V_{GS}, I_D$ | 1 | 1.5 | 2.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(ON)}$ | $V_{GS}=10V, I_D=10A$ | - | 4.5 | 6 | |
| | | $V_{GS}=4.5V, I_D=6A$ | | 7.5 | 10 | |
| Diode Forward Voltage | V_{SD} | $I_S=10A, V_{GS}=0V$ | - | - | 1.2 | V |
| Gate resistance | R_G | $f=1MHz$ | - | 2.5 | - | |
| Maximum Body-Diode Continuous Current | I_S | | - | - | 16 | A |



Typical Electrical and Thermal Characteristics Diagrams

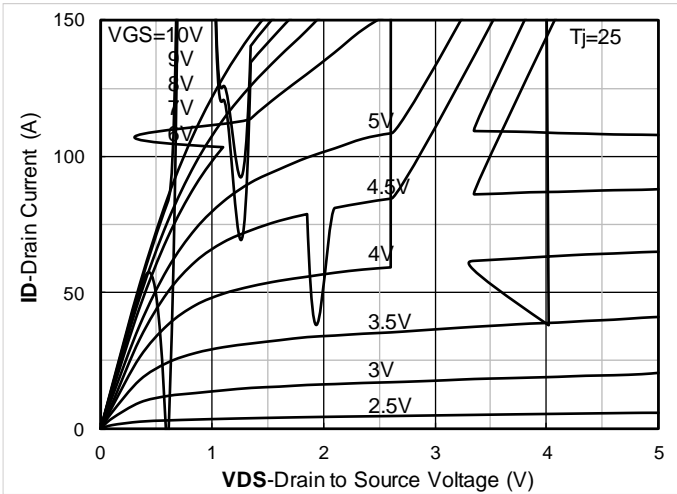


Figure 1. Output Characteristics



Figure 2. Transfer Characteristics

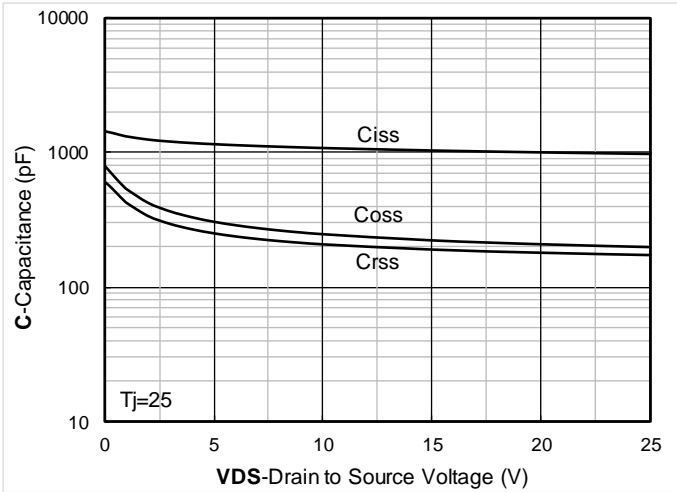


Figure 3. Capacitance Characteristics

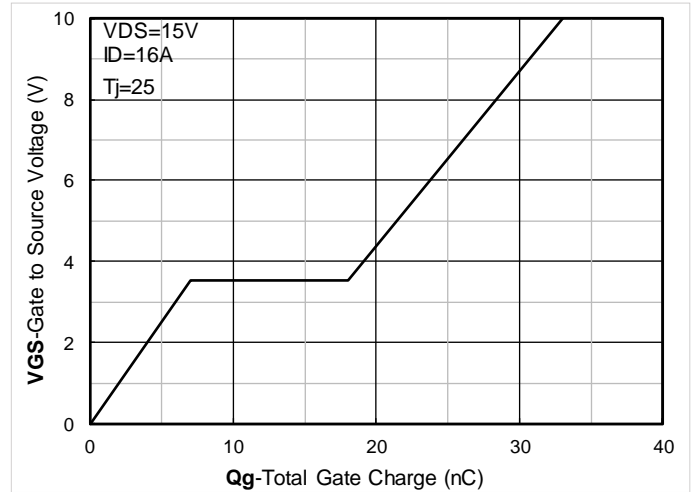


Figure 4. Gate Charge

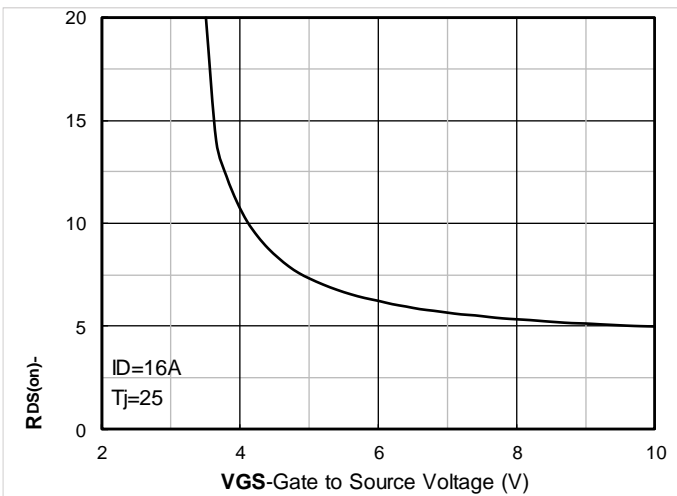


Figure 5. On-Resistance vs Gate to Source Voltage

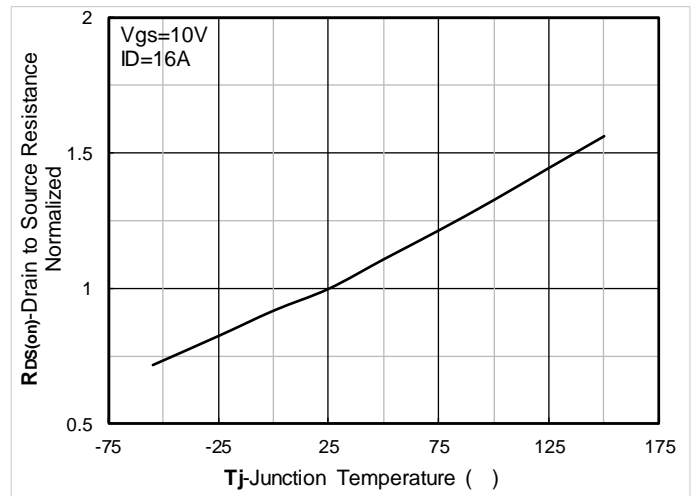


Figure 6. Normalized On-Resistance



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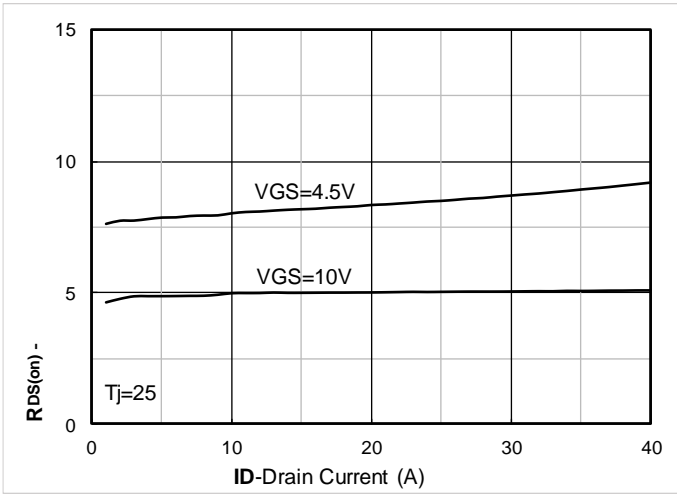


Figure 7. RDS(on) VS Drain Current

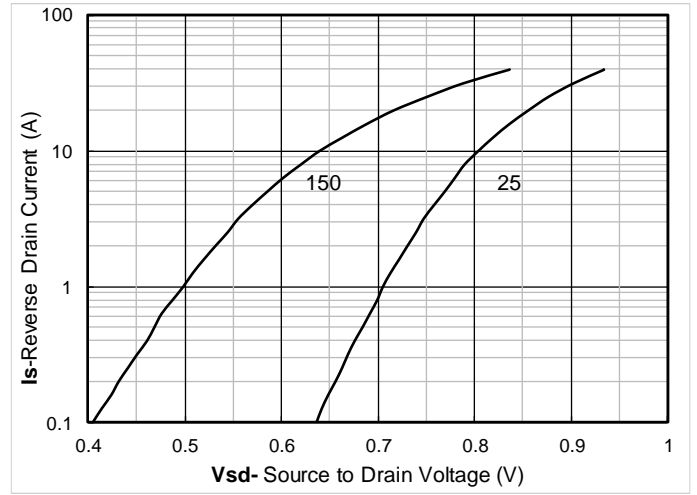


Figure 8. Forward characteristics of reverse diode

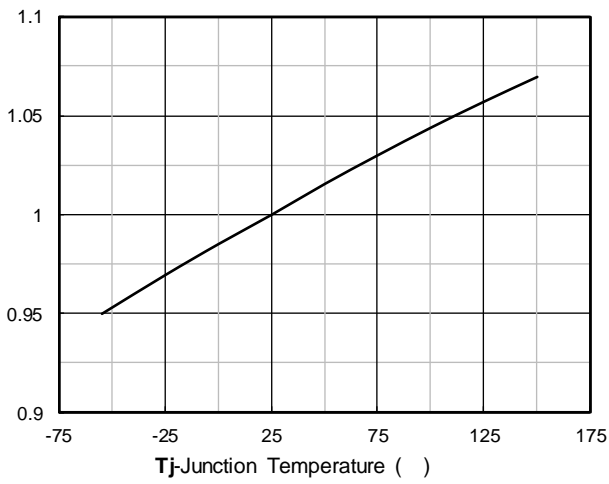


Figure 9. Normalized breakdown voltage

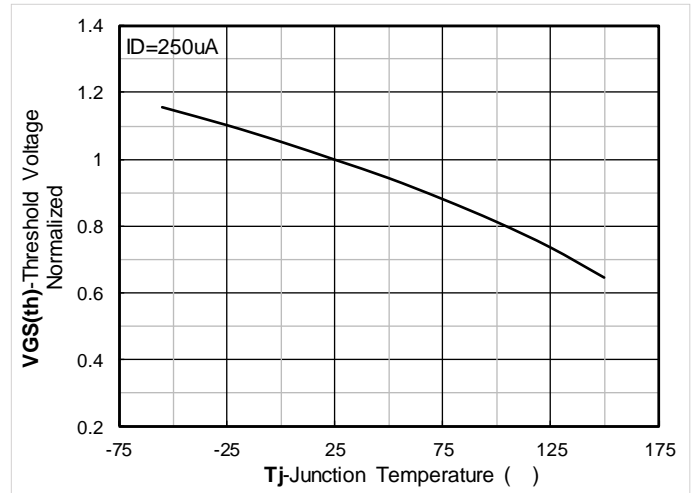


Figure 10. Normalized Threshold voltage

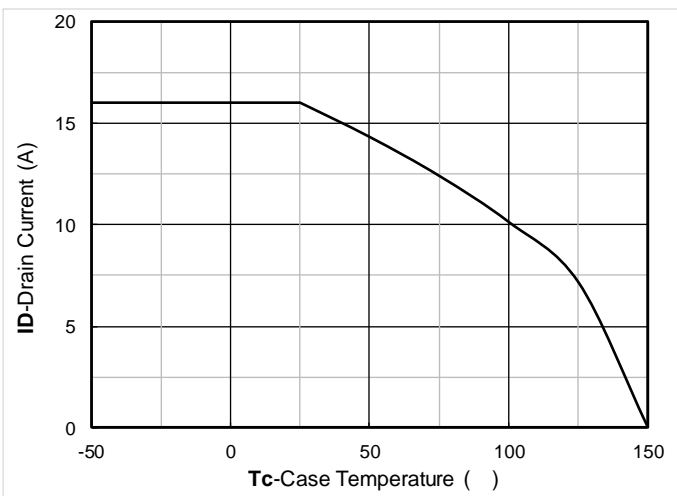


Figure 11. Current dissipation

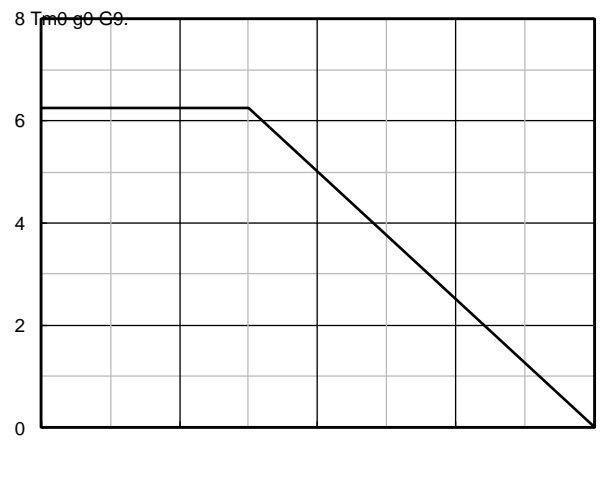
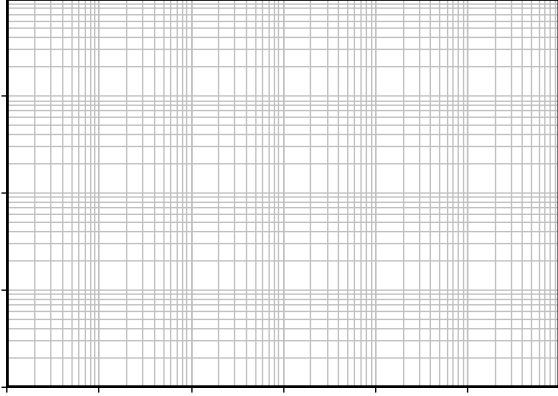


Figure 12. Power dissipation



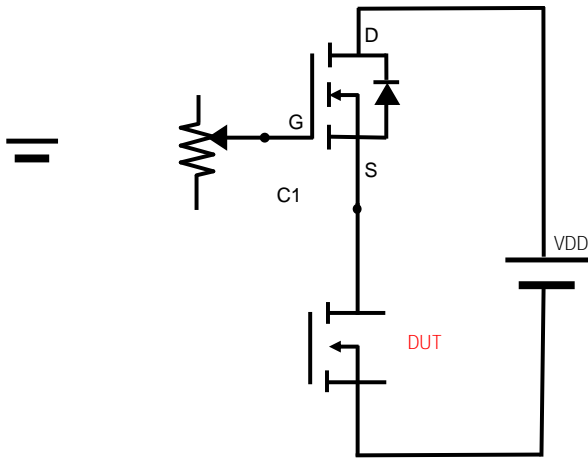


Figure B. Gate Charge Test Circuit & Waveform

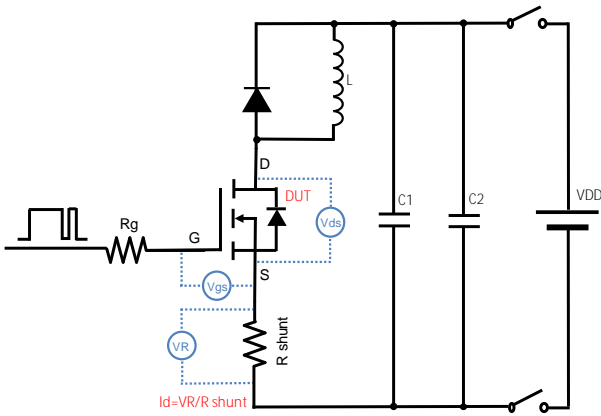


Figure C. Resistive Switching Test Circuit & Waveform

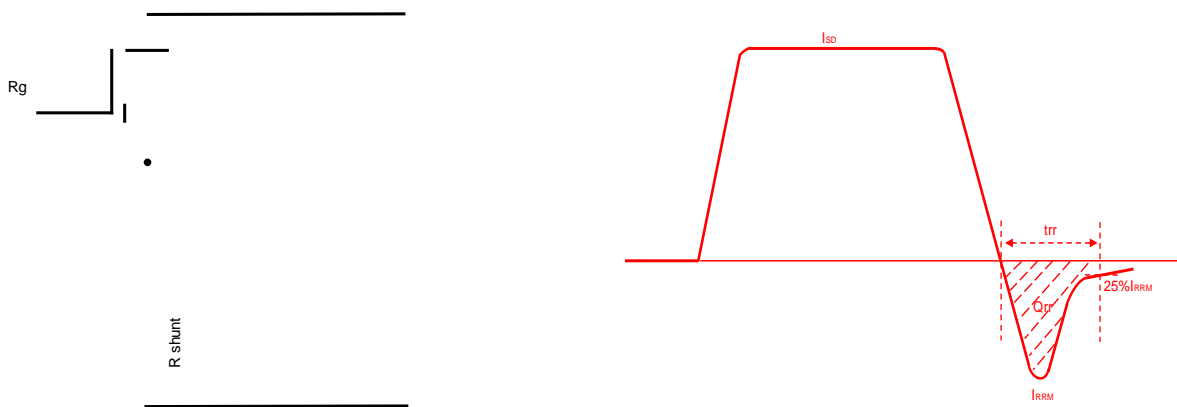


Figure D. Diode Recovery Test Circuit & Waveform

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