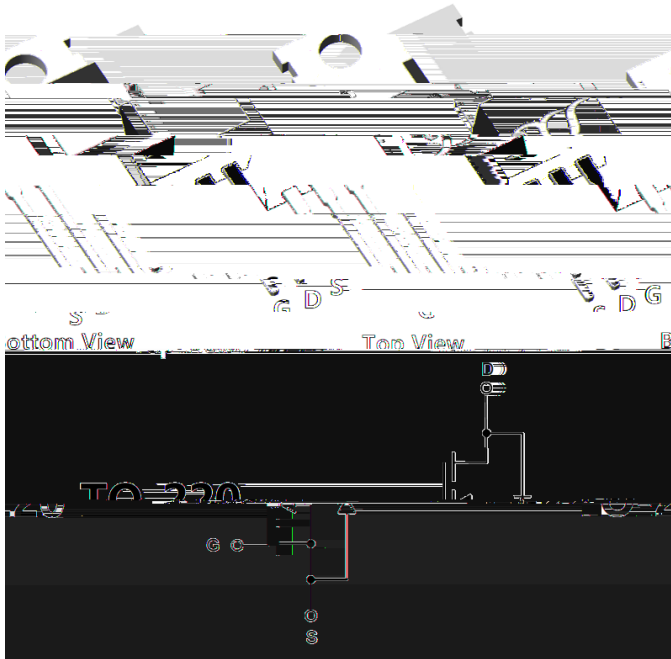




N-Channel Enhancement Mode Field Effect Transistor



Product Summary

| | |
|----------------------------------|------|
| V_{DS} | 650V |
| I_D | 8A |
| $R_{DS(ON)}$ (at $V_{GS}=10V$) | 600m |
| 100% EAS Tested | |
| 100% V_{DS} Tested | |

General Description

Super Junction High Voltage MOSFET technology
 Low $R_{DS(ON)}$ & FOM
 Extremely low switching loss
 Excellent stability and uniformity
 Epoxy Meets UL 94 V-0 Flammability Rating
 Halogen Free

Applications

Switching Mode Power Supplies (SMPS)
 PWM Motor Controls
 LED Lighting
 Adapter

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter | | Symbol | Limit | Unit |
|--|-------------------------|----------------|----------|------------------|
| Drain-source Voltage | | V_{DS} | 650 | V |
| Gate-source Voltage | | V_{GS} | ± 30 | V |
| Drain Current | $T_A=25^\circ\text{C}$ | I_D | 1.5 | A |
| | $T_A=100^\circ\text{C}$ | | 0.95 | |
| | $T_C=25^\circ\text{C}$ | | 8 | |
| | $T_C=100^\circ\text{C}$ | | 5 | |
| Pulsed Drain Current ^A | | I_{DM} | 12 | A |
| Avalanche energy ^B | | EAS | 90 | mJ |
| Total Power Dissipation ^C | $T_A=25^\circ\text{C}$ | P_D | 3.5 | W |
| | $T_A=100^\circ\text{C}$ | | 1.4 | |
| | $T_C=25^\circ\text{C}$ | | 104 | |
| | $T_C=100^\circ\text{C}$ | | 41 | |
| Junction and Storage Temperature Range | | T_J, T_{STG} | -55 +150 | $^\circ\text{C}$ |

Thermal resistance

| Parameter | | Symbol | Typ | Max | Units |
|---|--------------|--------|-----|-----|--------------------|
| Thermal Resistance Junction-to-Ambient ^D | Steady-State | R | 28 | 35 | $^\circ\text{C/W}$ |
| Thermal Resistance Junction-to-Case | Steady-State | R | 1 | 1.2 | |

Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | Marking | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|------------|----------------------|-------------------------|----------------------------|---------------|
| YJP08C65HJ | B1 | YJP08C65HJ | 50 | / | 5000 | Tube |



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

| Parameter | Symbol | Conditions | Min | Typ | Max | Units |
|-----------|--------|------------|-----|-----|-----|-------|
|-----------|--------|------------|-----|-----|-----|-------|



Typical Electrical and Thermal Characteristics Diagrams

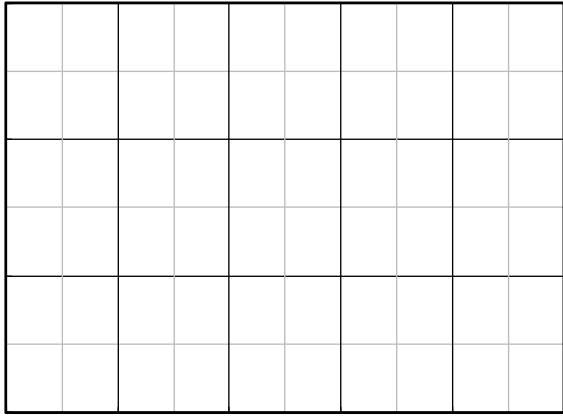


Figure 1. Output Characteristics

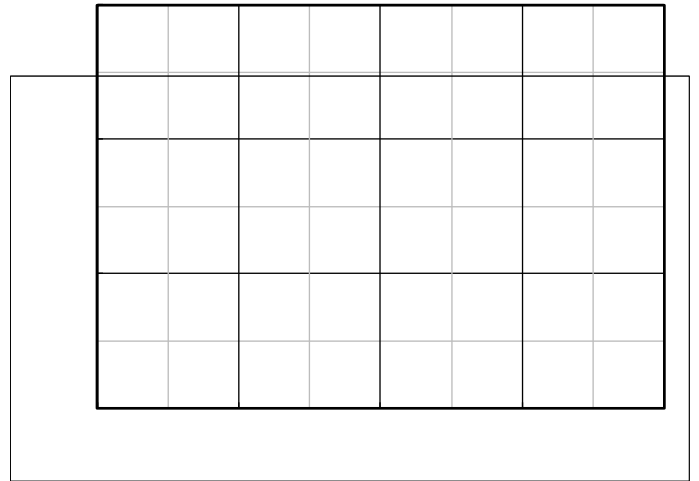


Figure 2. Transfer Characteristics

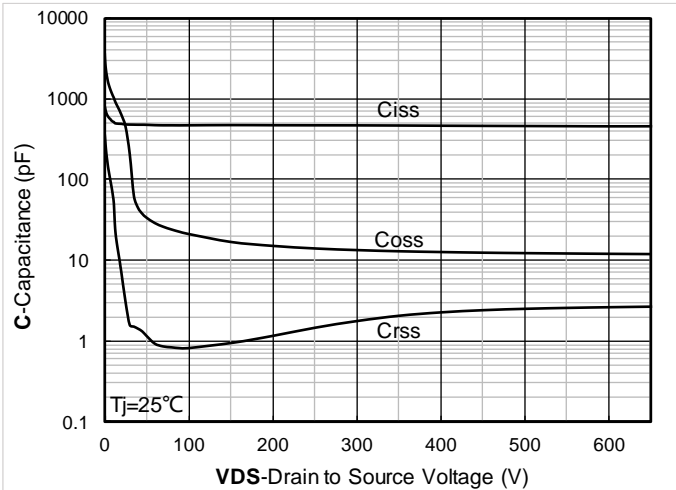


Figure 3. Capacitance Characteristics

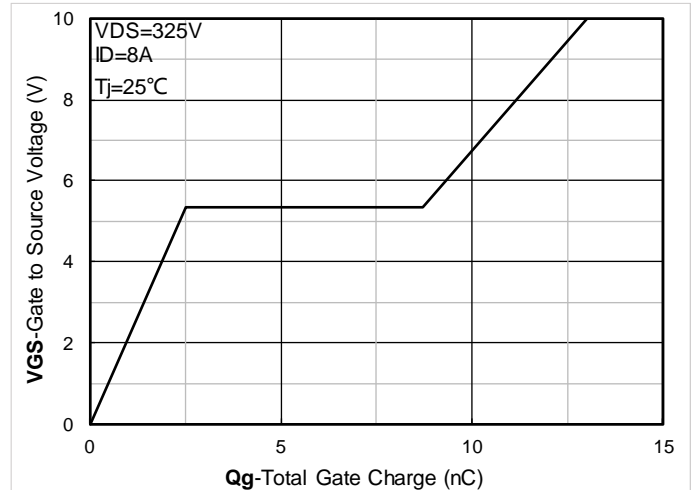


Figure 4. Gate Charge

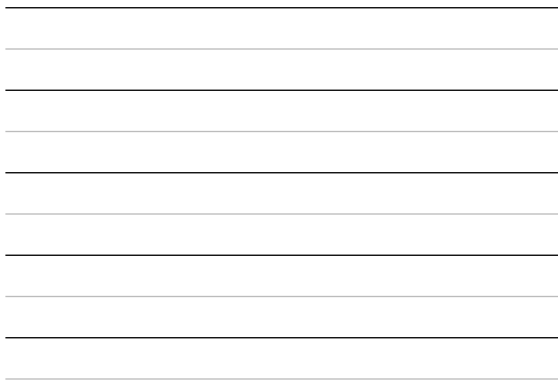


Figure 5. On-Resistance vs Gate to Source Voltage

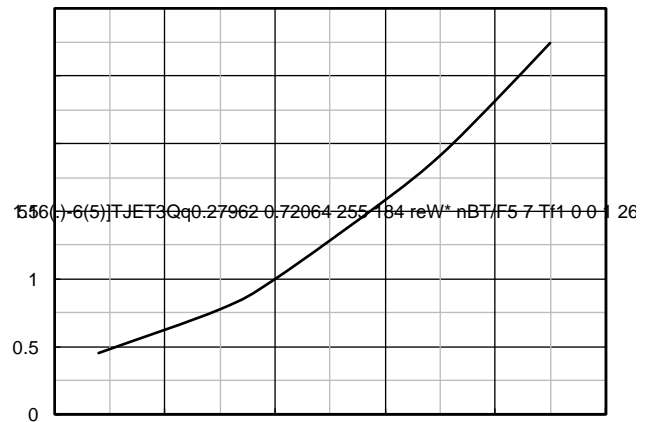


Figure 6. Normalized On-Resistance

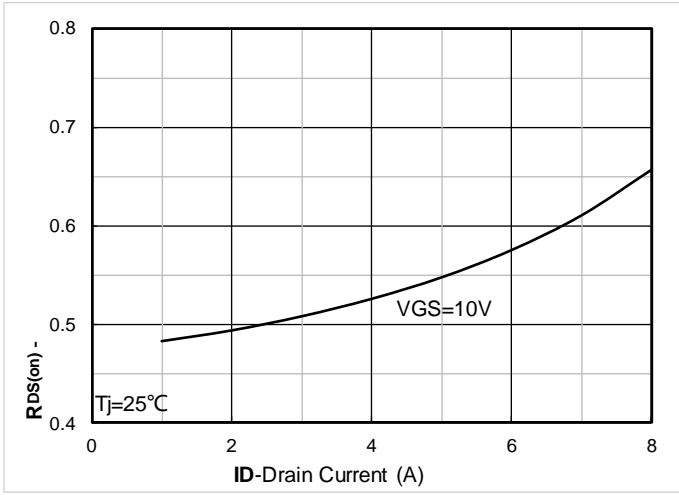


Figure 7. $R_{DS(on)}$ VS Drain Current

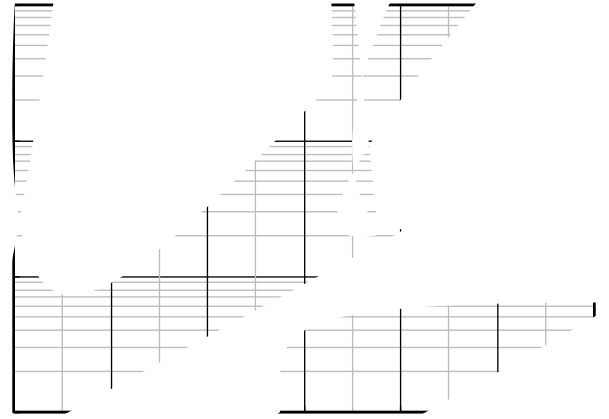


Figure 8. Forward characteristics of reverse diode

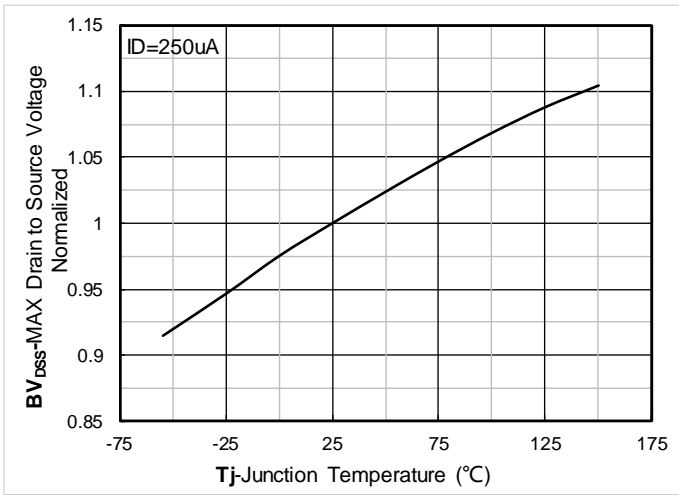


Figure 9. Normalized breakdown voltage

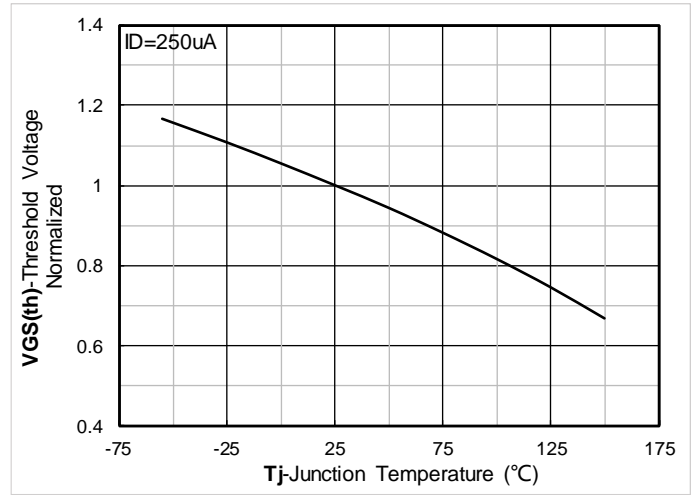


Figure 10. Normalized Threshold voltage

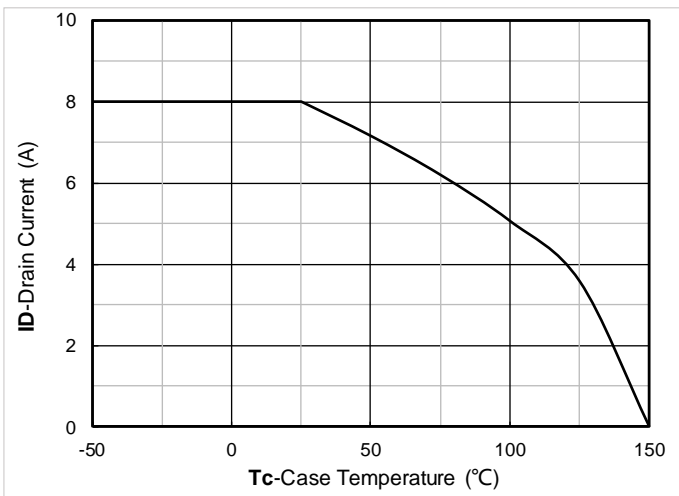


Figure 11. Current dissipation

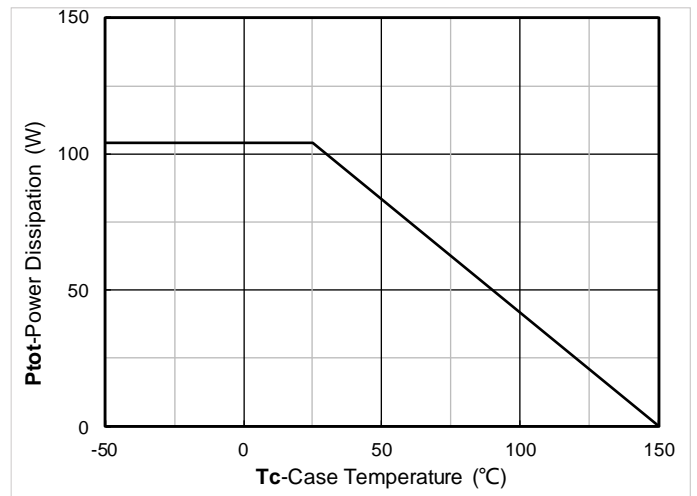


Figure 12. Power dissipation

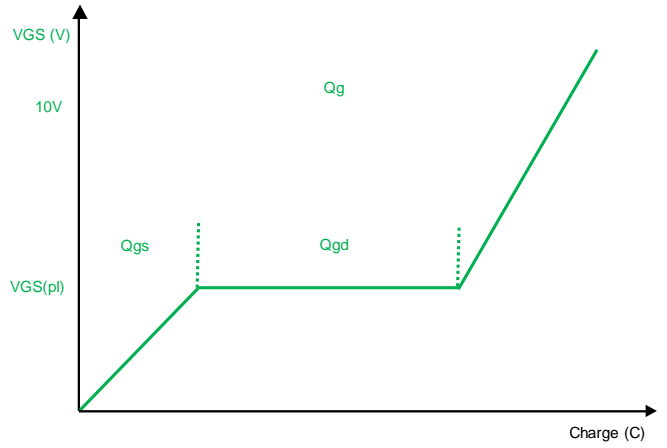
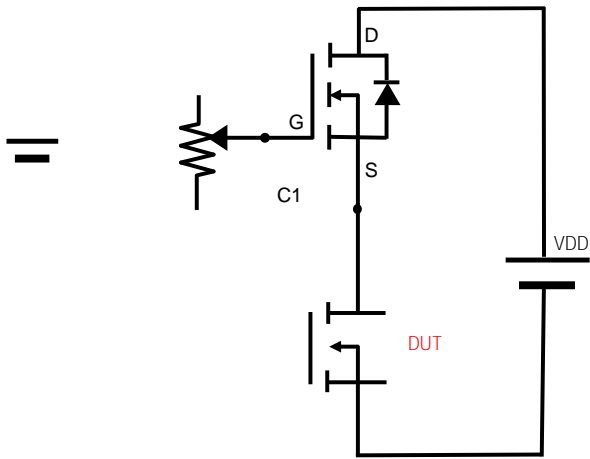


Figure B. Gate Charge Test Circuit & Waveform

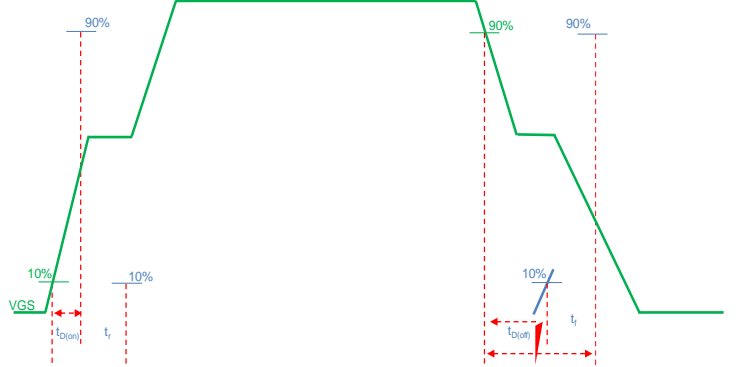


Figure C. Resistive Switching Test Circuit & Waveform

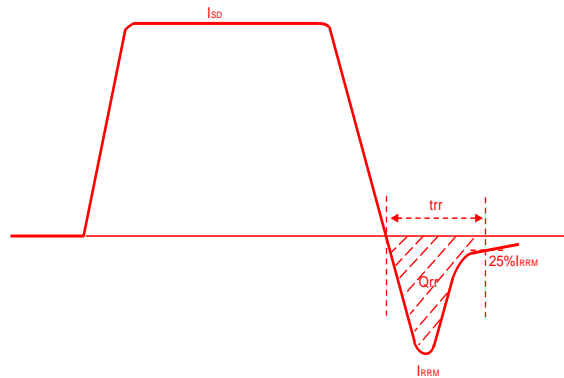
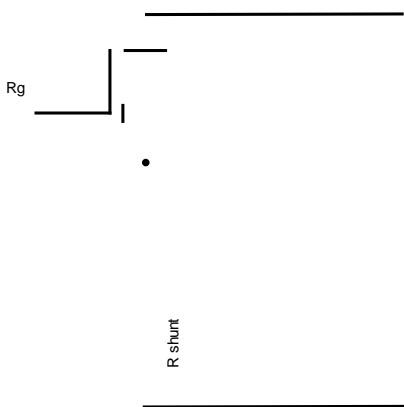


Figure D. Diode Recovery Test Circuit & Waveform



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