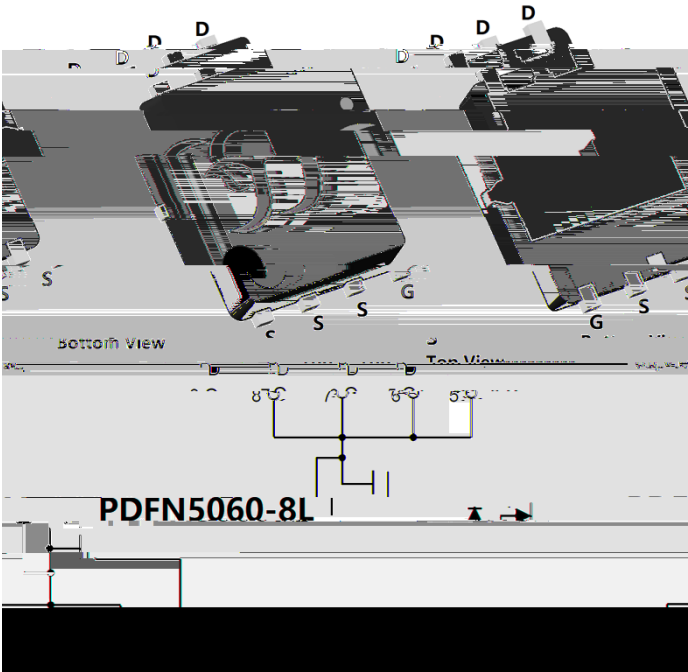




N-Channel Enhancement Mode Field Effect Transistor

Proo



|                                     |              |                 |    |     |    |
|-------------------------------------|--------------|-----------------|----|-----|----|
|                                     | Steady-State | $R_{\theta JA}$ | 50 | 60  | /W |
| Thermal Resistance Junction-to-Case | Steady-State | $R_{\theta JC}$ | 1  | 1.2 |    |

■ Ordering Information (Example)

| PREFERED P/N | PACKING CODE | Marking   | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|--------------|-----------|----------------------|-------------------------|----------------------------|---------------|
| YJG1D7G04HRQ | F1           | G1D7G04HR | 5000                 | 10000                   | 100000                     | 13" reel      |



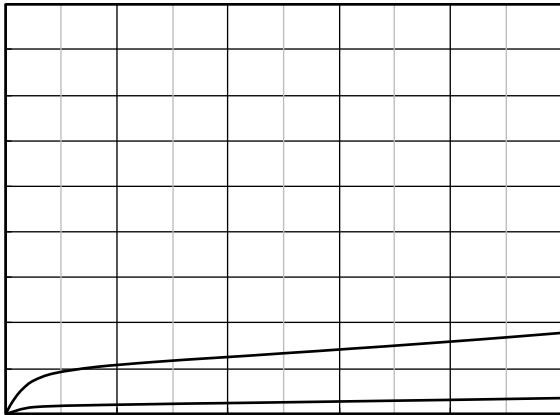
# YJG1D7G04HRQ

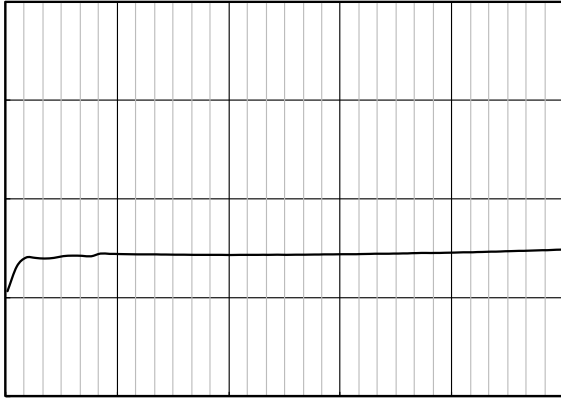
## ■ Electrical Characteristics (T<sub>J</sub>=25 unless otherwise noted)

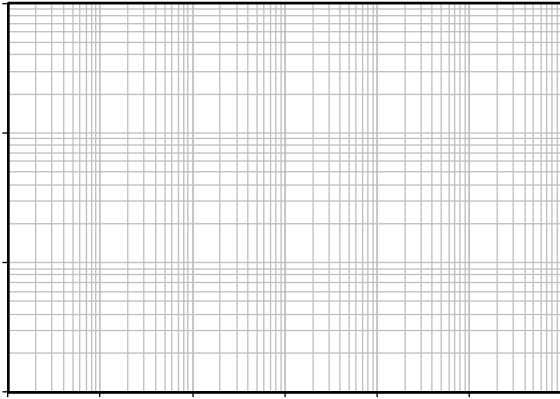
| Parameter                                                       | Symbol              | Conditions                                                | Min | Typ  | Max  | Units |
|-----------------------------------------------------------------|---------------------|-----------------------------------------------------------|-----|------|------|-------|
| Static Parameter                                                |                     |                                                           |     |      |      |       |
| Drain-Source Breakdown Voltage                                  | BV <sub>DSS</sub>   | V <sub>GS</sub> = 0V, I <sub>D</sub> =1mA                 | 40  | -    | -    | V     |
| Zero Gate Voltage Drain Current                                 | I <sub>DSS</sub>    | V <sub>DS</sub> =40V, V <sub>GS</sub> =0V                 | -   | -    | 1    | μA    |
| Gate-Body Leakage Current                                       | I <sub>GSS</sub>    | V <sub>GS</sub> = ±20V, V <sub>DS</sub> =0V               | -   | -    | ±100 | nA    |
| Gate Threshold Voltage                                          | V <sub>GS(th)</sub> | V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> =250μA | 2   | 3    | 4    | V     |
| Static Drain-Source On-Resistance                               | R <sub>DS(ON)</sub> | V <sub>GS</sub> =10V, I <sub>D</sub> =20A                 | -   | 1.25 | 1.7  | mΩ    |
| Diode Forward Voltage                                           | V <sub>SD</sub>     | I <sub>S</sub> =20A, V <sub>GS</sub> =0V                  | -   | 0.8  | 1.2  | V     |
| Gate resistance                                                 | R <sub>G</sub>      | f=1MHz                                                    | -   | 1.5  | -    | Ω     |
| Maximum Body-Diode Continuous Current                           | I <sub>S</sub>      |                                                           | -   | -    | 180  | A     |
| Dynamic Parameters                                              |                     |                                                           |     |      |      |       |
| Input Capacitance                                               | C <sub>iss</sub>    | V <sub>DS</sub> =20V, V <sub>GS</sub> =0V, f=1MHz         | -   | 4317 | -    | pF    |
| Output Capacitance                                              | C <sub>oss</sub>    |                                                           | -   | 1510 | -    |       |
| Reverse Transfer Capacitance                                    | C <sub>rss</sub>    |                                                           | -   | 28   | -    |       |
| Switching Parameters                                            |                     |                                                           |     |      |      |       |
| Total Gate Charge                                               | Q <sub>g</sub>      |                                                           | -   | 57.3 | -    |       |
| V <sub>GS</sub> =10V, V <sub>DS</sub> =20V, I <sub>D</sub> =90A |                     |                                                           |     |      |      | nC    |



■ Typical Electrical and Thermal Characteristics Diagrams









# YJG1D7G04HRQ

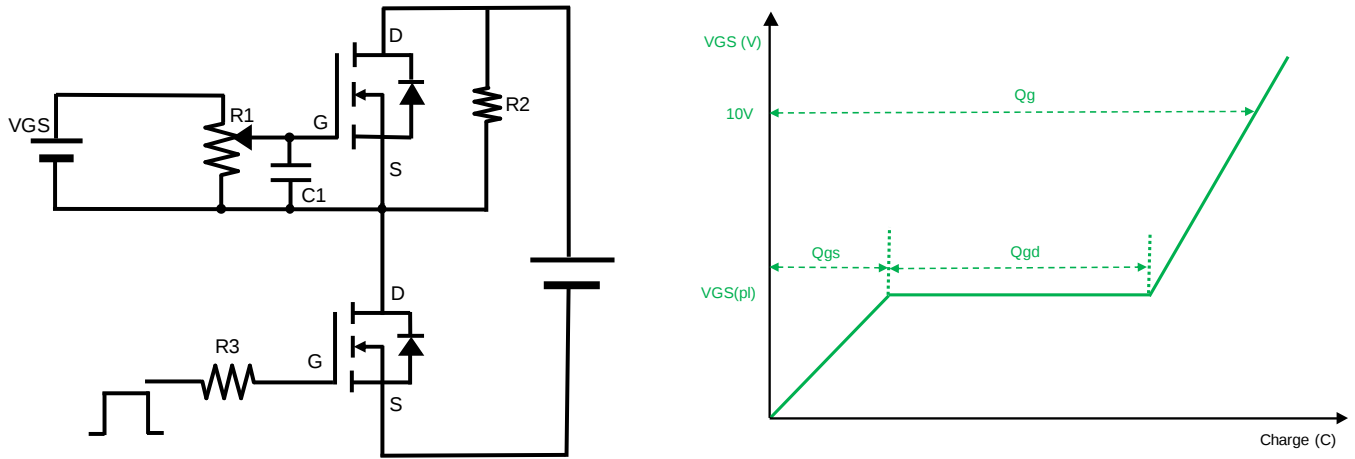


Figure B. Gate Charge Test Circuit & Waveform

