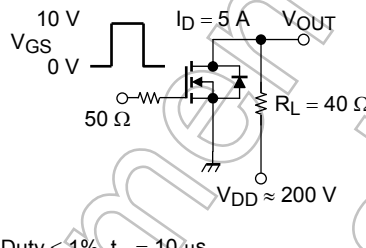


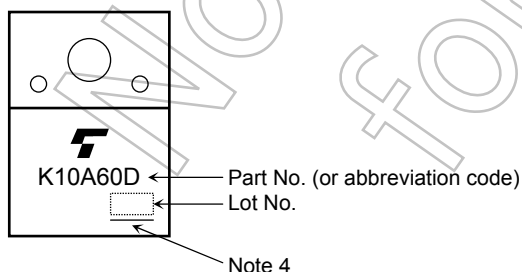
## Electrical Characteristics (Ta = 25°C)

| Characteristics                |               | Symbol        | Test Condition                                                                     | Min | Typ. | Max     | Unit          |
|--------------------------------|---------------|---------------|------------------------------------------------------------------------------------|-----|------|---------|---------------|
| Gate leakage current           |               | $I_{GSS}$     | $V_{GS} = \pm 30 \text{ V}, V_{DS} = 0 \text{ V}$                                  | —   | —    | $\pm 1$ | $\mu\text{A}$ |
| Drain cut-off current          |               | $I_{DSS}$     | $V_{DS} = 600 \text{ V}, V_{GS} = 0 \text{ V}$                                     | —   | —    | 10      | $\mu\text{A}$ |
| Drain-source breakdown voltage |               | $V_{(BR)DSS}$ | $I_D = 10 \text{ mA}, V_{GS} = 0 \text{ V}$                                        | 600 | —    | —       | V             |
| Gate threshold voltage         |               | $V_{th}$      | $V_{DS} = 10 \text{ V}, I_D = 1 \text{ mA}$                                        | 2.0 | —    | 4.0     | V             |
| Drain-source ON-resistance     |               | $R_{DS(ON)}$  | $V_{GS} = 10 \text{ V}, I_D = 5 \text{ A}$                                         | —   | 0.58 | 0.75    | $\Omega$      |
| Forward transfer admittance    |               | $ Y_{fs} $    | $V_{DS} = 10 \text{ V}, I_D = 5 \text{ A}$                                         | 1.5 | 6.0  | —       | S             |
| Input capacitance              |               | $C_{iss}$     | $V_{DS} = 25 \text{ V}, V_{GS} = 0 \text{ V}, f = 1 \text{ MHz}$                   | —   | 1350 | —       | pF            |
| Reverse transfer capacitance   |               | $C_{rss}$     |                                                                                    | —   | 6    | —       |               |
| Output capacitance             |               | $C_{oss}$     |                                                                                    | —   | 135  | —       |               |
| Switching time                 | Rise time     | $t_r$         |  | —   | 22   | —       | ns            |
|                                | Turn-on time  | $t_{on}$      |                                                                                    | —   | 55   | —       |               |
|                                | Fall time     | $t_f$         |                                                                                    | —   | 15   | —       |               |
|                                | Turn-off time | $t_{off}$     |                                                                                    | —   | 100  | —       |               |
| Total gate charge              |               | $Q_g$         | $V_{DD} \approx 400 \text{ V}, V_{GS} = 10 \text{ V}, I_D = 10 \text{ A}$          | —   | 25   | —       | nC            |
| Gate-source charge             |               | $Q_{gs}$      |                                                                                    | —   | 16   | —       |               |
| Gate-drain charge              |               | $Q_{gd}$      |                                                                                    | —   | 9    | —       |               |

## Source-Drain Ratings and Characteristics (Ta = 25°C)

| Characteristics                           | Symbol    | Test Condition                                 | Min | Typ. | Max  | Unit          |
|-------------------------------------------|-----------|------------------------------------------------|-----|------|------|---------------|
| Continuous drain reverse current (Note 1) | $I_{DR}$  | —                                              | —   | —    | 10   | A             |
| Pulse drain reverse current (Note 1)      | $I_{DRP}$ | —                                              | —   | —    | 40   | A             |
| Forward voltage (diode)                   | $V_{DSF}$ | $I_{DR} = 10 \text{ A}, V_{GS} = 0 \text{ V}$  | —   | —    | -1.7 | V             |
| Reverse recovery time                     | $t_{rr}$  | $I_{DR} = 10 \text{ A}, V_{GS} = 0 \text{ V},$ | —   | 1300 | —    | ns            |
| Reverse recovery charge                   | $Q_{rr}$  | $dI_{DR}/dt = 100 \text{ A}/\mu\text{s}$       | —   | 12   | —    | $\mu\text{C}$ |

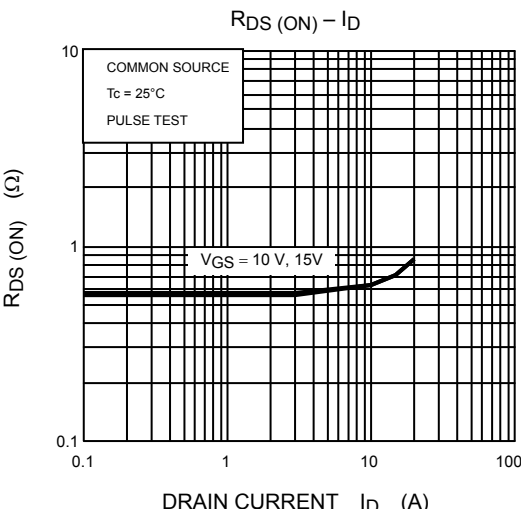
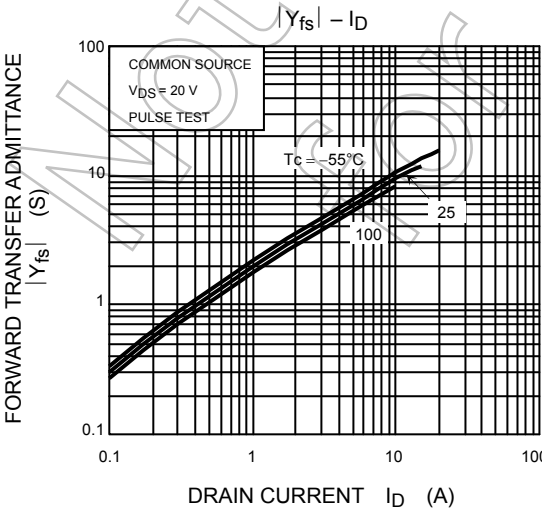
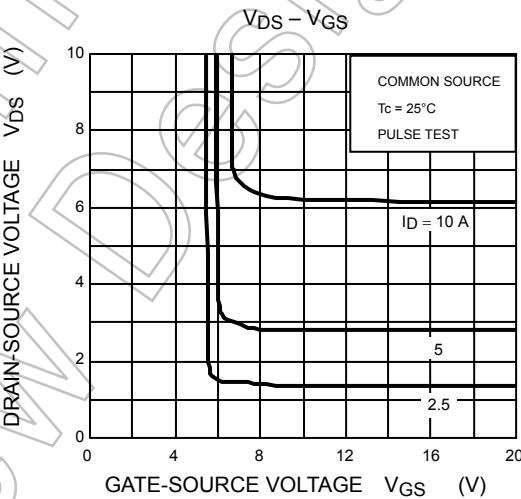
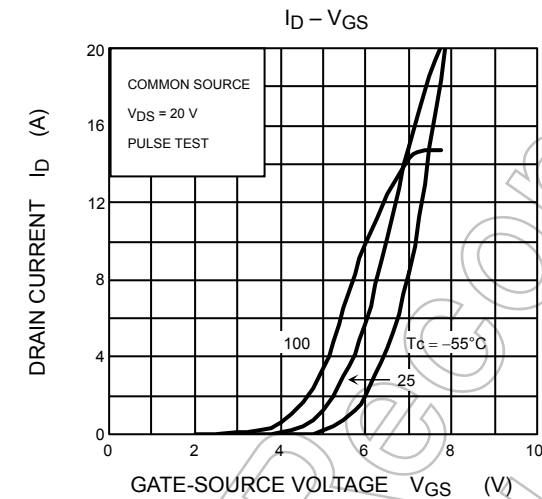
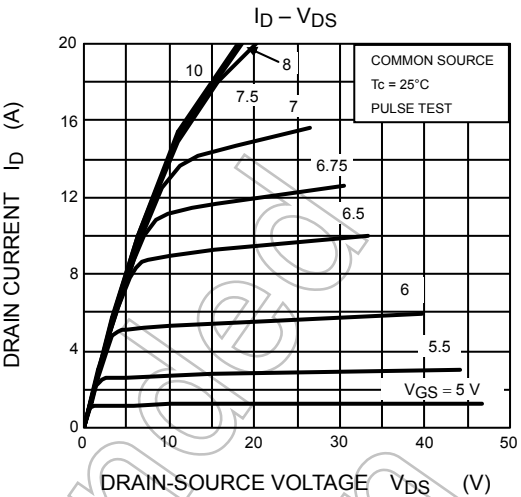
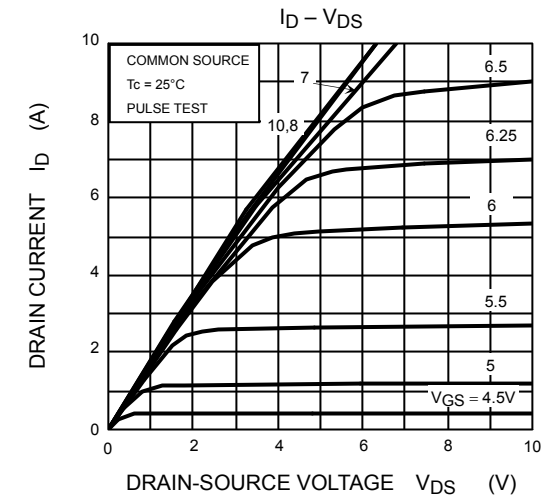
## Marking

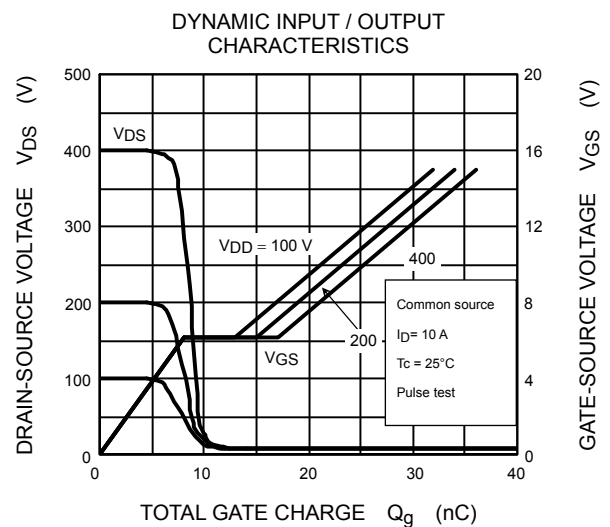
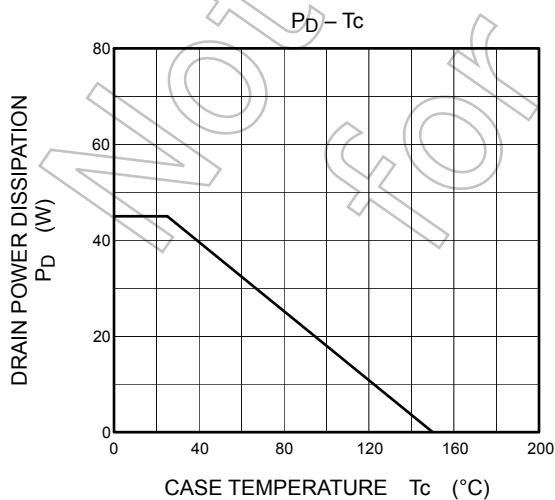
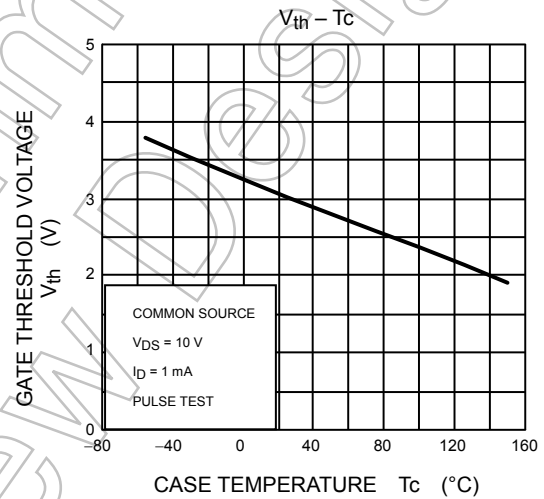
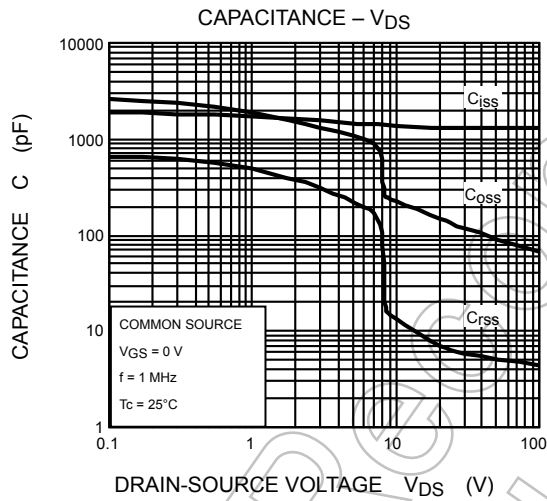
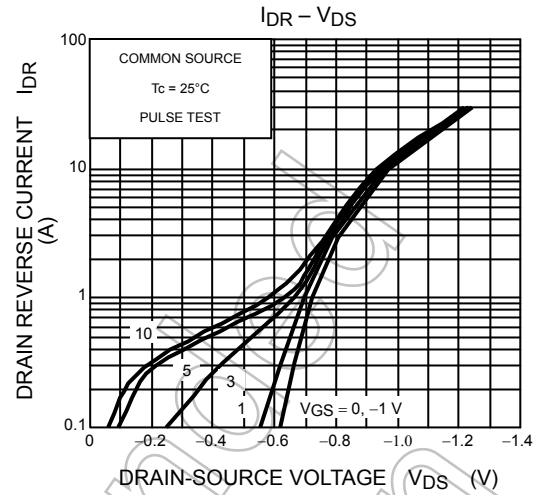
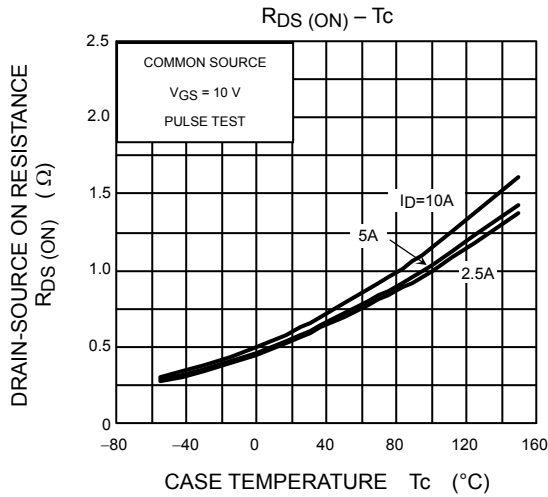


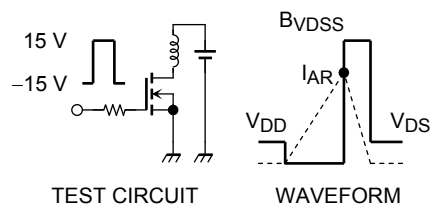
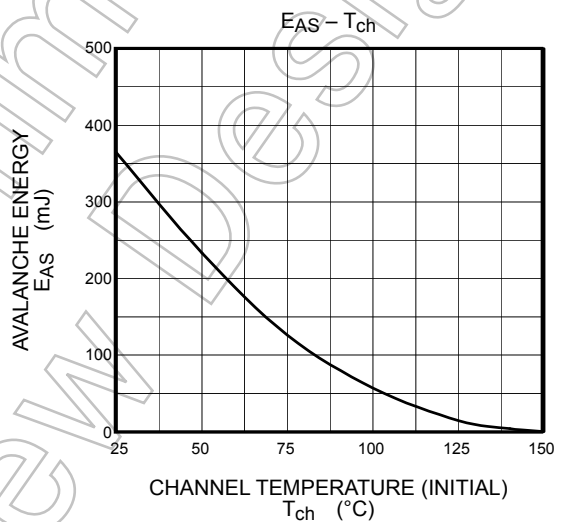
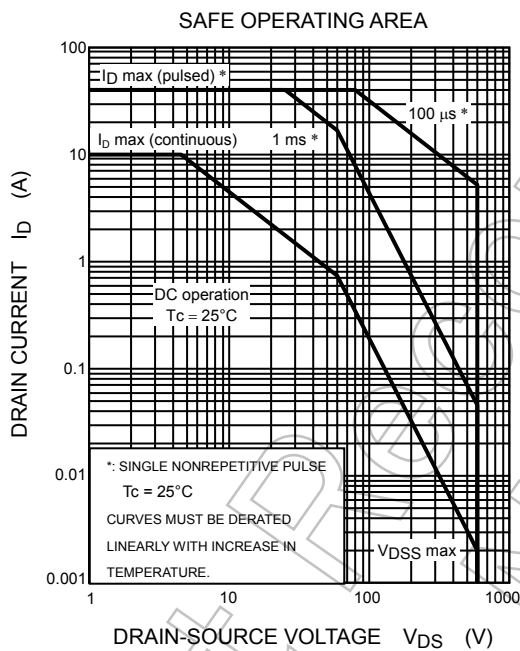
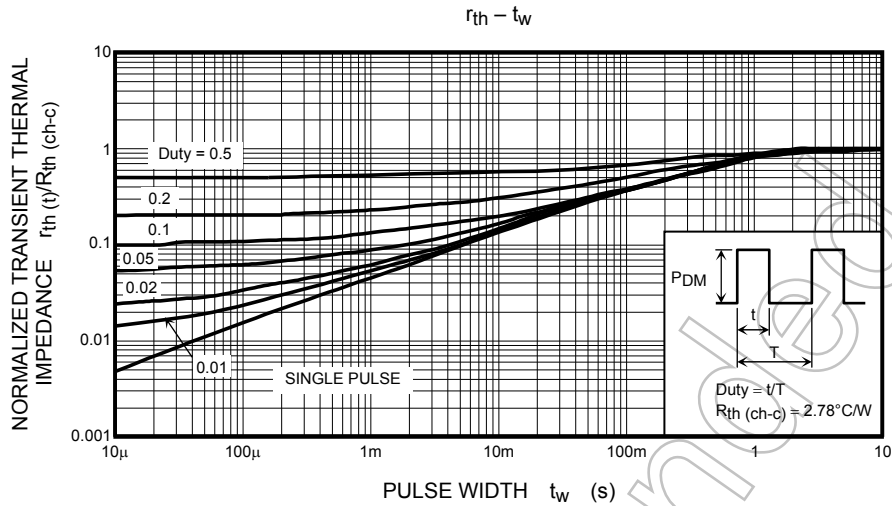
Note 4: A line under a Lot No. identifies the indication of product Labels.

[[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

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$$R_G = 25 \, \Omega$$

$$V_{DD} = 90 \, V, L = 6.36 \, mH$$

$$E_{AS} = \frac{1}{2} \cdot L \cdot I_{AR}^2 \cdot \left( \frac{B_{VDSS}}{B_{VDSS} - V_{DD}} \right)$$

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