

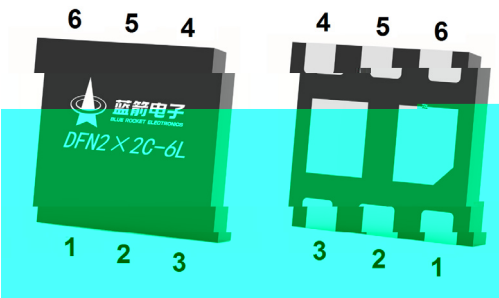
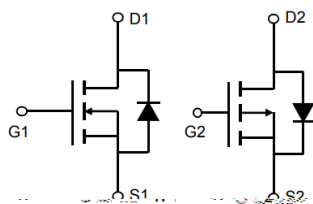
/ Descriptions

Complementary Enhancement MOSFET in a DFN2 2C-6L Plastic Package.

/ Features

|                                    |                                     |
|------------------------------------|-------------------------------------|
| N-channel                          | P-channel                           |
| $V_{DS(V)}=16V$                    | $V_{DS(V)}=-16V$                    |
| $I_D=8.4A$                         | $I_D=-6.3A$                         |
| $R_{DS(ON)}@4.5V\ 15m\ (Typ.13mR)$ | $R_{DS(ON)}@-4.5V\ 25m\ (Typ.21mR)$ |
| $R_{DS(ON)}@2.5V\ 18m\ (Typ.16mR)$ | $R_{DS(ON)}@-2.5V\ 35m\ (Typ.28mR)$ |
| HF Product.                        |                                     |

Power Management in Notebook Computer, Portable Equipment and Battery Powered Systems.



| 出脚    | 定义 |
|-------|----|
| PIN 1 | S1 |
| PIN 2 | G1 |
| PIN 3 | D2 |
| PIN 4 | S2 |
| PIN 5 | G2 |
| PIN 6 | D1 |

See Marking Instructions.

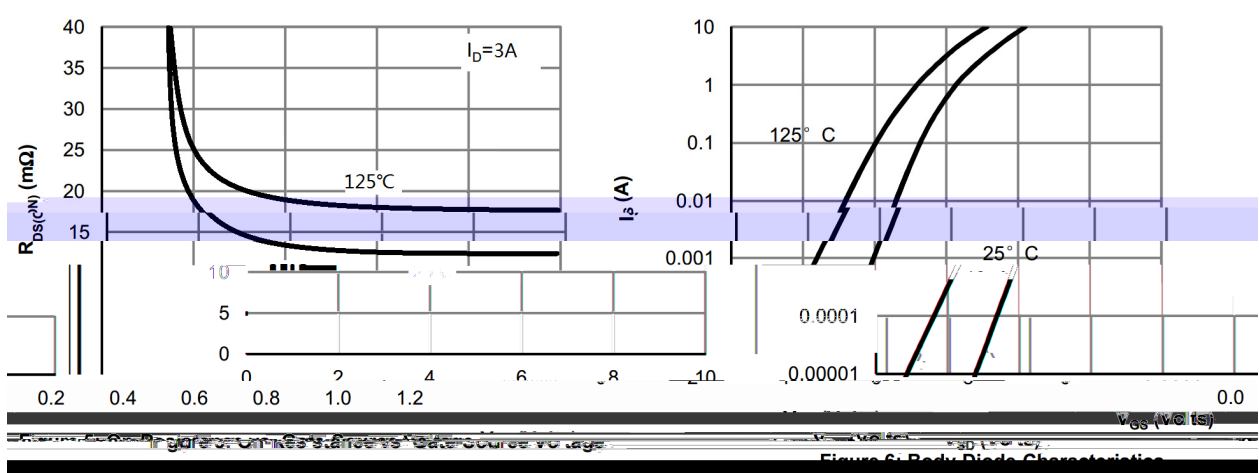
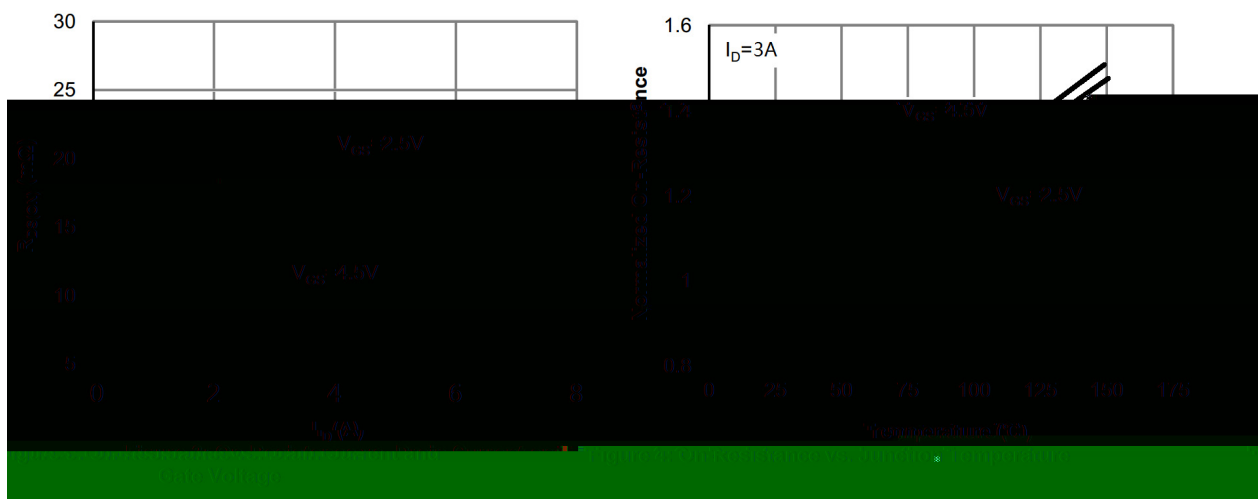
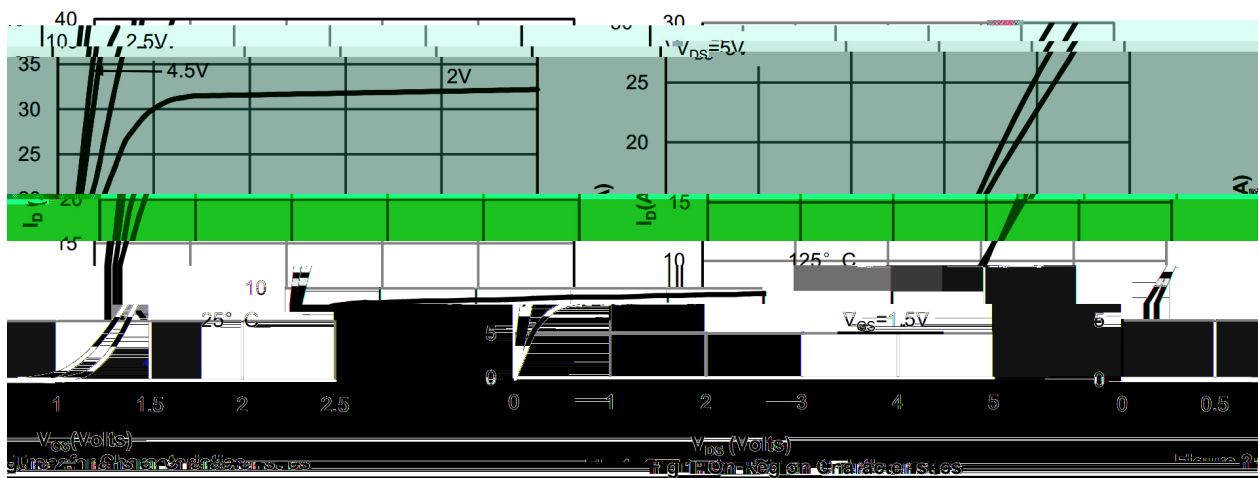
/ Absolute Maximum Ratings( $T_a=25^\circ\text{C}$ )

| Parameter                              | Symbol                           | Rating      |            | Unit |
|----------------------------------------|----------------------------------|-------------|------------|------|
|                                        |                                  | N-channe    | P-channell |      |
| Drain-Source Voltage                   | V <sub>DSS</sub>                 | ±16         |            | V    |
| Gate-Source Voltage                    | V <sub>GSS</sub>                 | ±10         |            | V    |
| Continuous Drain Current               | I <sub>D</sub>                   | 8.4         | -6.3       | A    |
| Pulsed Drain Current                   | I <sub>DM</sub>                  | 33          | -24.5      | A    |
| Avalanche Current(L=0.1mH)             | I <sub>AS</sub>                  | 7           | 14         | A    |
| Avalanche energy(L=0.1mH)              | E <sub>AS</sub>                  | 6.5         | 26         | mJ   |
| Power Dissipation                      | P <sub>D</sub>                   | 1.6         | 1.5        | W    |
| Junction and Storage Temperature Range | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150 |            |      |
| Maximum Junction-to-Ambient            | R <sub>θJA</sub> (t≤10s)         | 78          | 83         | /W   |
|                                        | R <sub>θJA</sub> (Steady-State)  | 135         |            |      |

**N- N-CHANNEL Electrical Characteristics(Ta=25 )**

| Parameter                         | Symbol       | Test Conditions                                     | Min  | Typ  | Max  | Unit |
|-----------------------------------|--------------|-----------------------------------------------------|------|------|------|------|
| Drain-Source Breakdown Voltage    | $BV_{DSS}$   | $V_{GS}=0V$ $I_D=250\text{ A}$                      | 16   | 21   |      | V    |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS}=16V$ $V_{GS}=0V$                            |      |      | 1.0  | A    |
| Gate-Body leakage current         | $I_{GSS}$    | $V_{GS}=\pm 10V$ $V_{DS}=0V$                        |      |      | 100  | nA   |
| Gate Threshold Voltage            | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=250\text{ A}$                  | 0.45 | 0.75 | 0.95 | V    |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS}=4.5V$ $I_D=3A$                              |      | 13   | 15   | m    |
|                                   |              | $V_{GS}=2.5V$ $I_D=2A$                              |      | 16   | 18   | m    |
| Diode Forward Voltage             | $V_{SD}$     | $V_{GS}=0V$ $I_S=1.0A$                              |      |      | 1.2  | V    |
| Input Capacitance                 | $C_{iss}$    | $V_{DS}=10V$ $V_{GS}=0V$<br>$f=1.0MHz$              |      | 765  |      | pF   |
| Output Capacitance                | $C_{oss}$    |                                                     |      | 650  |      | pF   |
| Reverse Transfer Capacitance      | $C_{rss}$    |                                                     |      | 520  |      | pF   |
| Gate resistance                   | $R_g$        | $V_{DS}=0V$ $V_{GS}=0V$<br>$f=1.0MHz$               |      | 3.5  |      |      |
| Total Gate Charge                 | $Q_g$        | $V_{GS}=4.5V$ $V_{DS}=8.0V$<br>$I_D=8.4A$           |      | 17.9 |      | nC   |
| Gate-Source Charge                | $Q_{gs}$     |                                                     |      | 1.5  |      | nC   |
| Gate-Drain Charge                 | $Q_{gd}$     |                                                     |      | 4.7  |      | nC   |
| Turn-On Delay Time                | $t_{d(on)}$  | $V_{DS}=8.0V$ $V_{GS}=10V$<br>$R_L=1.2$ $R_{GEN}=3$ |      | 2.5  |      | ns   |
| Turn-On Rise Time                 | $t_r$        |                                                     |      | 7.2  |      | ns   |
| Turn-Off Delay Time               | $t_{d(off)}$ |                                                     |      | 49   |      | ns   |
| Turn-Off Fall Time                | $t_f$        |                                                     |      | 10.8 |      | ns   |

## N- / N-CHANNEL Electrical Characteristic Curve



## N- / N-CHANNEL Electrical Characteristic Curve

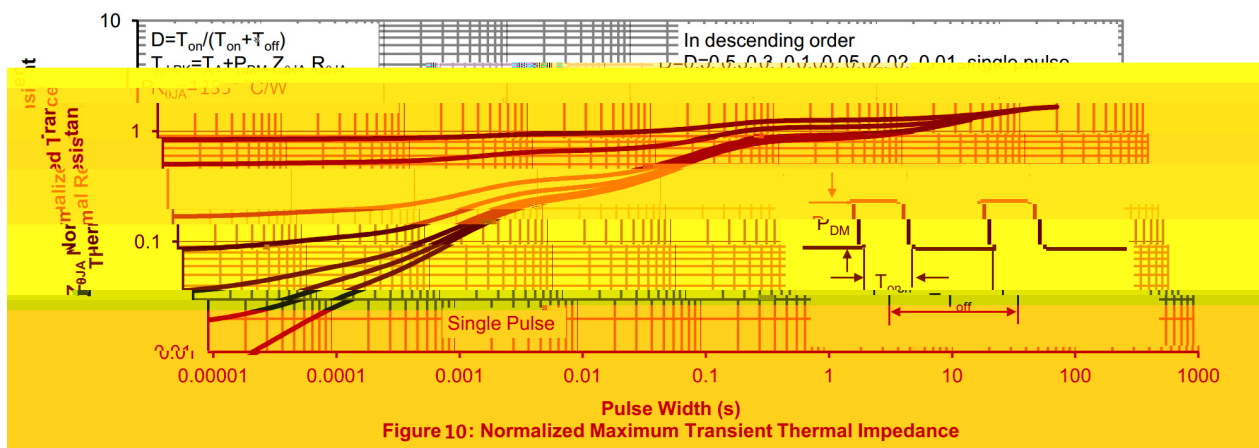
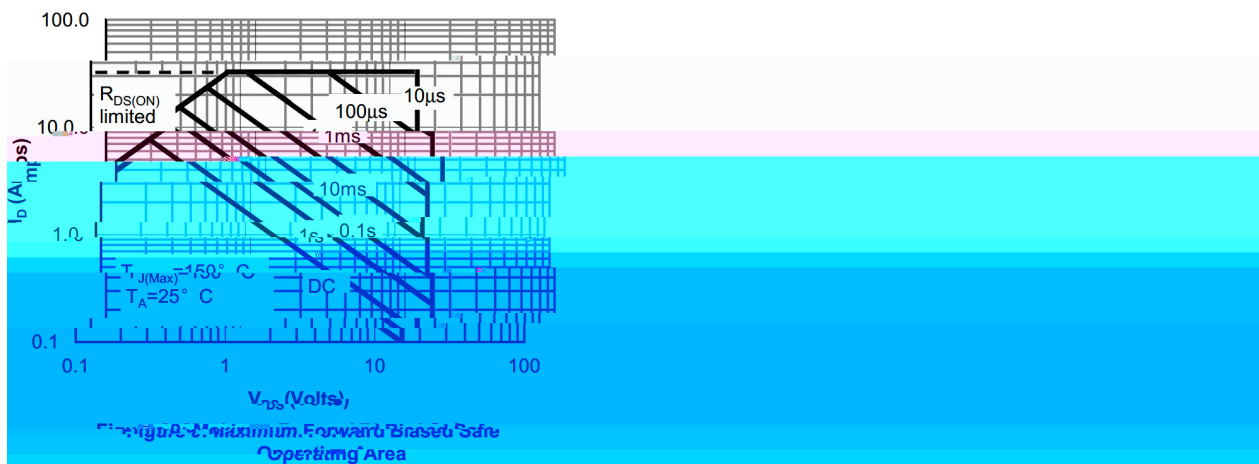
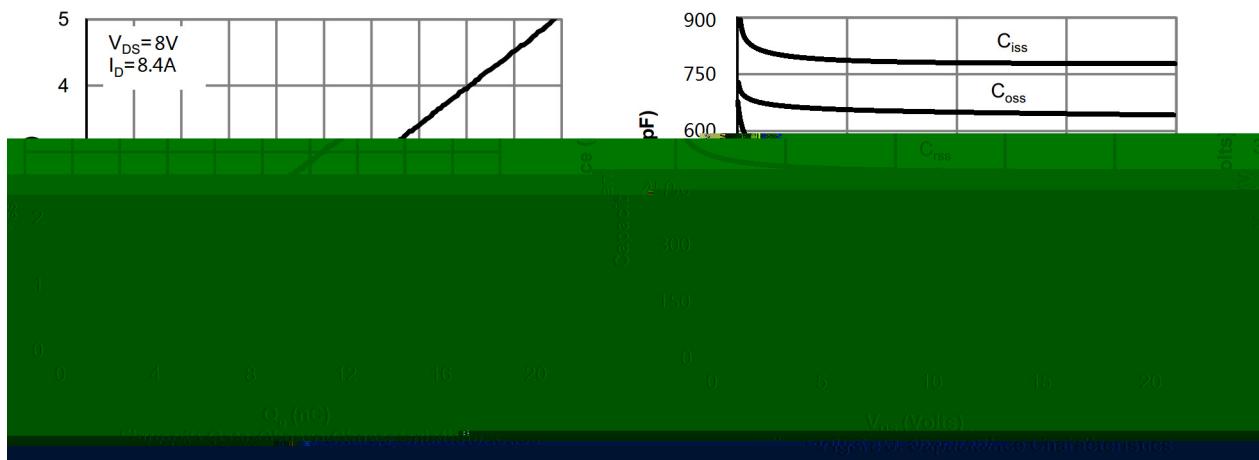
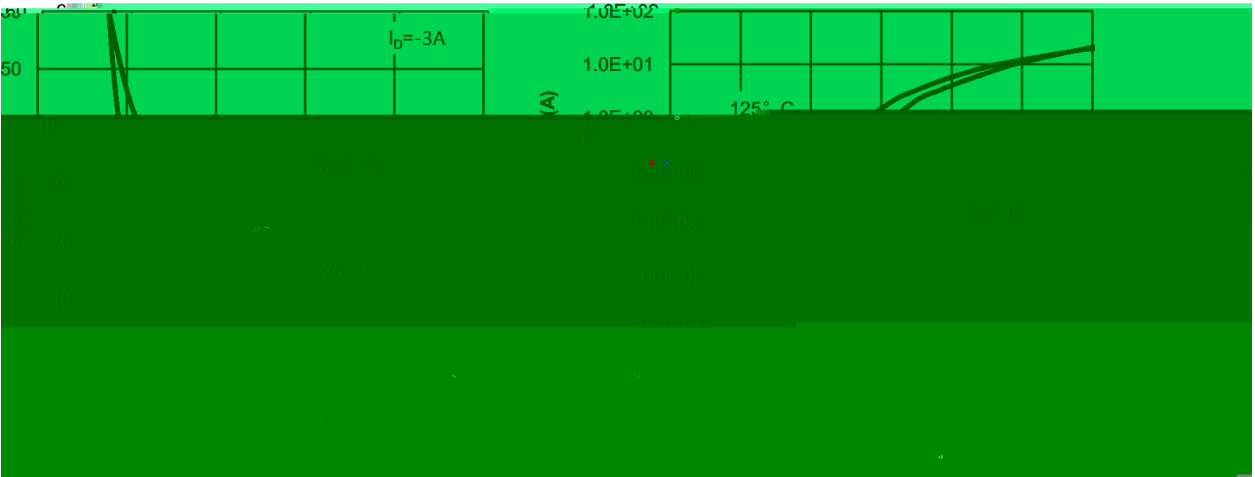
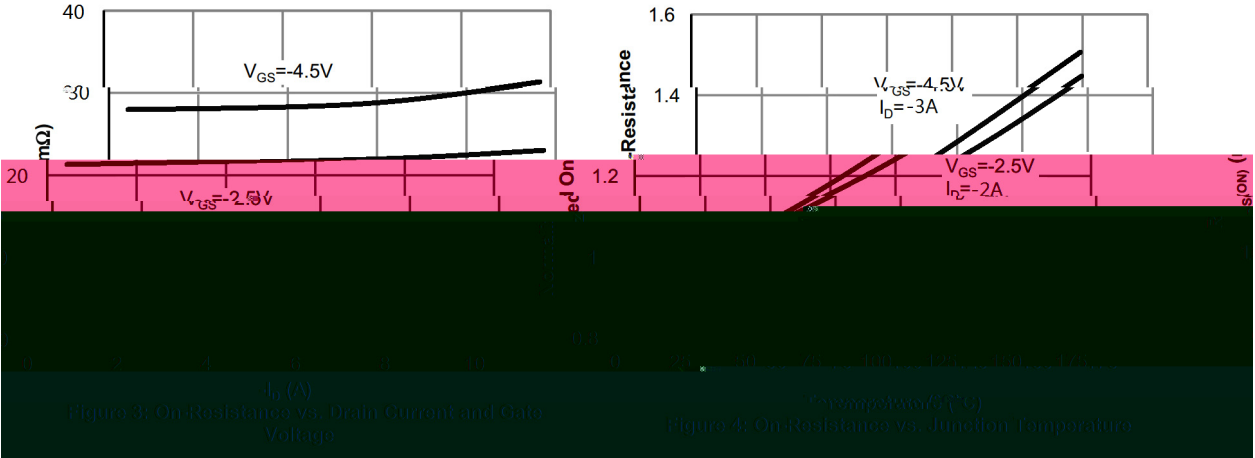
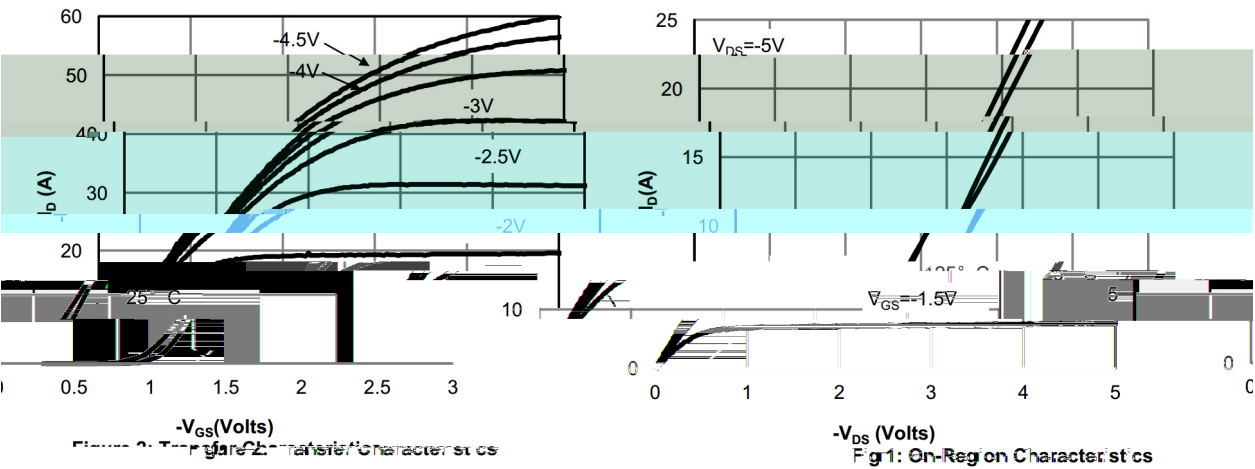


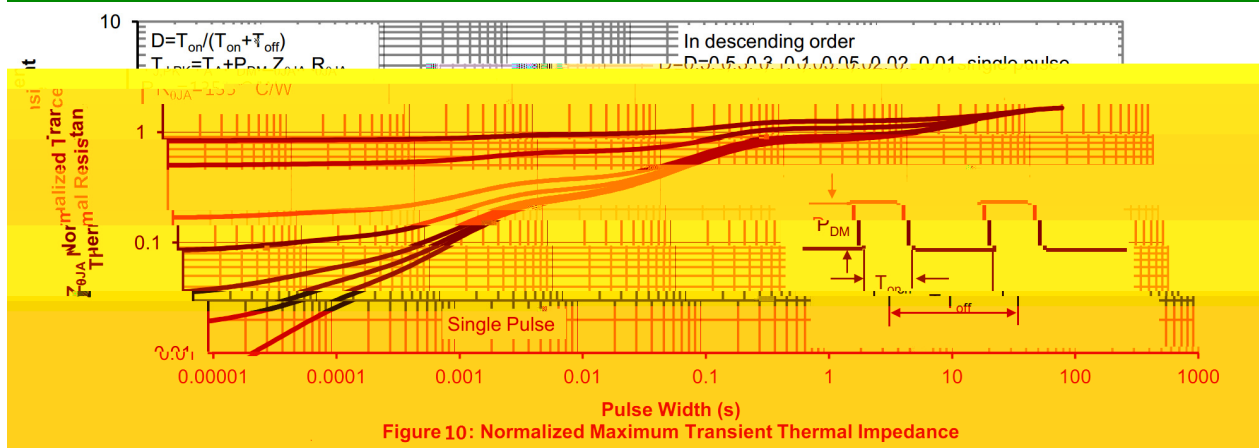
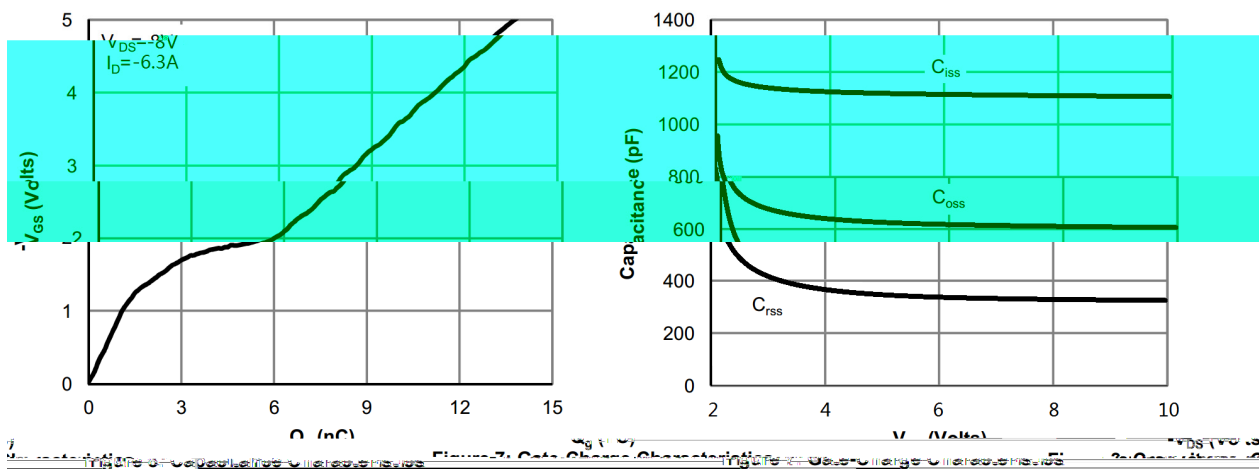
Figure 10: Normalized Maximum Transient Thermal Impedance

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|-----------|--------|-----------------|-----|-----|-----|------|
|-----------|--------|-----------------|-----|-----|-----|------|

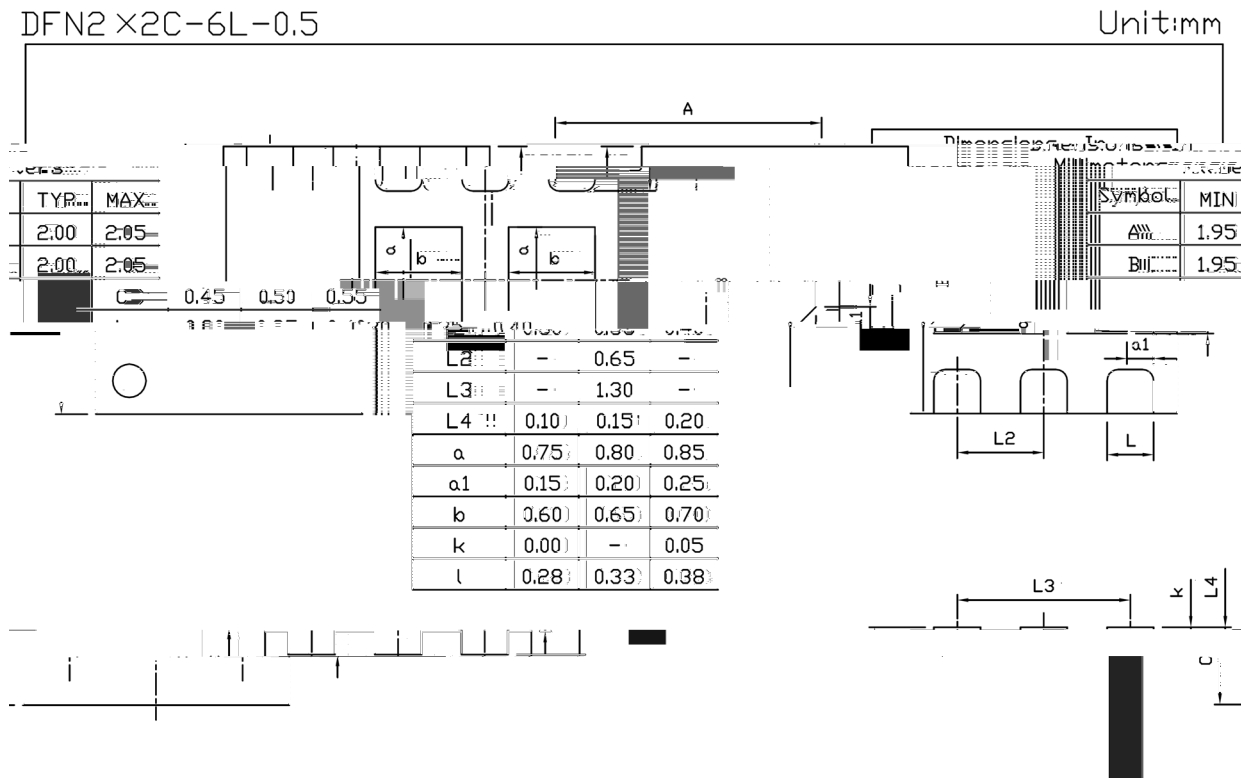
P- / P-CHANNEL Electrical Characteristic Curve



## P- / P-CHANNEL Electrical Characteristic Curve



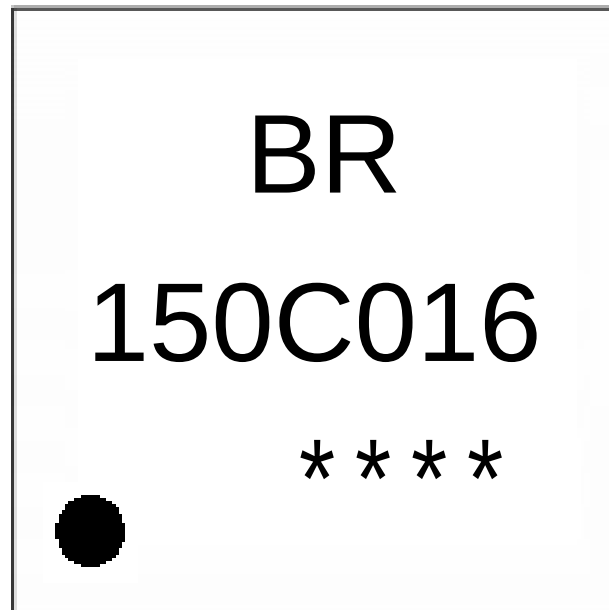
## / Package Dimensions



Rev.00 202204



**/ Marking Instructions**



BR

150C016

\*\*\*\*

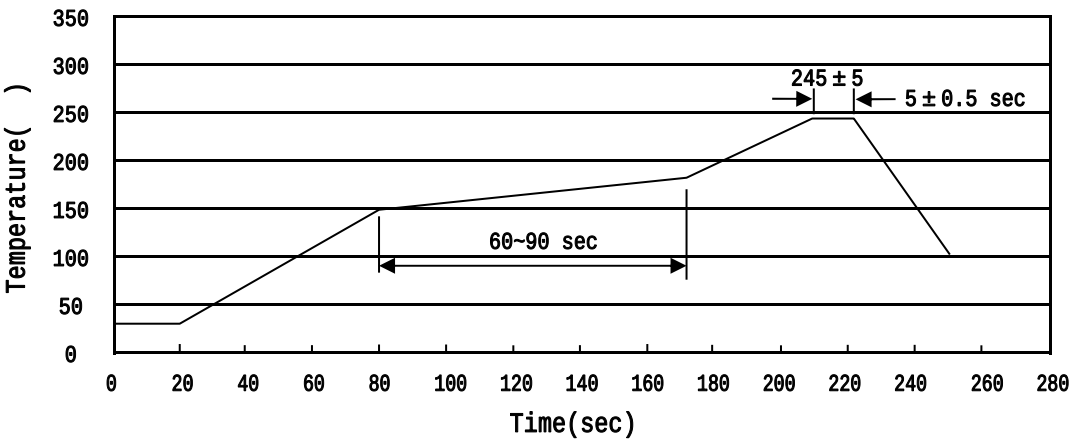
Note:

BR: Company Code

150C016: Product Type

\*\*\*\*: Lot No. Code, code change with Lot No

( ) /



Note:

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245 5

5 0.5sec;

2.Peak Temp.:245 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

260 5                      10 1 sec.                      Temp.:260±5                      Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type | Units |    |        |   |         | Dimension (unit mm <sup>3</sup> ) |             |             |
|--------------|-------|----|--------|---|---------|-----------------------------------|-------------|-------------|
|              |       |    |        |   |         |                                   |             |             |
| DFN 2×2C-6L  | 4,000 | 10 | 40,000 | 4 | 160,000 | 7 ×8                              | 210×205×205 | 445×435×230 |

/ Notices