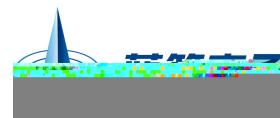


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# BRCs20N06IP

Rev.A Jan.-2020



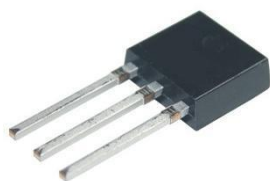
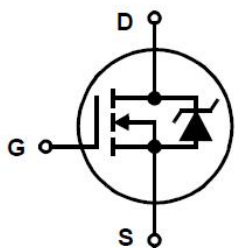
DATA SHEET

TO-251      N      MOS      N-CHANNEL MOSFET in a TO-251 astic Package.

Low gate charge, low crss, fast switching.

2

Suited for low voltage applications such as automotive,DC/DC Converters,and high efficiency switching for power management in protable and battery operated products.



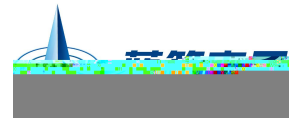
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PIN1 G

Parameter

# BRC520N06IP

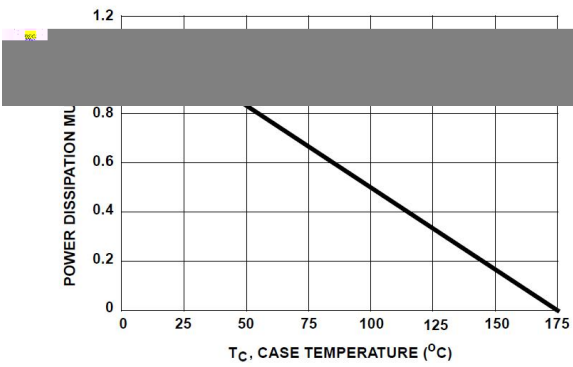
Rev.A Jan.-2020



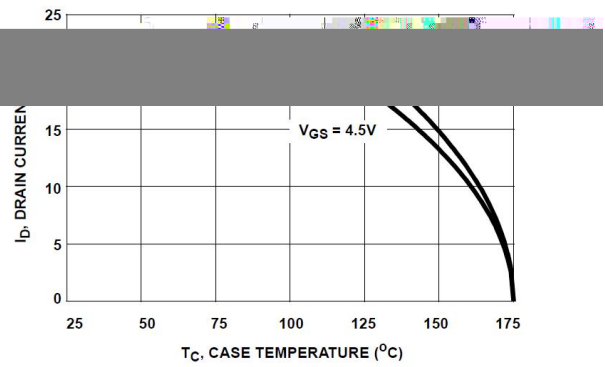
DATA SHEET

| Parameter                  | Symbol       | Test Conditions                                    | Min | Typ | Max | Unit |
|----------------------------|--------------|--|-----|-----|-----|------|
| Turn-On Time               | $t_{ON}$     | $V_{DD}=30V$ $I_D=20A$<br>$R_{GS}=10$ $V_{GS}=10V$ |     |     | 65  | ns   |
| Turn-On Delay Time         | $t_{d(on)}$  |  |     | 7   |     | ns   |
| Turn-On Rise Time          | $t_r$        |  |     | 35  |     | ns   |
| Turn-Off Delay Time        | $t_{d(off)}$ |  |     | 52  |     | ns   |
| Turn-Off Fall Time         | $t_f$        |  |     | 50  |     | ns   |
| Turn-Off Time              | $t_{off}$    |  |     |     |     | 155  |
| Total Gate Charge          | $Q_{g(TOT)}$ | $V_{GS} = 0V$ to $10V$                             |     | 28  | 34  | nC   |
| Gate Charge at 5V          | $Q_{g(5)}$   | $V_{GS} = 0V$ to $5V$                              |     | 16  | 20  | nC   |
| Threshold Gate Charge      | $Q_{g(TH)}$  | $V_{GS} = 0V$ to $1V$                              |     | 1.2 | 1.5 | nC   |
| Gate to Source Gate Charge | $Q_{gs}$     |  |     | 3.5 |     | n6   |

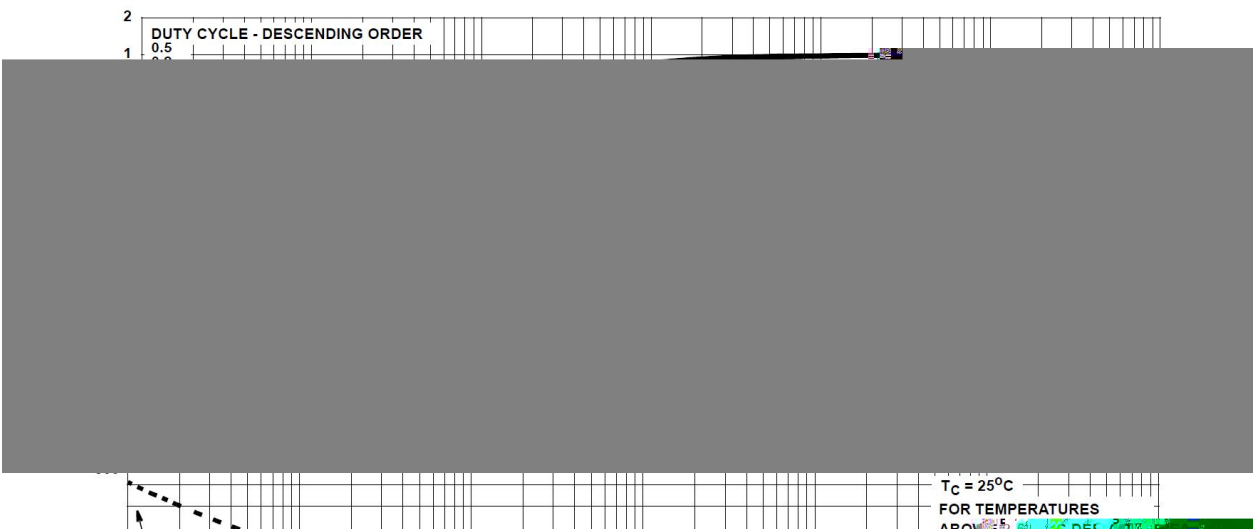
**/ Electrical Characteristic Curve**



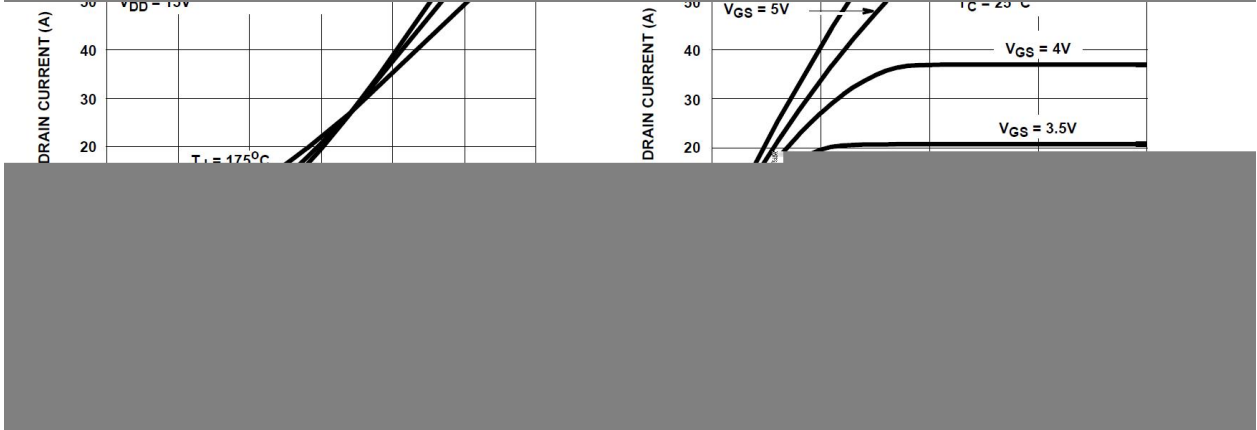
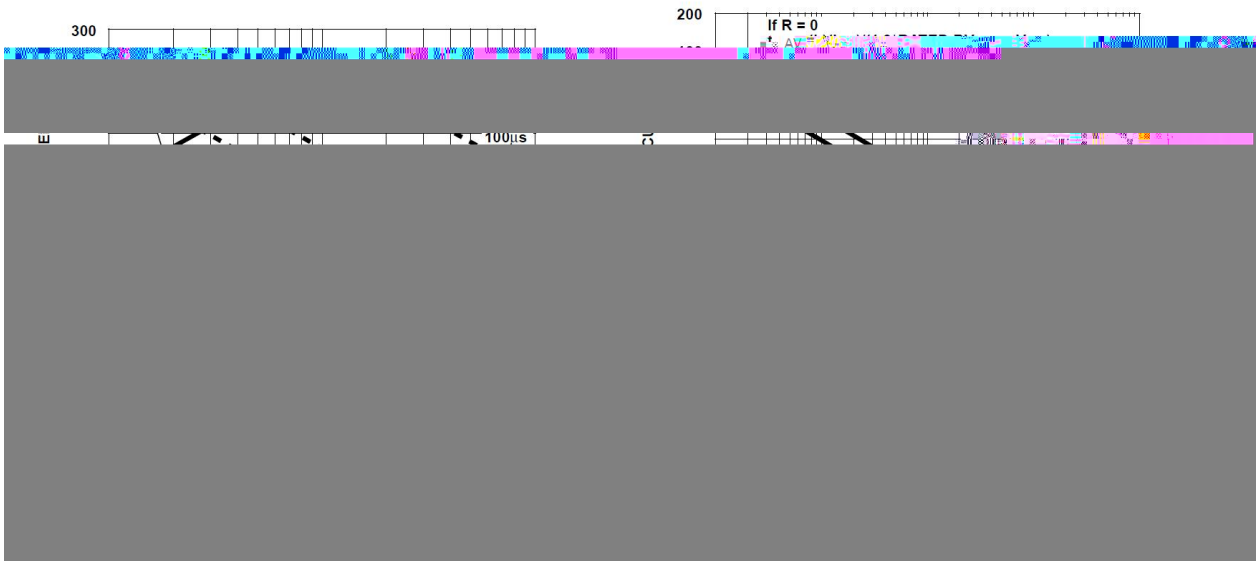
**FIGURE 1. NORMALIZED POWER DISSIPATION vs CASE TEMPERATURE**



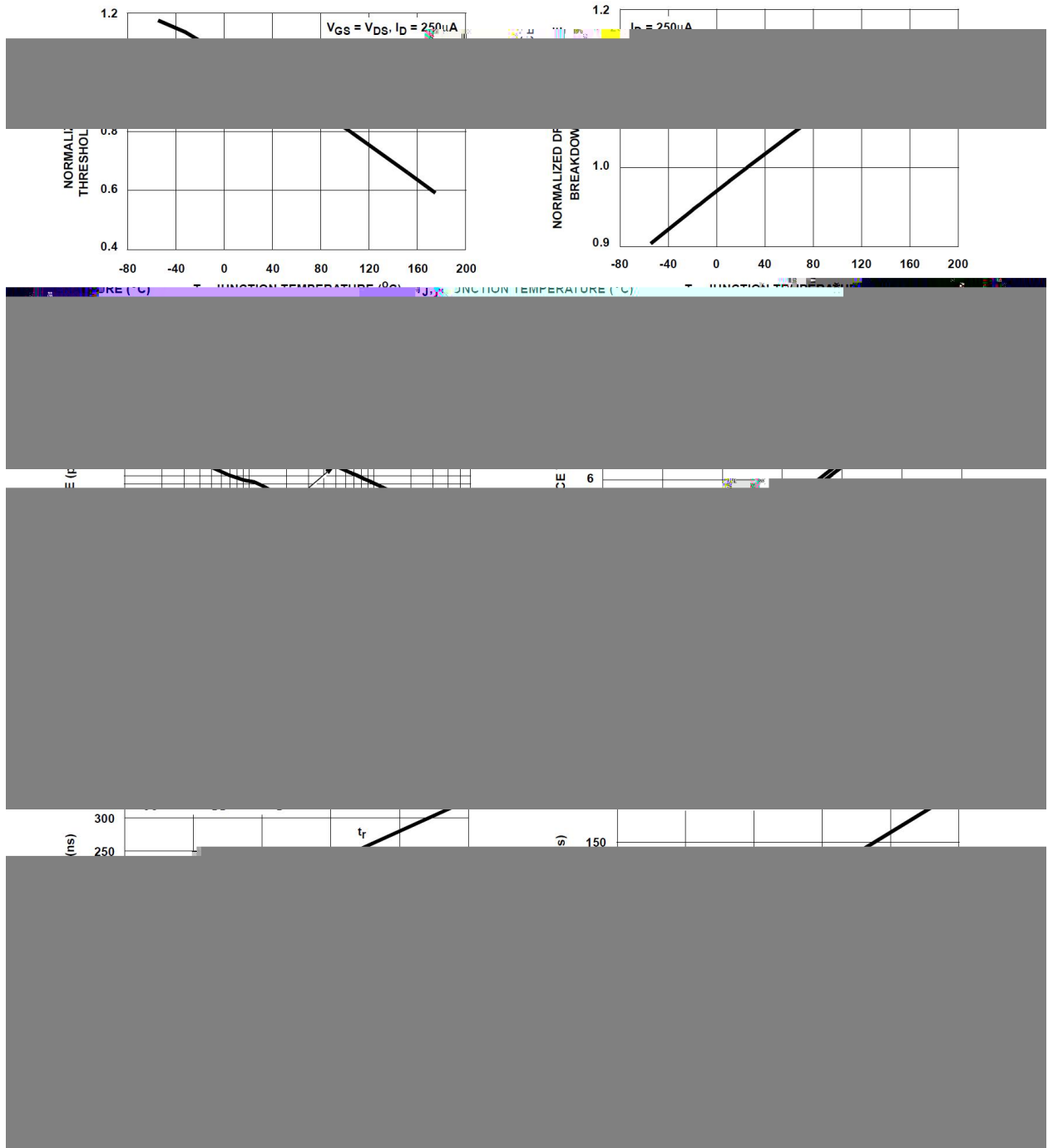
**FIGURE 2. MAXIMUM CONTINUOUS DRAIN CURRENT vs CASE TEMPERATURE**



**/ Electrical Characteristic Curve**



/ Electrical Characteristic Curve



**& Test circuits & Typical Application**

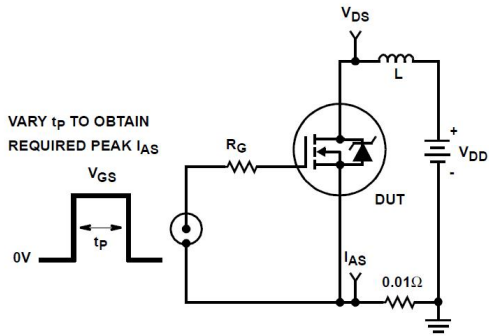


FIGURE 17. UNCLAMPED ENERGY TEST CIRCUIT

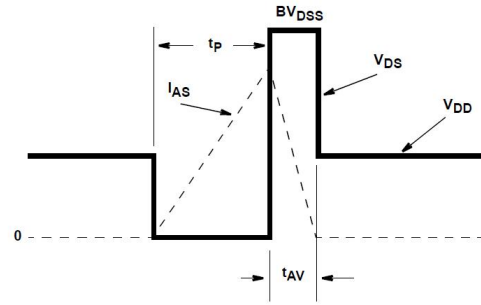
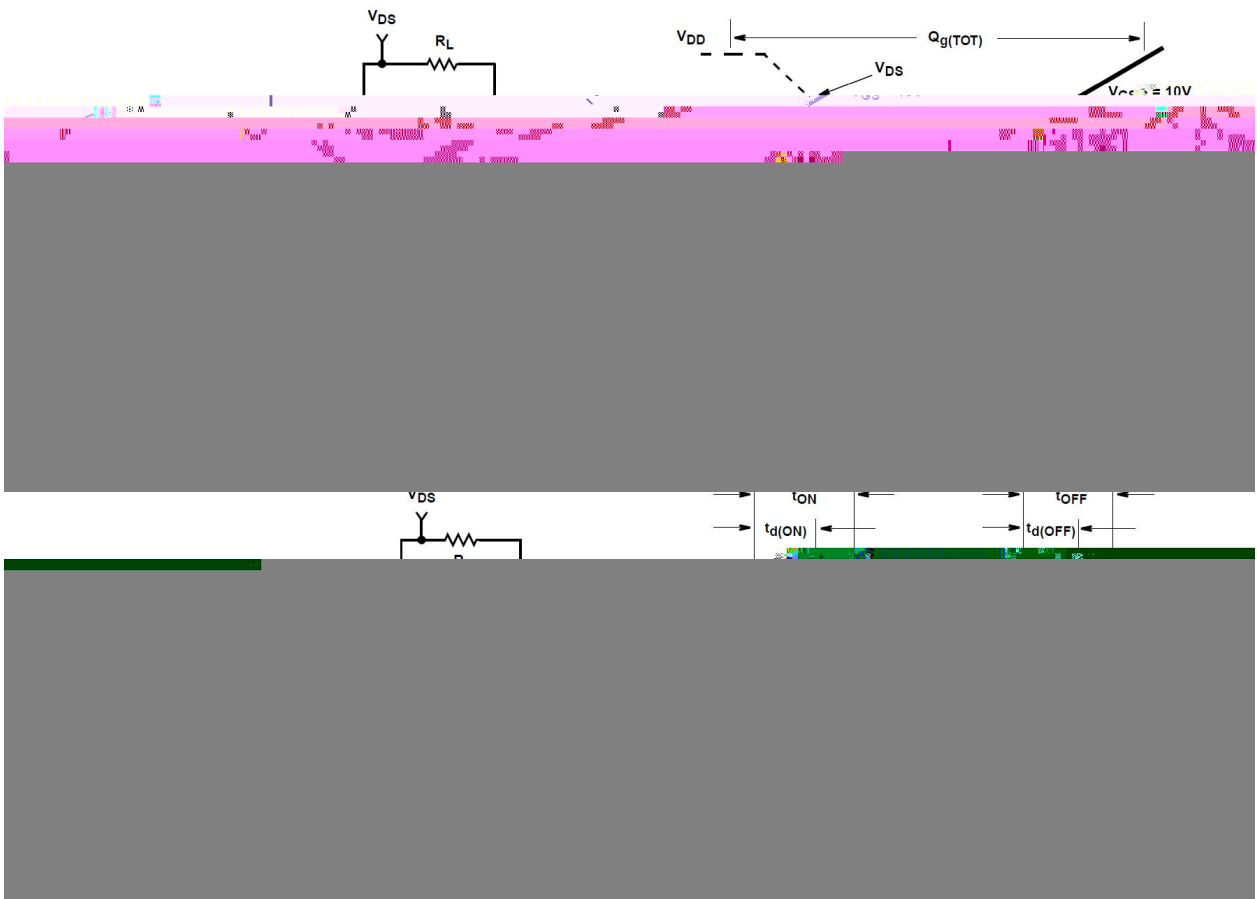
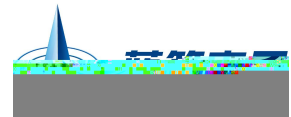
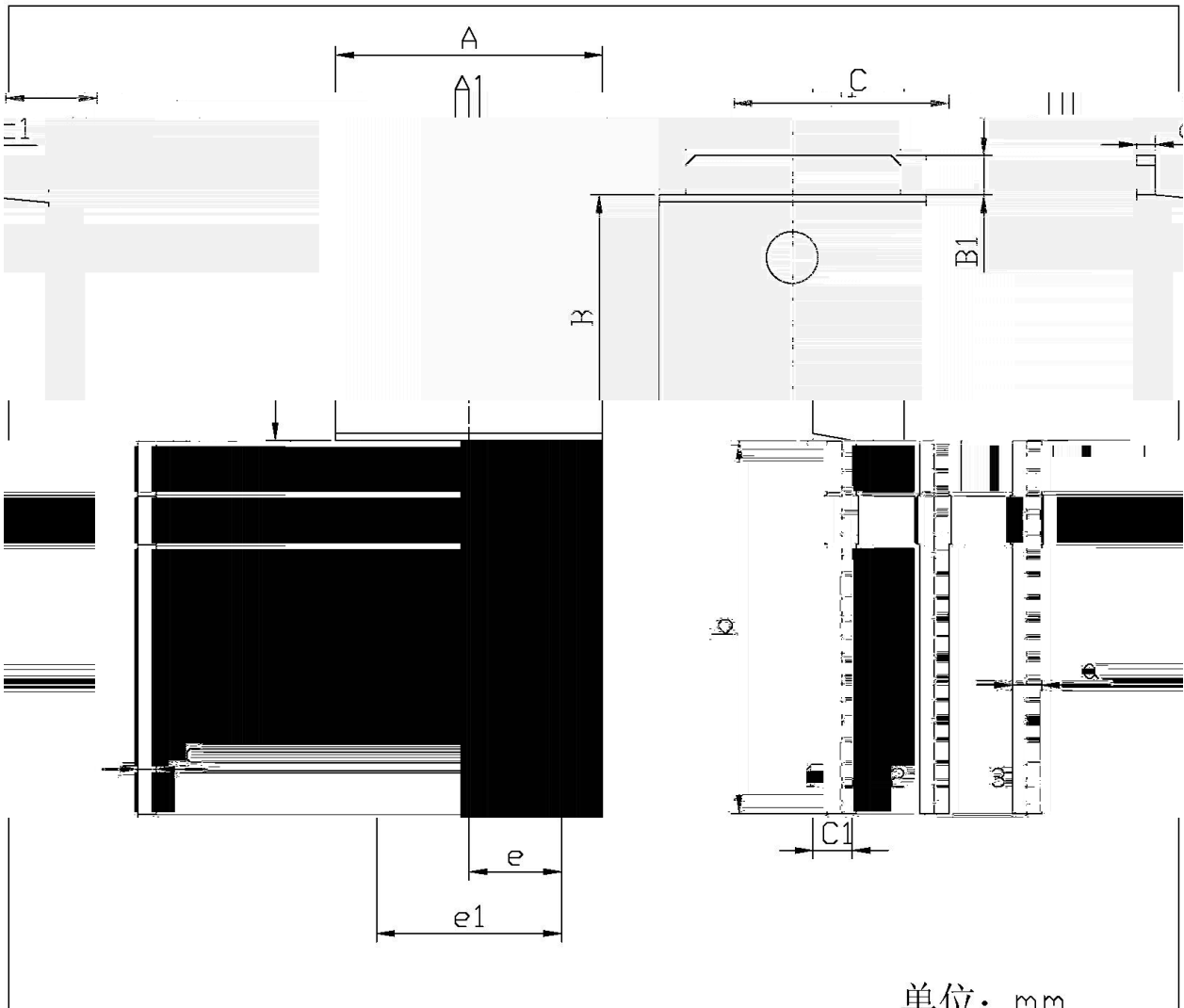


FIGURE 18. UNCLAMPED ENERGY WAVEFORMS



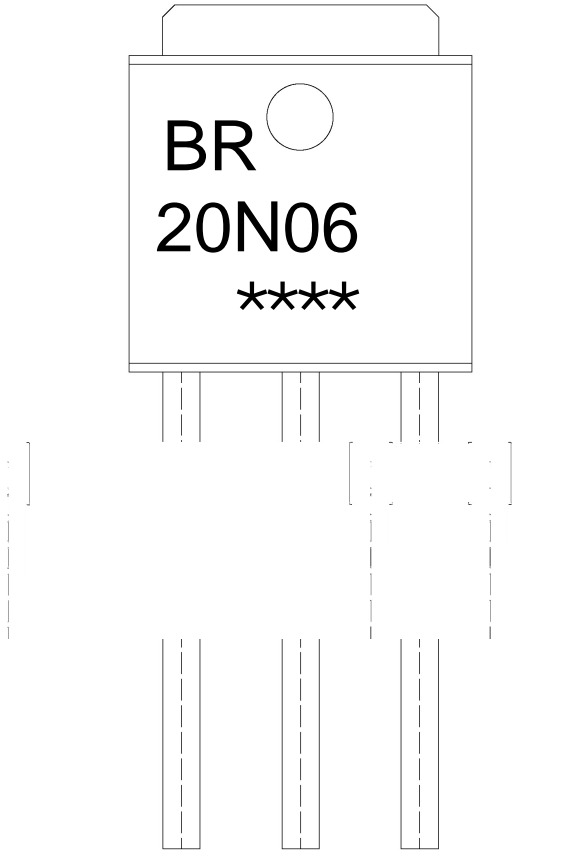


**/ Package Dimensions**



| Dimensions In Millimeters |      | Dimensions In Millimeters |      |      |        |
|---------------------------|------|---------------------------|------|------|--------|
| Min                       | Max  | Symbol                    | Min  | Max  | Symbol |
| 0.50                      | 0.75 | A                         | 6.45 | 6.75 | a      |
| 5.00                      | 9.40 | A1                        | 5.10 | 5.50 | b      |
| B                         | 5.95 | C                         | 0.45 | 0.55 |        |
| B1                        | 0.95 | c1                        | 0.45 | 0.55 |        |
| e                         | 2.24 | C1                        | 2.20 |      |        |
| e1                        | 2.34 | e1                        | 4.43 | 4.75 |        |

**/ Marking Instructions**



BR  
20N06

Note:

BR: Company Code

20N06: Product Type.

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

