



## / Revised record

| A | 2020.11.26 | ALL | BRCS80N03DP |  |  |
|---|------------|-----|-------------|--|--|
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |
|   |            |     |             |  |  |



/ Descriptions

DFN 3\*3A-8L                      N                      MOS  
N-Channel Enhancement Mode Field Effect Transistor in a DFN 3\*3A-8L Plastic Package.

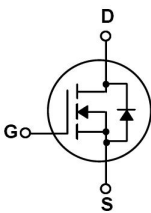
/ Features

$V_{DS} (V) = 30V$   
 $I_D = 40 A (V_{GS} = \pm 20V)$   
 $R_{DS(ON)}@10V \leq 6mR (Typ. 4.7mR)$   
    。 HF Product.

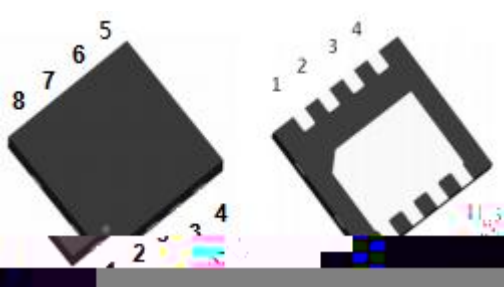
/ Applications

    DC/DC                      压                      效  
These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

/ Equivalent Circuit



/ Pinning



| 出脚   | 定义 |
|------|----|
| Pin1 | S  |
| Pin2 | S  |
| Pin3 | S  |
| Pin4 | G  |
| Pin5 | D  |
| Pin6 | D  |
| Pin7 | D  |
| Pin8 | D  |

/ Marking

    See Marking Instructions.



| Parameter                               | Symbol                        | Rating          | Unit                 |
|-----------------------------------------|-------------------------------|-----------------|----------------------|
| Drain-Source Voltage                    | $V_{DSS}$                     | 30              | V                    |
| Drain Current                           | $I_D(T_C=25^{\circ}\text{C})$ | 40              | A                    |
| Drain Current - Pulsed                  | $I_{DM}$                      | 130             | A                    |
| Gate-Source Voltage                     | $V_{GSS}$                     | $\pm 20$        | V                    |
| Single Pulsed Avalanche Energy          | $E_{AS}$                      | 211             | mJ                   |
| Avalanche Current                       | $I_{AS}$                      | 23              | A                    |
| Power Dissipation                       | $P_D(T_C=25^{\circ}\text{C})$ | 29              | W                    |
| Operating and Storage Temperature Range | $T_J, T_{stg}$                | -55 to 150      | $^{\circ}\text{C}$   |
| Junction-to-Ambient                     | $t \leq 10$                   | 40<br>75<br>4.2 | $^{\circ}\text{C/W}$ |
| Junction-to-Ambient                     | Steady-State                  |                 |                      |
| Junction-to-Case                        | Steady-State                  |                 |                      |

| Parameter                       | Symbol     | Test Conditions              | Min | Typ | Max       | Unit    |
|---------------------------------|------------|------------------------------|-----|-----|-----------|---------|
| Drain-Source Breakdown Voltage  | $BV_{DSS}$ | $V_{GS}=0V$ $I_D=250\mu A$   | 30  | 32  |           | V       |
| Zero Gate Voltage Drain Current | $I_{DSS}$  | $V_{DS}=30V$ $V_{GS}=0V$     |     |     | 1         | $\mu A$ |
| Gate-Body Leakage Current       | $I_{GSS}$  | $V_{GS}=\pm 20V$ $V_{DS}=0V$ |     |     | $\pm 0.1$ | $\mu A$ |

Gate Threshold Voltage

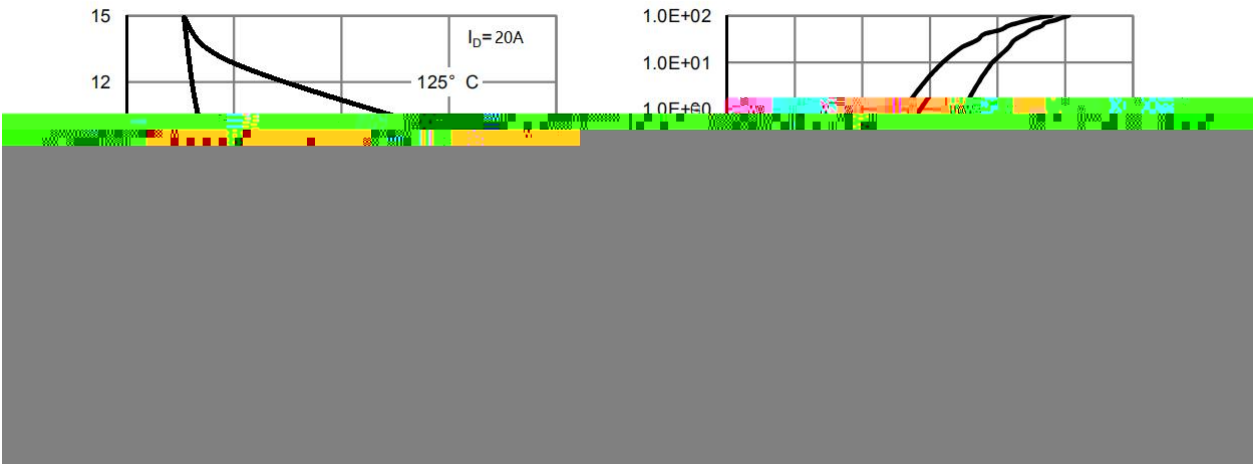
 $V_{GS(th)}$  $V_{DS}=V$ 

i

DV



/ Electrical Characteristic Curve



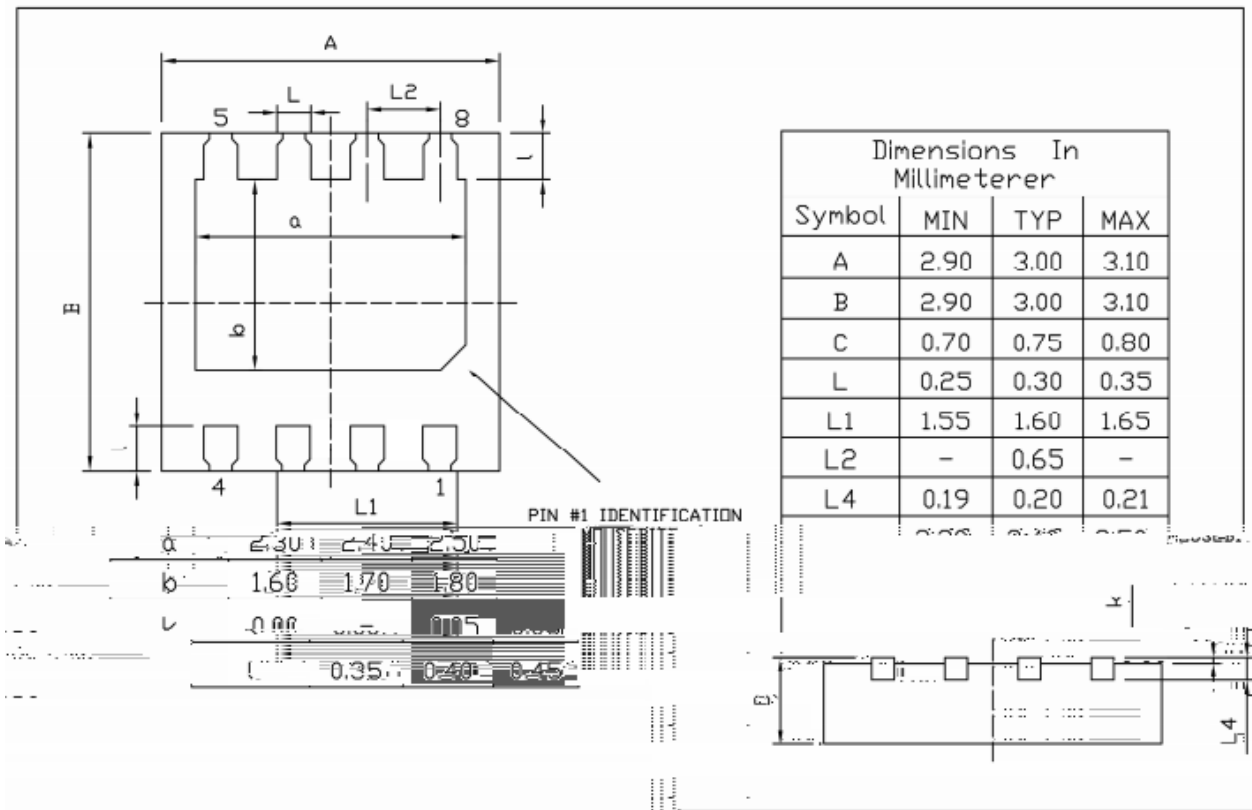




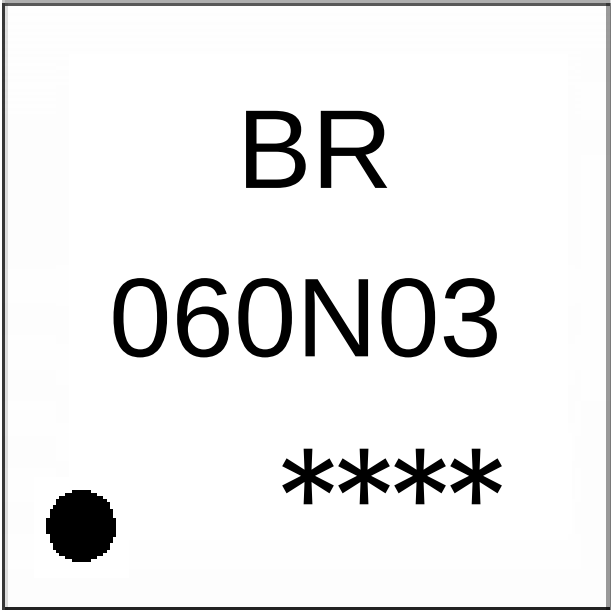
## / Package Dimensions

DFN3X3A-8L

Unit:mm



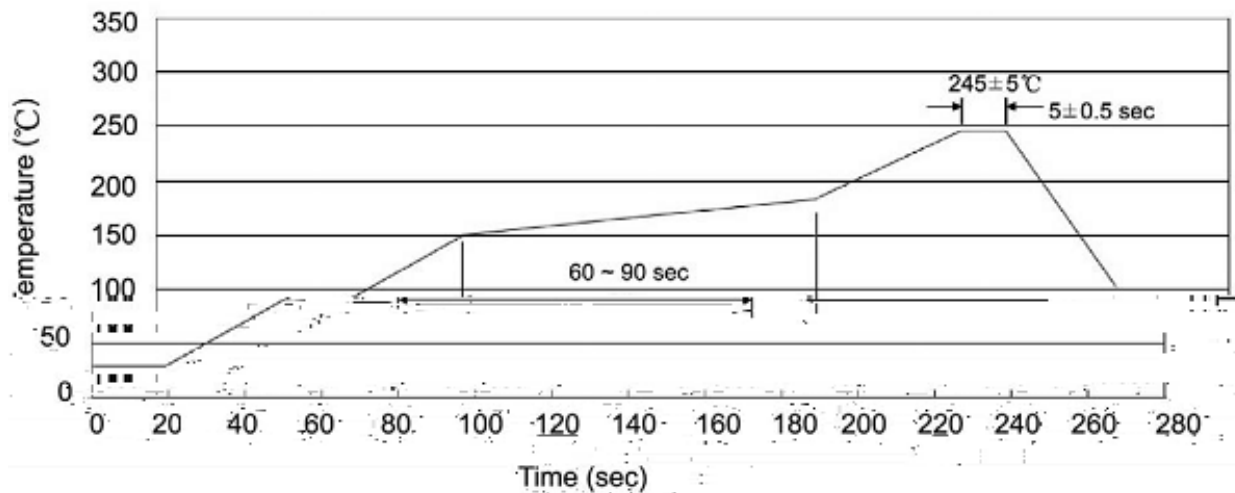
/ Marking Instructions



|         |                                        |
|---------|----------------------------------------|
| BR      | 系                                      |
| 060N03  | 符 系                                    |
| ****    | 件 量 条 件 典 量 型 大                        |
| Note:   |                                        |
| BR:     | Company Code.                          |
| 060N03: | Product Type Code.                     |
| ****:   | Lot No. Code, code change with Lot No. |



## ( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- |   |       |     |           |        |                                          |
|---|-------|-----|-----------|--------|------------------------------------------|
| 1 | 150   | 180 | 60        | 90sec; | 1.Preheating:150~180°C, Time:60~90sec.   |
| 2 | 245±5 |     | 5±0.5sec; |        | 2.Peak Temp.:245±5°C, Duration:5±0.5sec. |
| 3 |       | 2   | 10°C/sec. |        | 3. Cooling Speed: 2~10°C/sec.            |

## / Resistance to Soldering Heat Test Conditions

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

## / Packaging SPEC.

## / REEL

| Package Type | Units              |                         |                        |                              |                        | Dimension (unit mm <sup>3</sup> ) |            |             |
|--------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------|------------|-------------|
|              | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                              | Inner Box  | Outer Box   |
| DFN 3*3A-8L  | 5,000              | 2                       | 10,000                 | 6                            | 60,000                 | 13" ×12                           | 360×360×50 | 380×335×366 |

## / Notices