

# BRCS020N04BD

Rev.B Sep.-2022

## 5 é / Descriptions

TO-263 .> // x N ?ú 3 « | • 'ož

N-CHANNEL MOSFET in a TO-263 Plastic Package.

## □ a / Features

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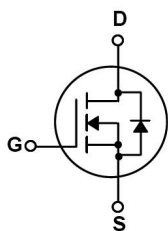
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## Đ ÷ / Applications

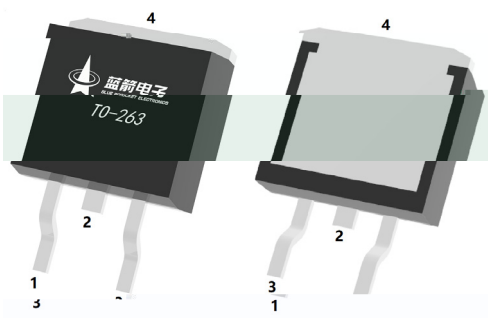
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These devices are well suited for high efficient switched mode power supplies Ë Active power factor correction, electronic lamp ballast based on half bridge topology.

## Ã w ] Ô . / Equivalent Circuit



## • Ô - æ / Pinning



PIN1 y G

PIN 2o•4 y D

PIN 3 y S

## , M V / Marking

• - ~ a ¢ož See Marking Instructions.

**BRCS020N04BD**

Rev.B Sep.-2022

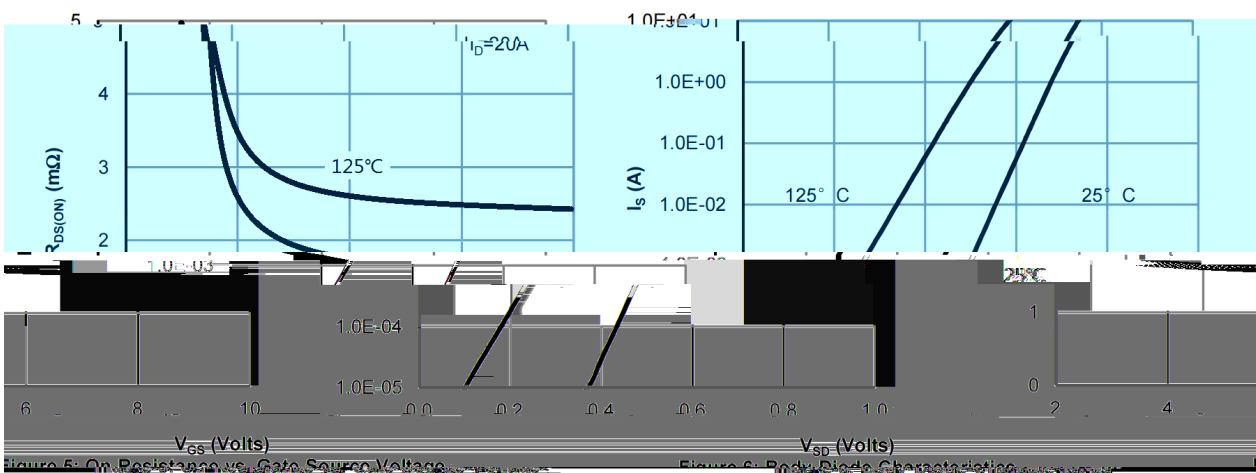
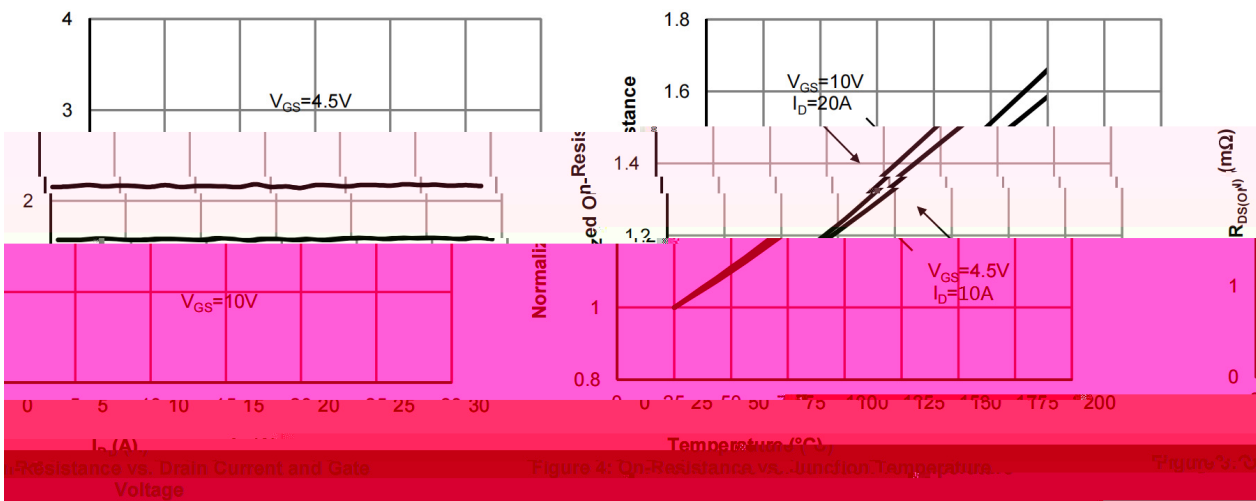
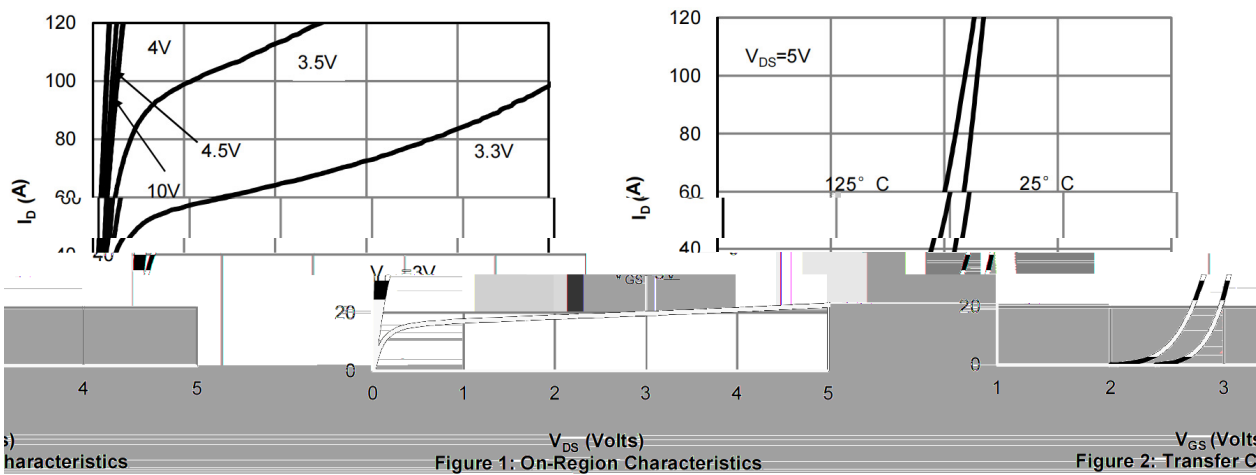
| @ f<br>Parameter                          |         | ... Z<br>Symbol                        | f ><br>Rating | % y<br>Unit |
|-------------------------------------------|---------|----------------------------------------|---------------|-------------|
| Drain-Source Voltage                      |         | V <sub>DSS</sub>                       | 40            | V           |
| Drain Current                             |         | I <sub>D</sub> (T <sub>C</sub> =25 °C) | 120           | A           |
| Pulsed Drain Current                      |         | I <sub>DM</sub>                        | 480           | A           |
| Gate-Source Voltage                       |         | V <sub>GS</sub>                        | ±20           | V           |
| Single Pulsed Avalanche Energy L=0.5mH    |         | E <sub>AS</sub>                        | 482           | mJ          |
| Avalanche Current                         |         | I <sub>AS</sub>                        | 35            | A           |
| Total Power Dissipation                   |         | P <sub>D</sub> (T <sub>C</sub> =25 °C) | 187           | W           |
| Junction and Storage Temperature Range    |         | T <sub>J</sub> , T <sub>STG</sub>      | -55 to 175    |             |
| Thermal Resistance-Junction<br>to Ambient | t 0 10s | R <sub>θJA</sub>                       | 15            | - /W        |

@ f

Parameter

... Z

# Electrical Characteristic Curve





## Electrical Characteristic Curve

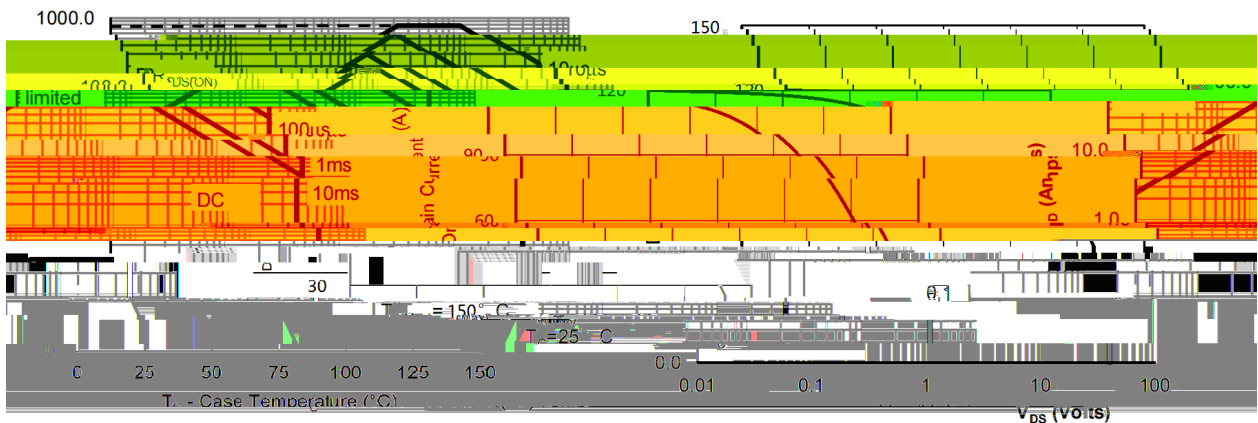
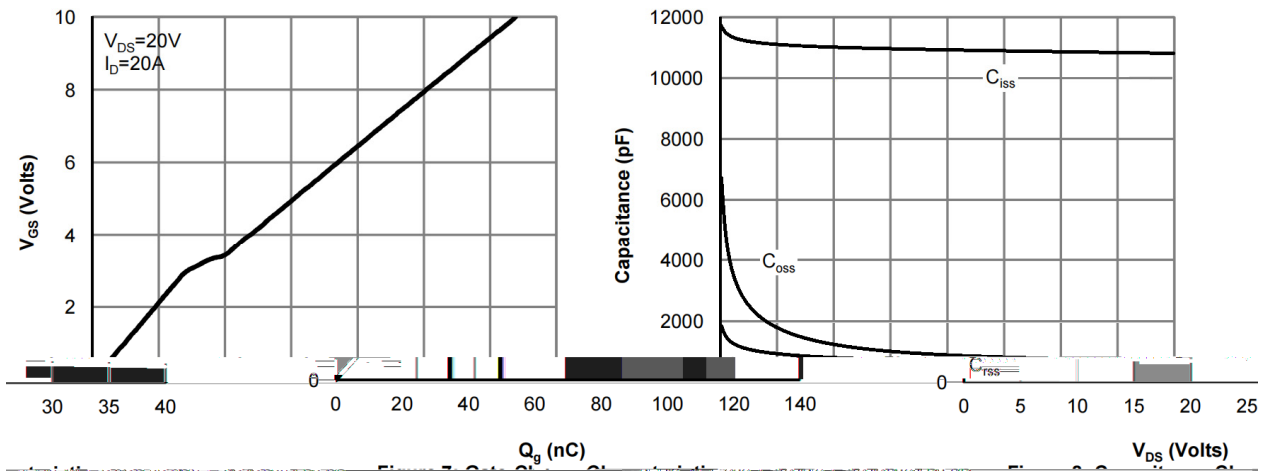


Figure10. Maximum Continuous Drain Current  
vs Case Temperature

Figure 9: Maximum Forward Biased Safe  
Operating Area

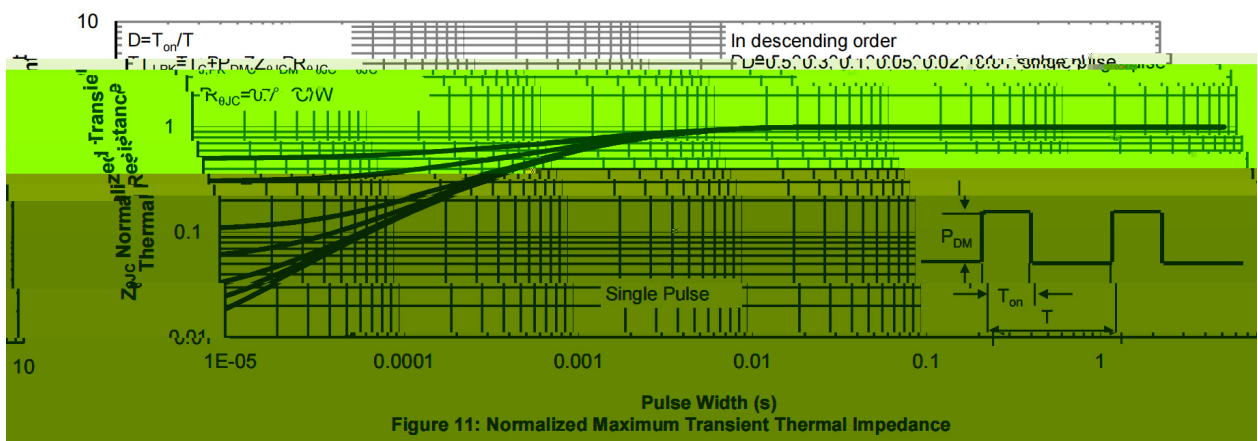


Figure 11: Normalized Maximum Transient Thermal Impedance

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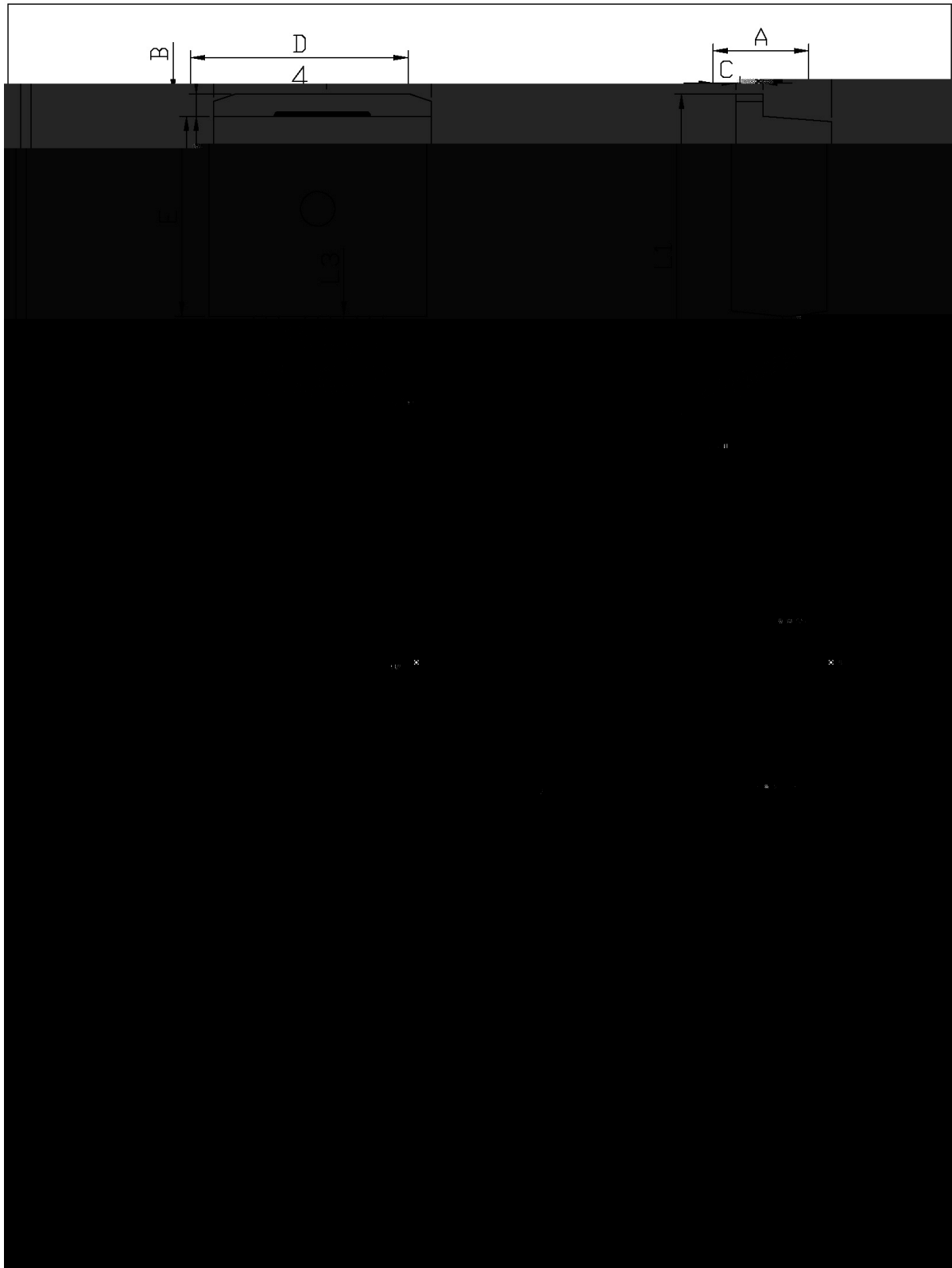
Rev.B Sep.-2022



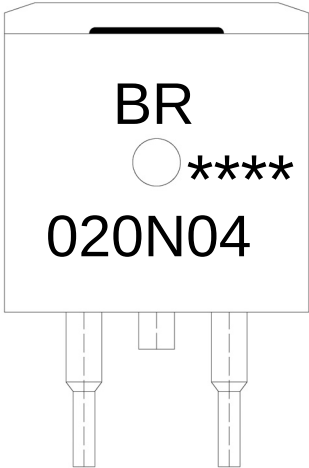
蓝箭电子  
BLUE ROCKET ELECTRONICS

DATA SHEET

## Ø □ = ) ⌀ / Package Dimensions



, M y f / Marking Instructions



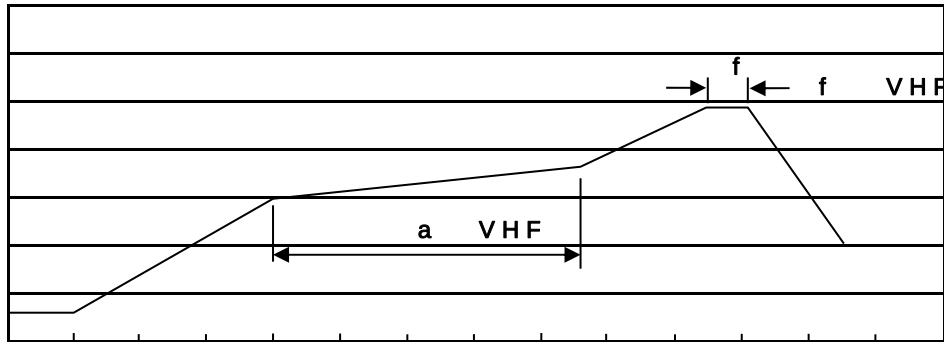
^ ¢ y  
( 8 y , [ W A  
4 y ° Z W A  
y ŷ D Z W A k š ŷ D Z J

Note:  
BR: Company Code  
020N04: Product Type  
\*\*\*\*: Lot No. Code, code change with Lot No



šWD t...•Žč (x/ ) / :KSVKXGZ[XK 6XULORK LUX /8 8KLRU] 9URJKXOTM 6

7HPSHUDWXUH



7LPH VHF

a ç y

10• Ä ½ “† 150 ½180 - k ž • 60 ½90sec;

20• Q > “† 245 r5 - k ž • 4 Ò 5 r0.5sec;

30•D N ò i Ò 0 ,† 2 ½10 - /sec.

Note:

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

2.Peak Temp.:245 r5 - , Duration:5 r0.5sec.

3. Cooling Speed: 2~10 - /sec.

### ÂD /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“† y 260 r5 -

ž • y 10 r1 sec.

Temp.:260±5

Time:10±1 sec

### G P á / Packaging SPEC.

2 & x / REEL

| Package Type<br>7>û ~ E | Units ;>û ĤH       |                          |                       |                                |                        | Dimension ;>û p . (unit /mm³) |            |             |
|-------------------------|--------------------|--------------------------|-----------------------|--------------------------------|------------------------|-------------------------------|------------|-------------|
|                         | Units/Reel<br>/ -- | Reels/Inner Box<br>-- /- | Units/Inner Box<br>/- | Inner Boxes/Outer Box<br>- /lç | Units/Outer Box<br>/lç | Reel                          | Inner Box  | Outer Boxç  |
| TO-263                  | 800                | 1                        | 800                   | 6                              | 4,800                  | 13 s ×24                      | 360×360×50 | 380×335×366 |

ì ’ x / TUBE

| Package Type<br>7>û ~ E | Units ;>û ĤH       |                           |                       |                                |                        | Dimension ;>û p . (unit /mm³) |            |             |
|-------------------------|--------------------|---------------------------|-----------------------|--------------------------------|------------------------|-------------------------------|------------|-------------|
|                         | Units/Tube<br>/•1× | Tubes/Inner Box<br>•1× /- | Units/Inner Box<br>/- | Inner Boxes/Outer Box<br>- /lç | Units/Outer Box<br>/lç | Tube•1×                       | Inner Box  | Outer Boxç  |
| TO-263                  | 50                 | 20                        | 1,000                 | 5                              | 5,000                  | 532×33×7.0                    | 555×164×50 | 575×290×180 |

### „Đ y f / Notices