

# BRCS120P03YBQ

Rev.A Nov.-2022



DATA SHEET

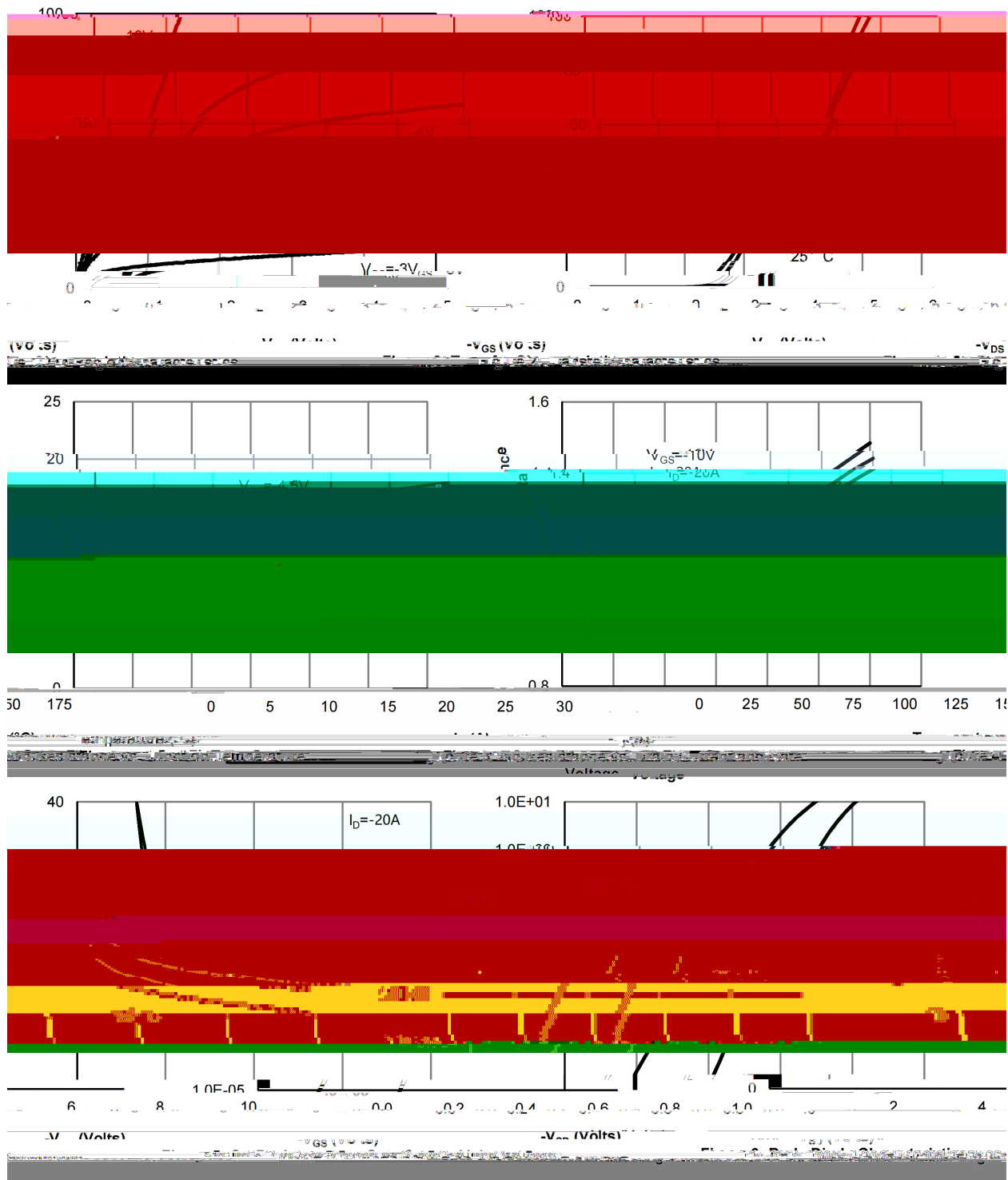
SGIQ6Ö6D0;0 M M E S S P R V J ǒ Z 1



## / Electrical Characteristics(Ta=25 )

| Parameter                         | Symbol       | Test Conditions                                                          | Min  | Typ  | Max       | Unit       |
|-----------------------------------|--------------|--------------------------------------------------------------------------|------|------|-----------|------------|
| Drain-Source Breakdown Voltage    | $BV_{DSS}$   | $I_D = -250\mu A$ $V_{GS} = 0V$                                          | -30  | -36  |           | V          |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS} = -30V$ $V_{GS} = 0V$                                            |      |      | -1        | $\mu A$    |
| Gate-Body leakage current         | $I_{GSS}$    | $V_{DS} = 0V$<br>$V_{GS} = \pm 20V$                                      |      |      | $\pm 100$ | nA         |
| Gate Threshold Voltage            | $V_{GS(th)}$ | $V_{DS} = V_{GS}$<br>$I_D = -250\mu A$                                   | -1.0 | -1.7 | -2.5      | V          |
| Static Drain-Source On-Resistance | $R_{DS(on)}$ | $V_{GS} = -10V$ $I_D = -20A$                                             |      | 10.5 | 12        | m $\Omega$ |
|                                   |              | $V_{GS} = -4.5V$ $I_D = -10A$                                            |      | 16.5 | 18        |            |
| Diode Forward Voltage             | $V_{SD}$     | $I_S = -1A$ $V_{GS} = 0V$                                                |      |      | -1.2      | V          |
| Gate resistance                   | $R_g$        | $V_{GS} = 0V$ $V_{DS} = 0V$<br>$f = 1MHz$                                |      | 7.5  | 10        | $\Omega$   |
| Input Capacitance                 | $C_{iss}$    | $V_{GS} = 0V$<br>$V_{DS} = -25V$ $f = 1MHz$                              |      | 2100 |           | pF         |
| Output Capacitance                | $C_{oss}$    |                                                                          |      | 340  |           |            |
| Reverse Transfer Capacitance      | $C_{rss}$    |                                                                          |      | 210  |           |            |
| Total Gate Charge                 | $Q_g(10V)$   | $V_{GS} = -10V$ $V_{DS} = -15V$<br>$I_D = -17A$                          |      | 35   |           | nC         |
| Total Gate Charge                 | $Q_g(4.5V)$  |                                                                          |      | 17   |           |            |
| Gate-Source Charge                | $Q_{gs}$     |                                                                          |      | 5.7  |           |            |
| Gate-Drain Charge                 | $Q_{gd}$     |                                                                          |      | 8.8  |           |            |
| Turn-on Delay Time                | $t_{d(on)}$  | $V_{GS} = -10V$ $V_{DS} = -15V$<br>$R_L = 0.9\Omega$ $R_{GEN} = 3\Omega$ |      | 11   |           | ns         |
| Turn-on Rise Time                 | $t_r$        |                                                                          |      | 7.5  |           |            |
| Turn-off Delay Time               | $t_{d(off)}$ |                                                                          |      | 43.5 |           |            |
| Turn-off Fall Time                | $t_f$        |                                                                          |      | 17.5 |           |            |

## / Electrical Characteristic Curve

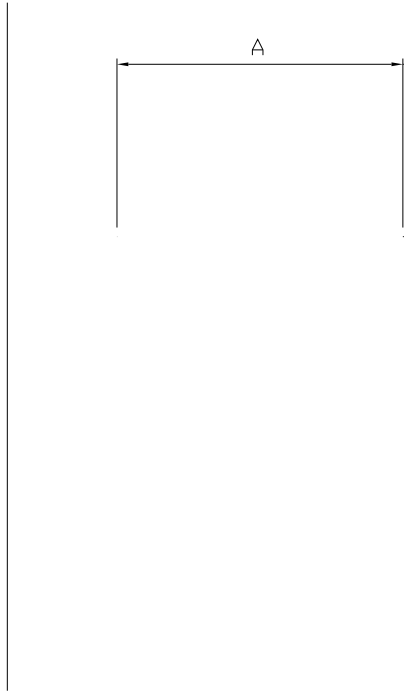




/ Package Dimensions

PDFN3X3A-8L

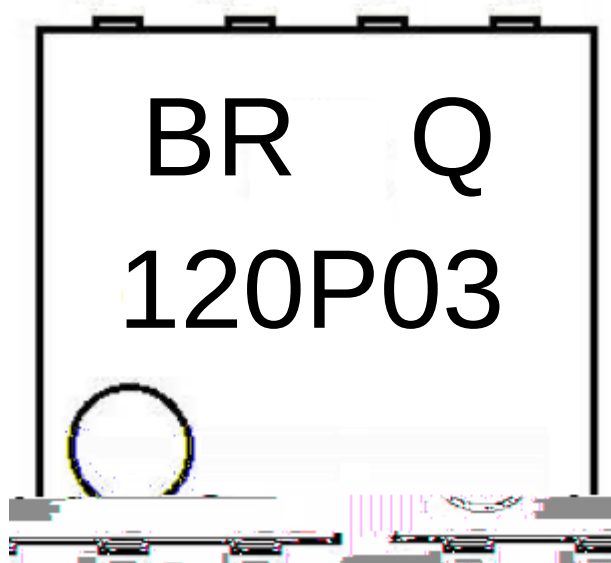
Unit:mm



Dimensions In  
Millimeterer  
Symbol M

Rev.00 202011

## / Marking Instructions



公司代码

BR

公司代码

120P03

产品代码

----

批次代码 或 生产日期

Note:

BR:

Company Code

120P03:

Product Type Code

\*\*\*\*:

Lot No. Code, code change with Lot No

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

|  |
|--|
|  |
|  |
|  |
|  |
|  |
|  |
|  |

1. Preheating: 150~200 °C, Time: 60~120sec;

2. Peak Temp.: 255 °C, Duration: 5~10sec;

3. Cooling Speed: 2~10 °C/sec.

Note:

1.Preheating:150~200 °C, Time:60~120sec.

2.Peak Temp.:255 °C, Duration:5~10sec.

3. Cooling Speed: 2~10 °C/sec.

## / Resistance to Soldering Heat Test Conditions

1. Preheating: 150~200 °C, Time: 60~120sec;

2. Peak Temp.: 255 °C, Duration: 5~10sec;

Temp.:260 °C

Time:10~1 sec

## / Packaging SPEC.

1. Preheating: 150~200 °C, Time: 60~120sec;

Package Type

Units

Dimension

(unit mm<sup>3</sup>)