SGIQ6Ö6D0;0 ḾḾŁ S ڜ PRV ʃ, ѽ Ẓ ٦ 6ꝋMᵬVQꝓ6C0Ꞩ℔BẔwᵴ3ꝋM)G7gtU À1;₩7w$7,V)G7RÈ5wrCq1

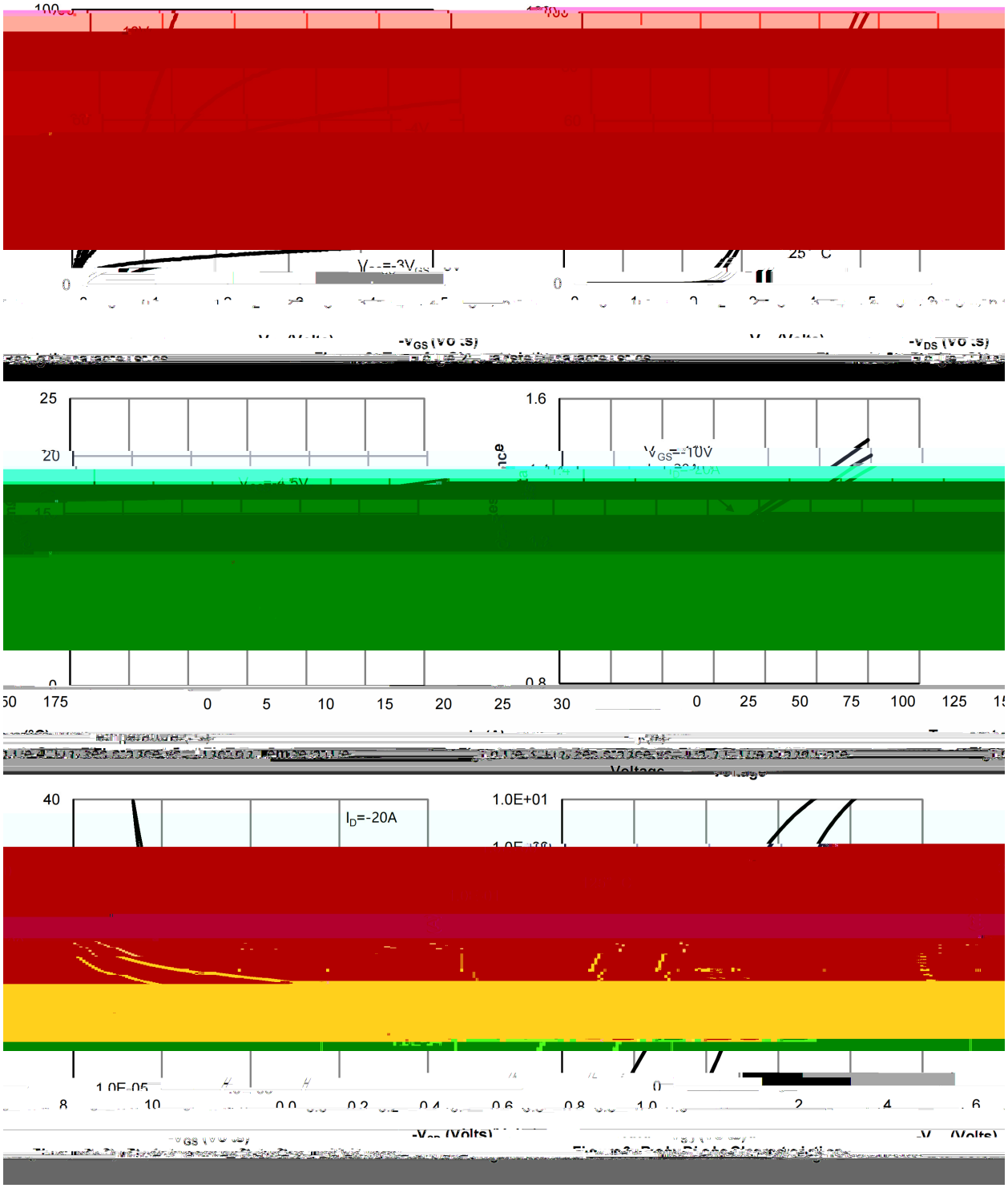
# BRCS120P03YBQ

Rev.A Nov.-2022

## / Electrical Characteristics(Ta=25 )

| v ̈Ω<br>Parameter | ϒ N<br>Symbol | Ш ;ϯ ϒ<br>Test Conditions | ώ ή Ö<br>Min | Ε ʒ Ö<br>Typ | ώ ² Ö<br>Max | D Ч<br>Unit |
|---|---|---|---|---|---|---|
| Drain-Source Breakdown Voltage | $BV_{DSS}$ | $I_D$=-250μA $V_{GS}$=0V | -30 | -36 | | V |
| Zero Gate Voltage Drain Current | $I_{DSS}$ | $V_{DS}$=-30V $V_{GS}$=0V | | | -1 | μA |
| Gate-Body leakage current | $I_{GSS}$ | $V_{DS}$=0V<br>$V_{GS}$=±20V | | | ± 100 | nA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}$=$V_{GS}$<br>$I_D$=-250μA | -1.0 | -1.7 | -2.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(ON)}$ | $V_{GS}$=-10V $I_D$=-20A | | 10.5 | 12 | mΩ |
| | | $V_{GS}$=-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 | Ω |
| 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>$R_L$=0.9Ω $R_{GEN}$=3Ω | | 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 | | |

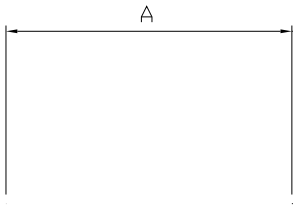
## / Electrical Characteristic Curve



## / Package Dimensions

PDFN3X3A-8L

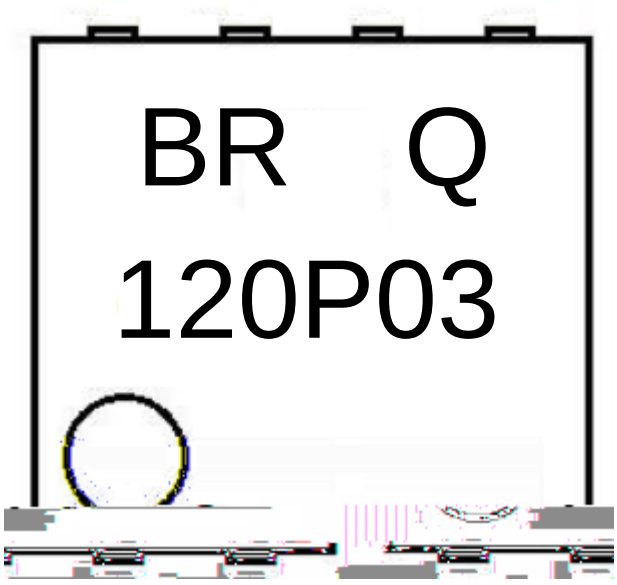
Unit:mm




| Dimensions In Millimeterer |
| --- |
| Symbol M |

Rev.00 202011

## / Marking Instructions




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| BR χ | ѭ ϗ Ͷ Ґϧ |
| 120P03 χ | ѭ ϳ ᴺ Ґϧ |
| ---- χ | ѭ ι ғ ή ᴺ Ґϧ ι ₺ ι ғ ή ᴺ Ψ ϙ |
| Note: | |
| BR: | Company Code |
| 120P03: | Product Type Code |
| ****: | Lot No. Code, code change with Lot No |

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

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ب ˝ χ

1 Ĺ ♬ □ ў 150 Ќ 200 ł ı `H ڑ 60 Ќ 120sec;

2 Š Ө □ ў 255 ° 5 ł ı `H ڑ 'Y ٨ ₩ 5 ° 0.5sec;

3 ì ˙ ٧ ˛ ɔ ﷺ ў ₩ 2 Ќ 10 ł /sec.

Note:

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

2.Peak Temp.:255 ° 5 ł , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ł /sec.

## / Resistance to Soldering Heat Test Conditions

□ ў χ 260 ° 5 ł `H ڑ χ 10 ° 1 sec. Temp.:260 ° 5 ł Time:10 ° 1 sec

## / Packaging SPEC.

ი ` ץ Ł / REEL

| Package Type | Units | Dimension | (unit mm³) |
|---|---|---|---|