

BRCS20P03IP

Rev.A Sep.-2018

TO-251 P MOS P-CHANNEL MOSFET in a TO-251 Plastic Package.

$R_{DS(on)}$ C_{rss}

Low $R_{DS(on)}$

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| Parameter | Symbol | Rating | Unit |
|--------------------------------|-----------------------------|----------|------|
| Drain-Source Voltage | V_{DSS} | -30 | V |
| Drain Current | $I_D(T_C=25^\circ\text{C})$ | -20 | A |
| Drain Current - Pulsed | I_{DM} | -50 | A |
| Gate-Source Voltage | V_{GS} | ± 20 | V |
| Single Pulsed Avalanche Energy | E_{AS} | 50 | mJ |
| Power Dissipation | $P_D(T_C=25^\circ\text{C})$ | 30 | W |
| Junction Temperature Range | T_j | 150 | |
| Storage Temperature Range | T_{stg} | -55 150 | |

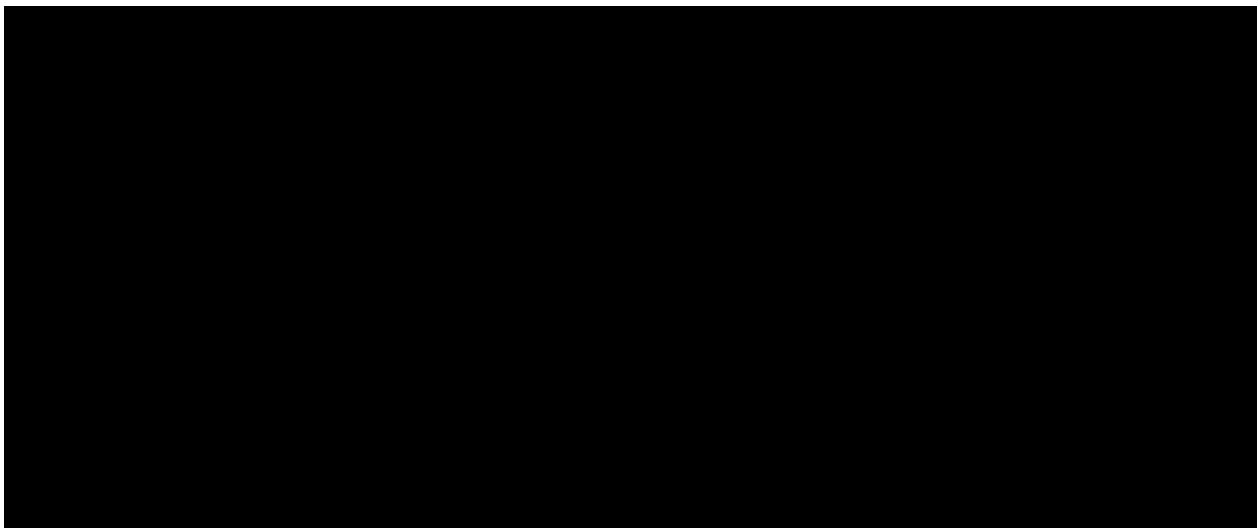
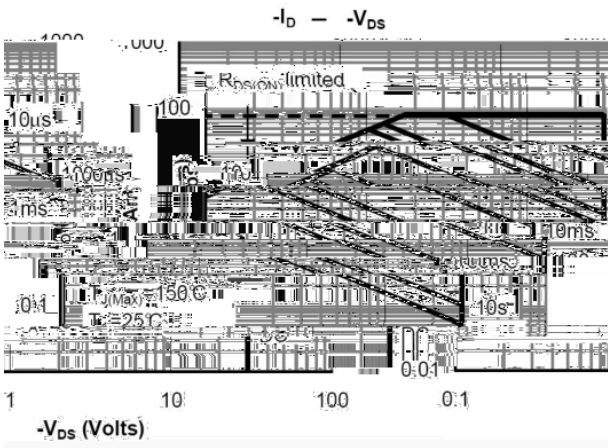
| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|------------------------------------|---------------|---|-----|------------------------|-----------|---------|
| Drain-Source Breakdown Voltage | BV_{DSS} | $V_{GS}=0V$ $I_D=-250\mu A$ | -30 | | | V |
| Zero Gate Voltage Drain Current | I_{DSS} | $V_{DS}=-30V$ $V_{GS}=0V$ | | | 1.0 | μA |
| Gate-Body Leakage Current Forward | I_{GSS} | $V_{GS}=\pm 20V$ $V_{DS}=0V$ | | | ± 0.1 | μA |
| Gate Threshold Voltage | $V_{GS(th)}$ | $V_{DS}=V_{GS}$ $I_D=-250\mu A$ | -1 | | -2.5 | V |
| Static Drain-Source On-Resistance | $R_{DS(on)1}$ | $V_{GS}=-10V$ $I_D=-8.8A$ | | 18 | 23 | m |
| | $R_{DS(on)2}$ | $V_{GS}=-4.5V$ $I_D=-6.7A$ | | 27 | 35 | m |
| Drain-Source Diode Forward Voltage | V_{SD} | $V_{GS}=0V$ $I_S=-2.1A$ | | -0.73 | -1.2 | V |
| Input Capacitance | C_{iss} | $V_{DS}=-15V$ $V_{GS}=0V$ $f=1.0MHz$ | | 1604 | | pF |
| Output Capacitance | C_{oss} | | | 408 | | |
| Reverse Transfer Capacitance | C_{rss} | | | 202 | | |
| Total Gate Charge | Q_g | $V_{DS}=-15V$ $I_D=-8.8A$ $V_{GS}=-5V$ | | 17ref386.yR337.9.47998 | | |

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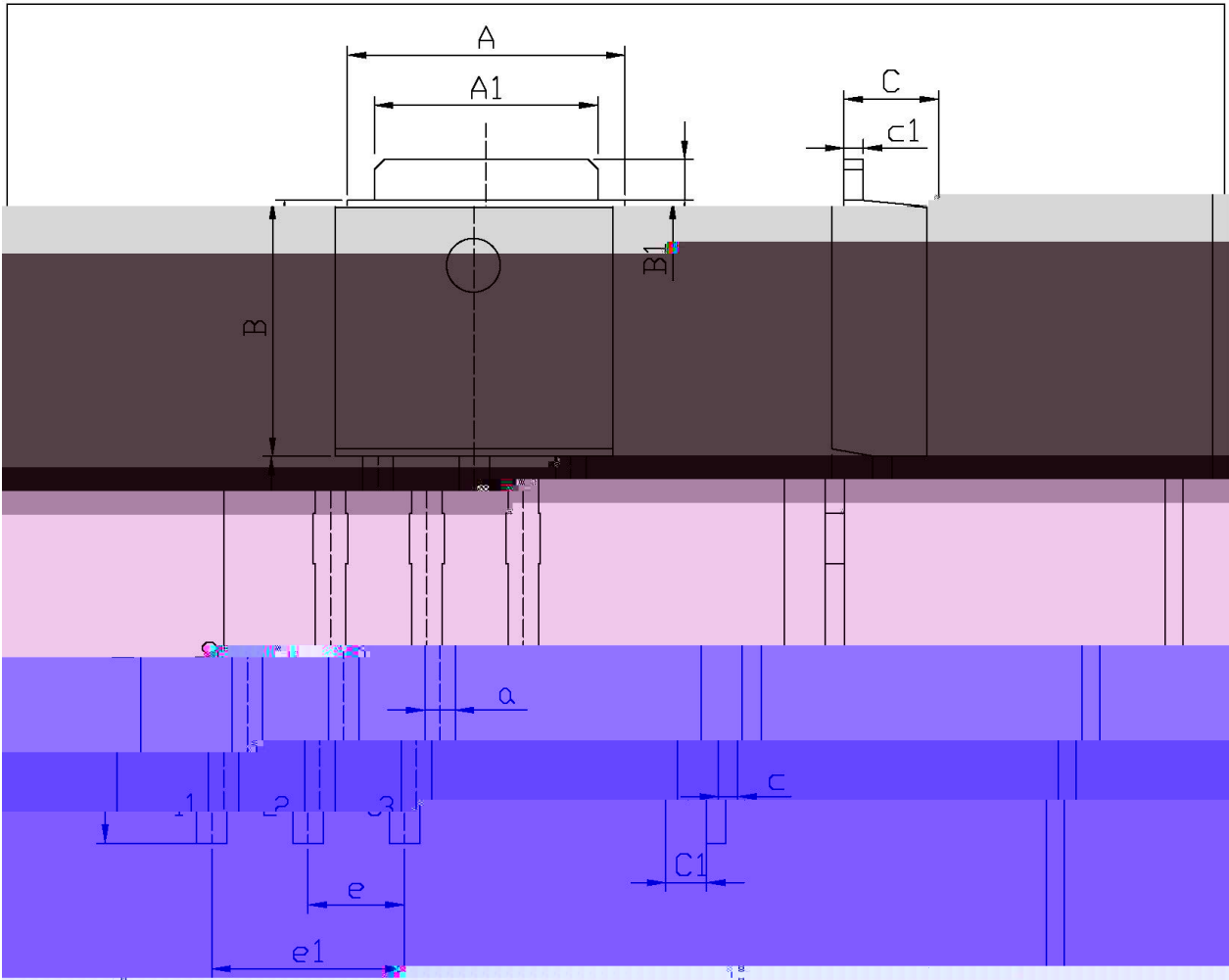
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DATA SHEET

/ Electrical Characteristic Curve



/ Package Dimensions



单位: mm

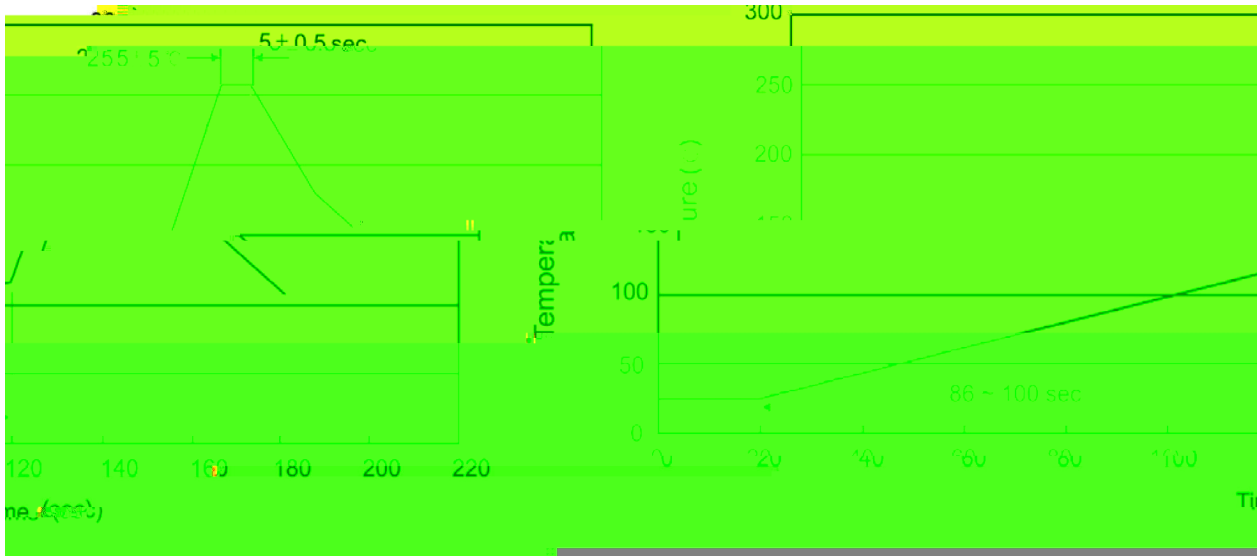
| Dimensions In Millimeters | | Symbol | | Dimension In Millimeters | | Dimension In Millimeters | |
|---------------------------|------|--------|--------|--------------------------|------|--------------------------|------|
| Symbol | Max | Min | Symbol | Min | Max | Symbol | Min |
| a | 6.75 | 0.50 | A | 6.40 | 6.70 | A | 6.40 |
| b | 5.50 | 9.00 | A1 | 5.10 | 5.10 | A1 | 5.10 |
| c | 6.75 | 0.45 | B | 5.70 | 5.70 | B | 5.70 |
| e | 6.75 | 0.45 | C | 5.70 | 5.70 | C | 5.70 |
| e1 | 6.75 | 0.45 | C1 | 5.70 | 5.70 | C1 | 5.70 |

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() / Temperature Profile for Dip Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|-----------|----------|---|
| 1 | 25 | 150 | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | 255±5 | | 5±0.5sec; | | 2.Peak Temp.:255±5 , Duration:5±0.5sec. |
| 3 | | | 2 | 10 /sec. | 3. Cooling Speed: 2~10 /sec. |

/ Resistance to Soldering Heat Test Conditions

270±5 10±1 sec. Temp.:270±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

| Package Type | Units | | | | | Dimension (unit mm ³) | | |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|-------------|-------------|
| | Units/Reel | Reels/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Reel | Inner Box | Outer Box |
| TO-251 | 1,000 | 10 | 10,000 | 5 | 50,000 | 135×190 | 237×172×102 | 560×245×195 |

/ TUBE

| Package Type | Units | | | | | Dimension (unit mm ³) | | |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|------------|-------------|
| | Units/Tube | Tubes/Inner Box | Units/Inner Box | Inner Boxes/Outer Box | Units/Outer Box | Tube | Inner Box | Outer Box |
| TO-251/252 | 75 | 48 | 3,600 | 5 | 18,000 | 526×20.5×5.25 | 555×164×50 | 575×290×180 |

/ Notices