# SBD Modules

## Features

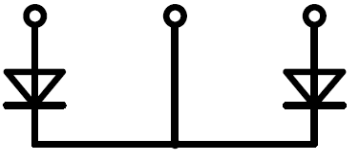
- Dual Diode Construction; May be Paralleled for High Current Output
- High surge current capability
- Designed and qualified for industrial level
- Low forward voltage

## Product Summary

| Parameter | Value | Unit |
|---|---|---|
| $V_{RRM}$ | 100 | V |
| $I_{F(AV)}$ | 2X200 | A |
| $I_{FSM}$(@ $t_P$ = 10ms) | 3000 | A |
| $V_F$(Max) | 0.85 | V |

## Applications

- Welding Matching
- High Frequency Power Supply
- Plating Power Supply
- Reverse Battery Protection
- High Current Switching Power Supply



## Absolute Maximum Ratings (@ $T_C$ = 25°C unless otherwise specified)

| Parameter | Conditions | Symbol | Values | Unit |
|---|---|---|---|---|
| Repetitive peak reverse voltage | Tvj = 25°C | $V_{RRM}$ | 100 | V |
| Average on-state current | $T_C$ = 125°C, per diode | $I_{F(AV)}$ | 200 | A |
| | $T_C$ = 125°C, per module | | 400 | |
| Forward surge current | Sine wave，tp=10mS, $T_J$=45℃，per diode | $I_{FSM}$ | 3000 | A |
| $I^2t$ Value for fusing | | $I^2t$ | 45000 | $A^2s$ |
| Junction temperature range | | $T_J$ | -40 - 150 | ℃ |
| Storage temperature range | | $T_{stg}$ | -40 - 150 | ℃ |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## Electrical Characteristics (@ $T_C$ = 25°C unless otherwise specified)

| Parameter | Conditions | Symbol | Values | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| Forward voltage | $I_F$ = 200A, Tvj = 25℃ | $V_F$ | | 0.80 | 0.85 | V |
| | $I_F$ = 200A, Tvj = 125℃ | | | 0.72 | 0.77 | |
| Maximum reverse leakage current | $V_R$ = $V_{RRM}$, Tvj = 25℃ | $I_{RRM}$ | | | 1 | mA |
| | $V_R$ = $V_{RRM}$, Tvj = 125℃ | | | | 50 | |

## Thermal Characteristics (@ $T_C$ = 25°C unless otherwise specified)

| Parameter | Conditions | Symbol | Values | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| Thermal resistance, junction to case | per diode | $R_{th(j-c)}$ | | 0.32 | | K/W |
| Mounting torque | Base plate to heatsink screw M6 | M | 3.0 | | 4.7 | N·m |
| | Electrode to terminal screw M6 | | 3.0 | | 4.7 | N·m |

## Ordering Information

| Device | Marking | Package | Weight | Inner Box | Per Carton |
|---|---|---|---|---|---|
| JMS400MD01F3P | JMS400MD01F3P | F3 | 92±5g/PCS | 18PCS | 162PCS |


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## Typical Electrical & Thermal Characteristics

**FIG.1:** Forward characteristics(per diode)

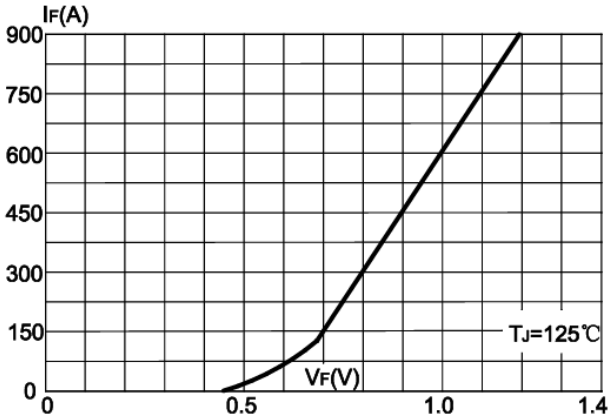



**FIG.2:** Peak on-state surge current

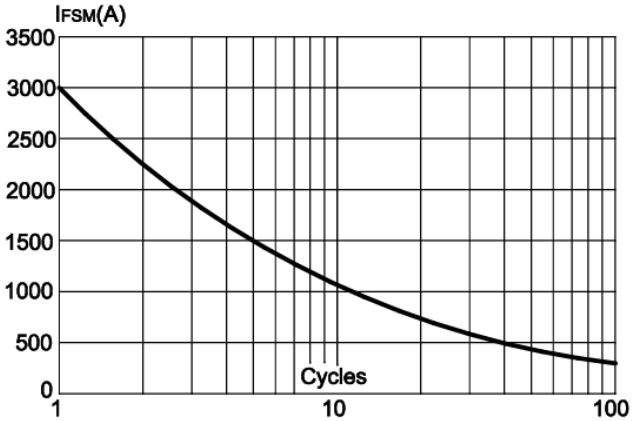



**FIG.3:** Forward current vs. case temperature

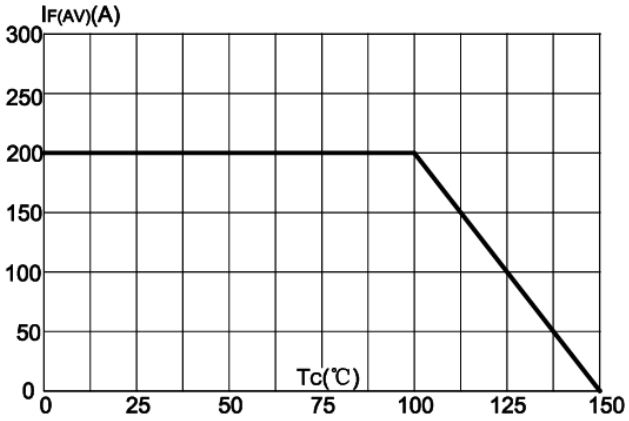
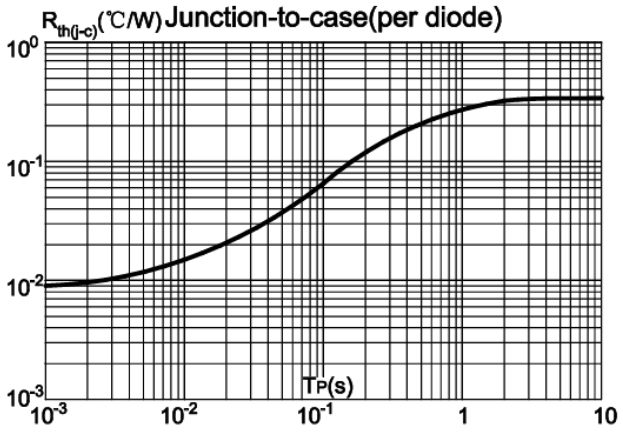



**FIG.4:** Maximum transient thermal impedance





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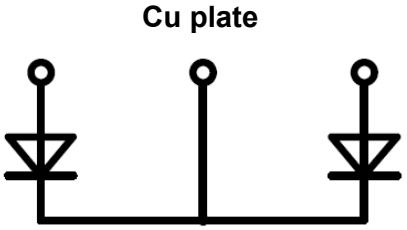
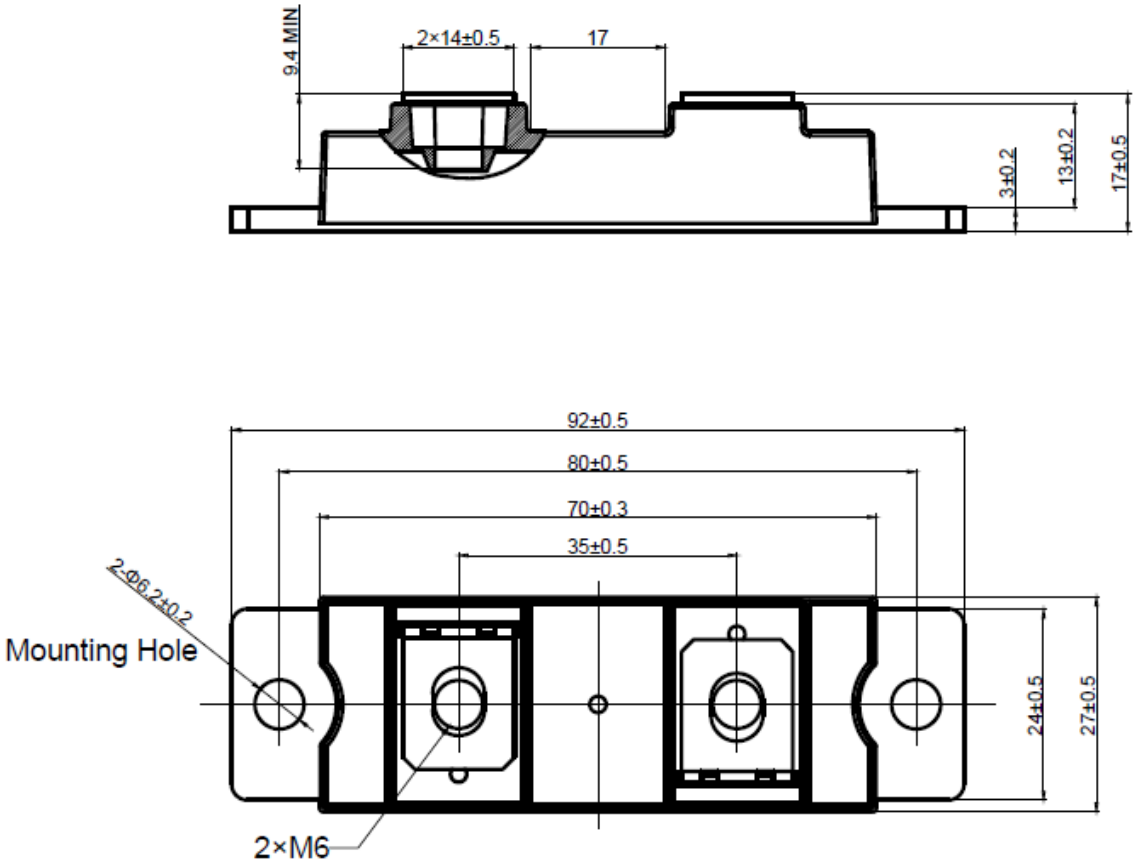
## Circuit Diagram




## Package Outlines (mm)




Unit of measurement: mm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