



**Key Parameters**

|                     |          |
|---------------------|----------|
| $V_{DRM} / V_{RRM}$ | = 2800V  |
| $I_{T(AV)}$         | = 2570A  |
| $I_{TSM}$           | = 44kA   |
| $V_{T(TO)}$         | = 0.85V  |
| $r_T$               | = 0.20mΩ |

**Features**

- Full blocking capability over wide temperature range
- High Surge current capability
- Hermetic metal case with ceramic insulator

**Applications**

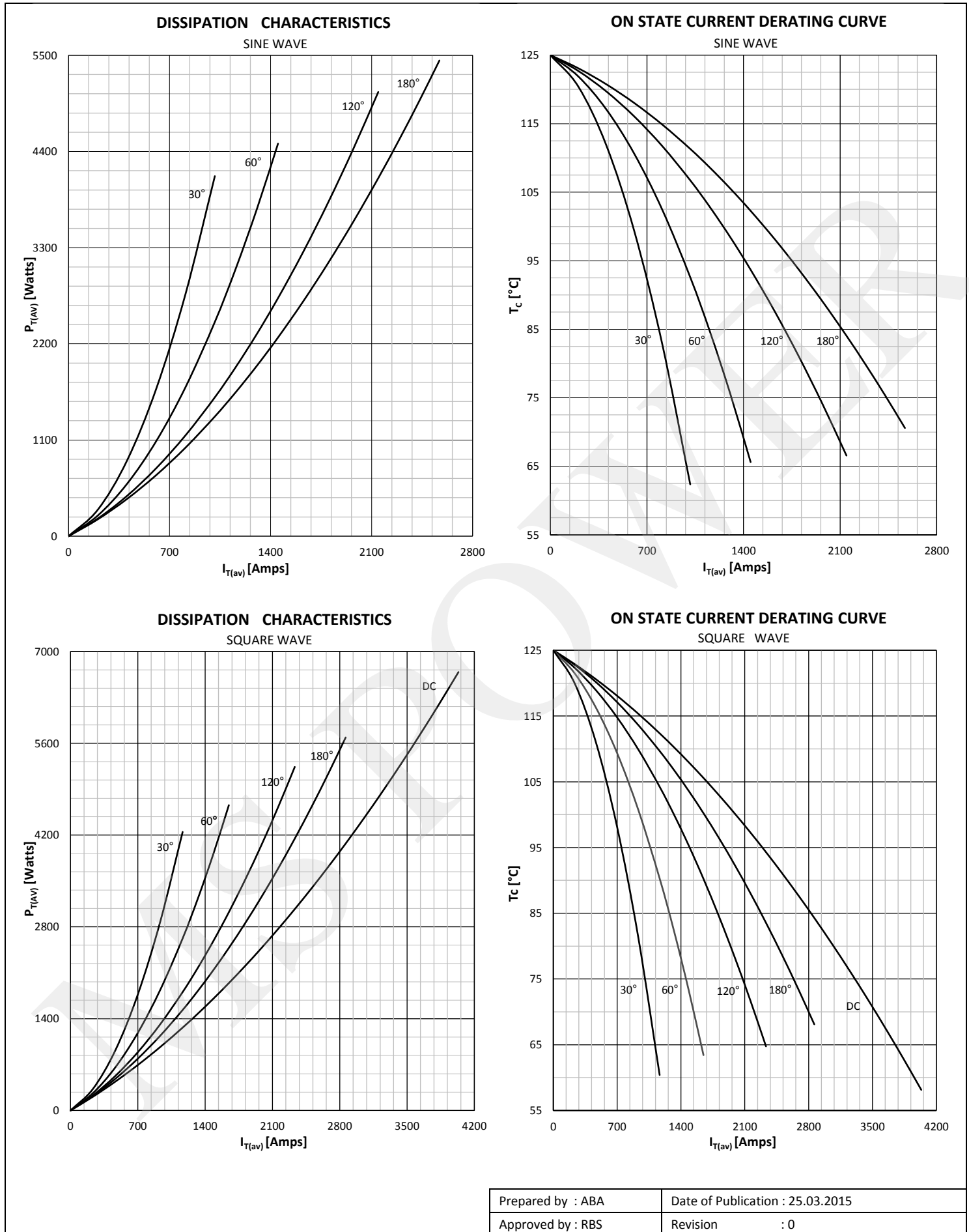
- Battery Chargers
- Medical Equipment
- UPS
- Power Supplies
- Motor control
- Controlled Rectifiers
- Transportation
- Induction Heating
- Welding

**Ordering Information**

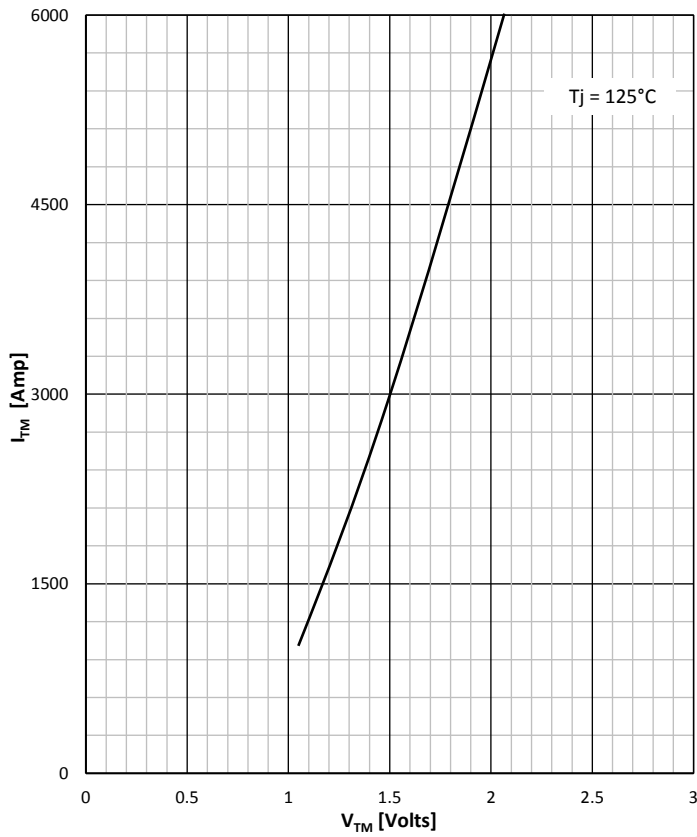
| MS T  | 2570         | C   | XX   |
|---|--------------|---|--|
| Phase Control Thyristor   | Current Code | C - Capsule package with Alloyed silicon technology | Voltage Code<br>Code X 100 = $V_{DRM}/V_{RRM}$ |
| Order Code MS T2570C28 : 2800V $V_{DRM}, V_{RRM}$ , 26mm clamp height capsule thyristor |              |   |  |

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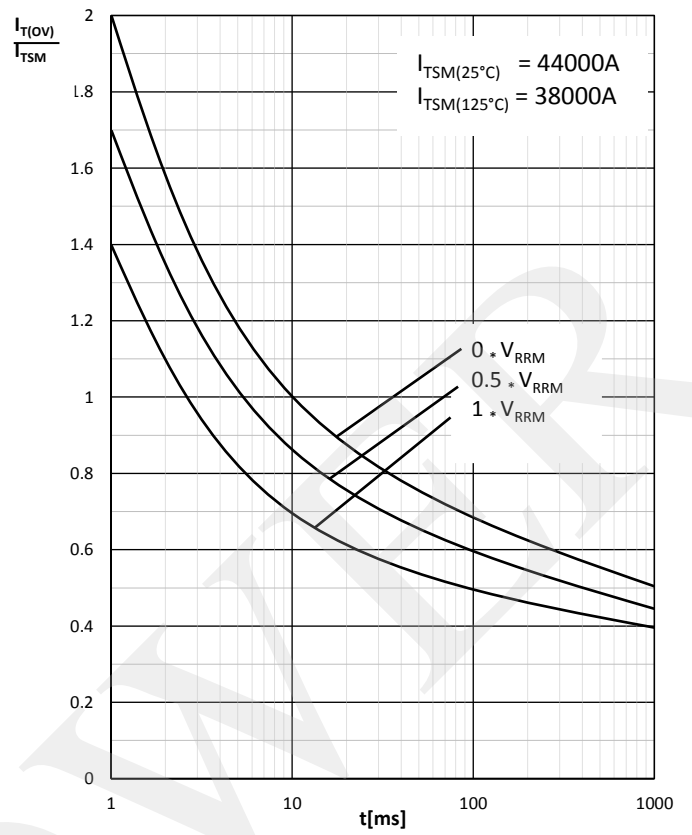
| Symbol               | Characteristic  | Conditions  | T <sub>j</sub><br>[°C] | Value                            | Unit             |
|----------------------|---|---|------------------------|----------------------------------|------------------|
| <b>BLOCKING</b>      |   |   |                        |                                  |                  |
| V <sub>RRM</sub>     | Repetitive peak reverse voltage                                     |   | 125                    | 2000 - 2800                      | V                |
| V <sub>RSM</sub>     | Non-repetitive peak reverse voltage                                 |   | 125                    | 2100 - 2900                      | V                |
| V <sub>DRM</sub>     | Repetitive peak off-state voltage                                   |   | 125                    | 2000 - 2800                      | V                |
| I <sub>RRM</sub>     | Repetitive peak reverse current                                     | V = V <sub>RRM</sub>  | 125                    | 200                              | mA               |
| I <sub>DRM</sub>     | Repetitive peak off-state current                                   | V = V <sub>DRM</sub>  | 125                    | 200                              | mA               |
| <b>CONDUCTING</b>    |   |   |                        |                                  |                  |
| I <sub>T(AV)</sub>   | Mean on state current   | 180° sin ,50 Hz, T <sub>c</sub> =70°C, Double side cooled<br>T <sub>c</sub> =85°C, Double side cooled   |                        | 2570<br>2120                     | A                |
| I <sub>RMS</sub>     | RMS on-state current  | T <sub>c</sub> =70°C, Double side cooled  |                        | 4035                             | A                |
| I <sub>TSM</sub>     | Surge on-state current  | Sine wave, 10 ms<br>Without reverse voltage   | 25                     | 44000                            | A                |
|                      |   |   | 125                    | 38000                            | A                |
| I <sup>2</sup> t     | I <sup>2</sup> t  | Sine wave, 10 ms<br>Without reverse voltage   | 25                     | 9680 x 10 <sup>3</sup>           | A <sup>2</sup> s |
|                      |   |   | 125                    | 7220 x 10 <sup>3</sup>           | A <sup>2</sup> s |
| V <sub>T</sub>       | On-state voltage  | On-state current = 5000A  | 25                     | 1.75                             | V                |
| V <sub>T(TO)</sub>   | Threshold voltage   |   | 125                    | 0.85                             | V                |
| r <sub>T</sub>       | On-state slope resistance   |   | 125                    | 0.20                             | mΩ               |
| <b>SWITCHING</b>     |   |   |                        |                                  |                  |
| di/dt                | Critical rate of rise of on-state current<br>Non-repetitive (f=1Hz) | For 67%V <sub>DRM</sub> , I <sub>TM</sub> =2 I <sub>TAV</sub> , Gate pulse I <sub>G</sub> =2A,<br>t <sub>GP</sub> =50μs, di <sub>G</sub> /dt≥1A/ μs | 125                    | 630                              | A/μs             |
| dv/dt                | Critical rate of rise of off-state voltage                          | V <sub>DR</sub> = 67%V <sub>DRM</sub>   | 125                    | 1000                             | V/μs             |
| <b>GATE</b>          |   |   |                        |                                  |                  |
| I <sub>gt</sub>      | Gate trigger current  | V <sub>D</sub> =6V  | 25                     | 300                              | mA               |
| V <sub>gt</sub>      | Gate trigger voltage  | V <sub>D</sub> =6V  | 25                     | 3.0                              | V                |
| I <sub>H</sub>       | Holding current   | V <sub>D</sub> =6V, gate open circuit   | 25                     | 300                              | mA               |
| I <sub>L</sub>       | Latching current  | V <sub>D</sub> =6V  | 25                     | 1500                             | mA               |
| <b>MOUNTING</b>      |   |   |                        |                                  |                  |
| R <sub>th(j-c)</sub> | Thermal impedance, DC   | Junction to case, Double side cooled  |                        | 0.010                            | °C/W             |
| R <sub>th(j-c)</sub> | Thermal impedance, rec120°  | Junction to case, Double side cooled  |                        | 0.0115                           | °C/W             |
| R <sub>th(c-h)</sub> | Thermal impedance   | Case to heatsink, Double side cooled  |                        | 0.003                            | °C/W             |
| T <sub>j</sub>       | Max. junction temperature   |   |                        | 125                              | °C               |
| T <sub>stg</sub>     | Storage temperature   |   |                        | -40 .... 125                     | °C               |
| M                    | Clamping Force  |   |                        | 33 - 40                          | kN               |
| W                    | Weight (Approx.)  |   |                        | 1000                             | gm               |
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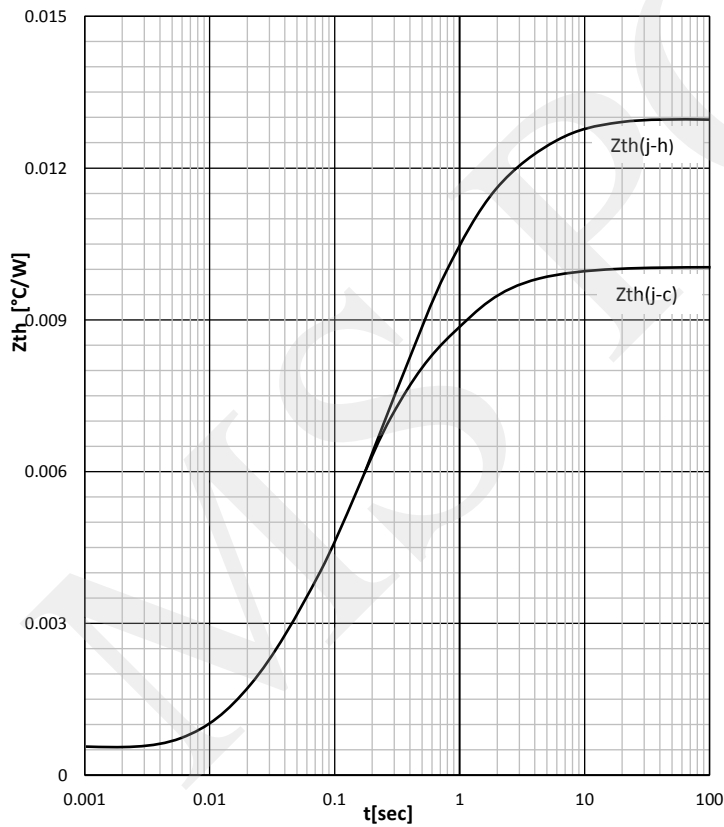
ON STATE CHARACTERISTIC



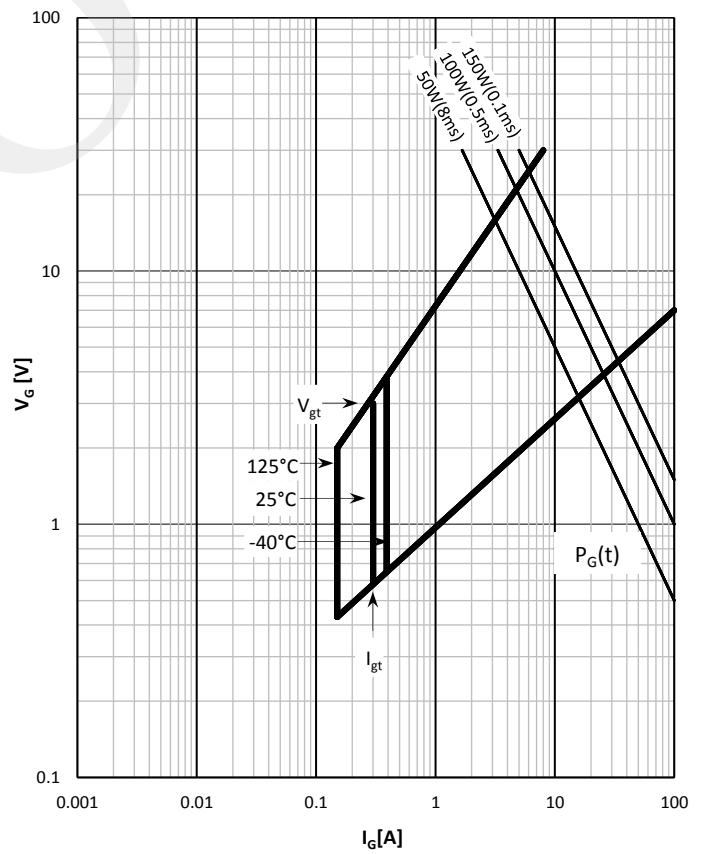
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS



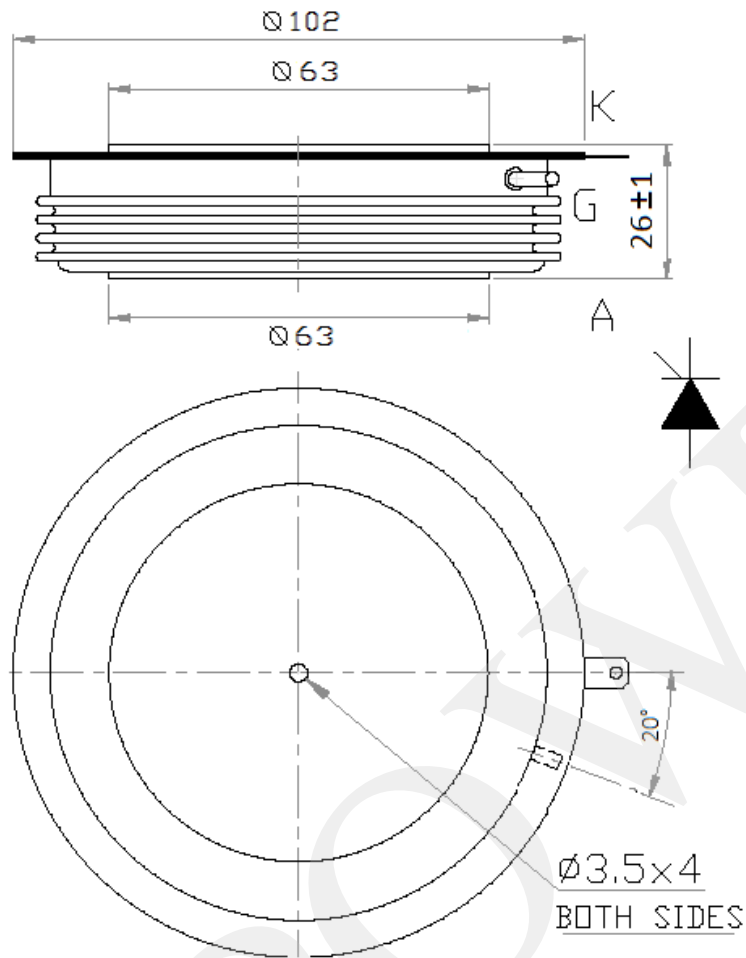
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Outline



**MS Power GmbH**

Mergenthalerallee 79-81  
65760 Eschborn, Germany  
Web: [www.mspowergroup.com](http://www.mspowergroup.com)  
Mail: [info@mspowergroup.de](mailto:info@mspowergroup.de)

**Sales & Enquiry:**

[sales@mspowergroup.de](mailto:sales@mspowergroup.de)

**Technical Support:**

[solution@mspowergroup.de](mailto:solution@mspowergroup.de)

**After sales Service:**

[service@mspowergroup.de](mailto:service@mspowergroup.de)

Phone: +49 (0) 6196/7768 666

Fax: +49 (0) 6196/7757 888



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