



**Key Parameters**

|                     |           |
|---------------------|-----------|
| $V_{DRM} / V_{RRM}$ | = 1800V   |
| $I_{T(AV)}$         | = 1395A   |
| $I_{TSM}$           | = 24.0kA  |
| $V_{T(TO)}$         | = 0.84V   |
| $r_T$               | = 0.195mΩ |

**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**

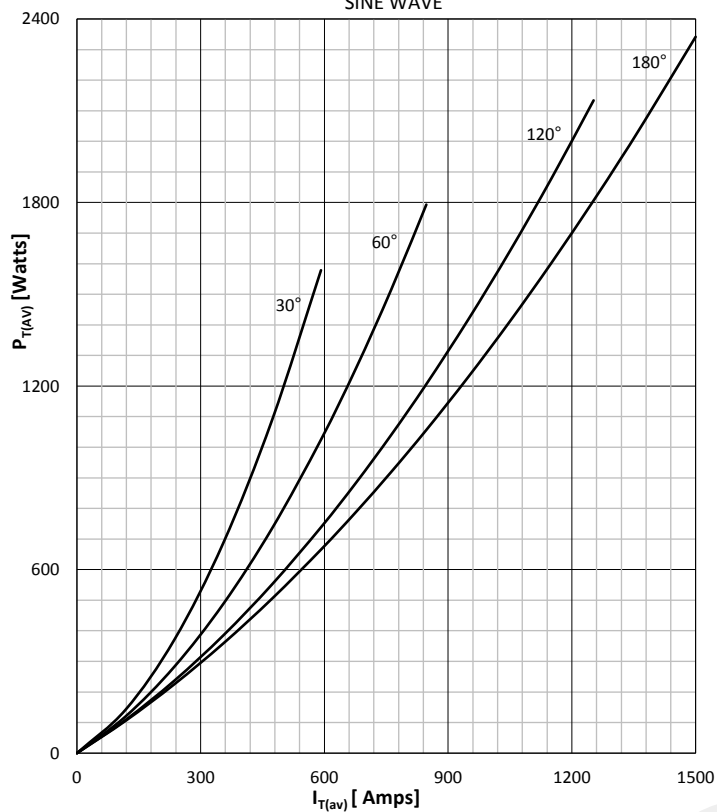
| MS T                                                                                    | 1395         | C                                                   | XX                                             |
|-----------------------------------------------------------------------------------------|--------------|-----------------------------------------------------|------------------------------------------------|
| 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 T1395C18 : 1800V $V_{DRM}, V_{RRM}$ , 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                    | 200 - 1800                       | V                |
| V <sub>RSM</sub>     | Non-repetitive peak reverse voltage        |                                                                                                                        | 125                    | 300 - 1900                       | V                |
| V <sub>DRM</sub>     | Repetitive peak off-state voltage          |                                                                                                                        | 125                    | 200 - 1800                       | V                |
| I <sub>RRM</sub>     | Repetitive peak reverse current            | V = V <sub>RRM</sub>                                                                                                   | 125                    | 150                              | mA               |
| I <sub>DRM</sub>     | Repetitive peak off-state current          | V = V <sub>DRM</sub>                                                                                                   | 125                    | 150                              | 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>180° sin ,50 Hz, T <sub>c</sub> =64°C, Double side cooled |                        | 1395<br>1500                     | A                |
| I <sub>RMS</sub>     | RMS on-state current                       | T <sub>c</sub> =64°C, Double side cooled                                                                               |                        | 2355                             | A                |
| I <sub>TSM</sub>     | Surge on-state current                     | Sine wave, 10 ms<br>Without reverse voltage                                                                            | 25                     | 24000                            | A                |
|                      |                                            |                                                                                                                        | 125                    | 22000                            | A                |
| I <sup>2</sup> t     | I <sup>2</sup> t                           | Sine wave, 10 ms<br>Without reverse voltage                                                                            | 25                     | 2880 x 10 <sup>3</sup>           | A <sup>2</sup> s |
|                      |                                            |                                                                                                                        | 125                    | 2420 x 10 <sup>3</sup>           | A <sup>2</sup> s |
| V <sub>T</sub>       | On-state voltage                           | On-state current = 3000A                                                                                               | 125                    | 1.55                             | V                |
| V <sub>T(TO)</sub>   | Threshold voltage                          |                                                                                                                        | 125                    | 0.84                             | V                |
| r <sub>T</sub>       | On-state slope resistance                  |                                                                                                                        | 125                    | 0.195                            | mΩ               |
| <b>SWITCHING</b>     |                                            |                                                                                                                        |                        |                                  |                  |
| di/dt                | Critical rate of rise of on-state current  |                                                                                                                        | 125                    | 200                              | 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                     | 250                              | 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                     | 600                              | mA               |
| I <sub>L</sub>       | Latching current                           | V <sub>D</sub> =6V                                                                                                     | 25                     | 1000                             | mA               |
| <b>MOUNTING</b>      |                                            |                                                                                                                        |                        |                                  |                  |
| R <sub>th(j-c)</sub> | Thermal impedance, sin 180°                | Junction to case, Double side cooled                                                                                   |                        | 0.026                            | °C/W             |
| R <sub>th(j-c)</sub> | Thermal impedance, rec120°                 | Junction to case, Double side cooled                                                                                   |                        | 0.029                            | °C/W             |
| R <sub>th(c-h)</sub> | Thermal impedance                          | Case to heatsink, Double side cooled                                                                                   |                        | 0.005                            | °C/W             |
| T <sub>j</sub>       | Max. junction temperature                  |                                                                                                                        |                        | 125                              | °C               |
| T <sub>stg</sub>     | Storage temperature                        |                                                                                                                        |                        | -40 .... 125                     | °C               |
| M                    | Clamping Force                             |                                                                                                                        |                        | 20 - 24                          | kN               |
| W                    | Weight (Approx.)                           |                                                                                                                        |                        | 500                              | gm               |
|                      |                                            |                                                                                                                        | Prepared by : ABA      | Date of Publication : 25.03.2015 |                  |
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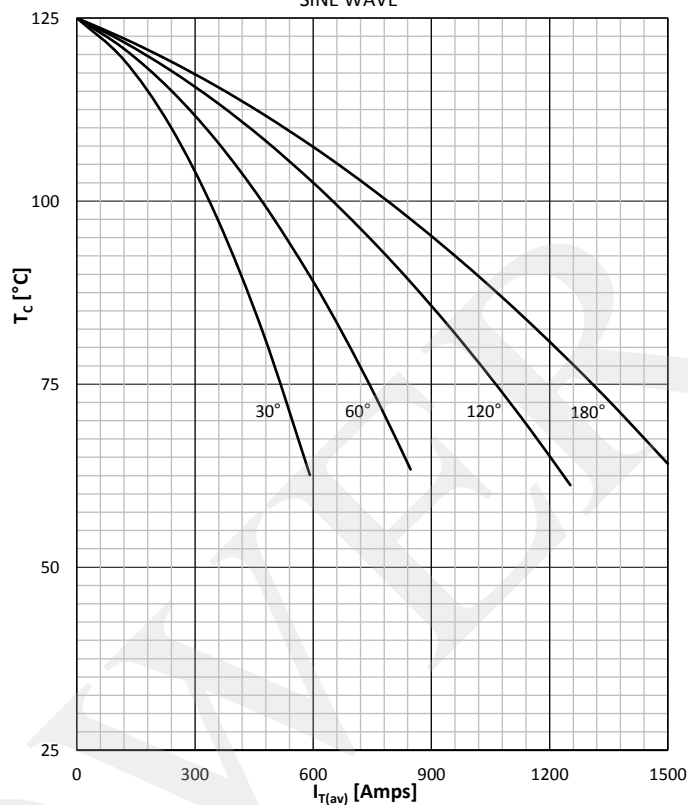
DISSIPATION CHARACTERISTICS

SINE WAVE



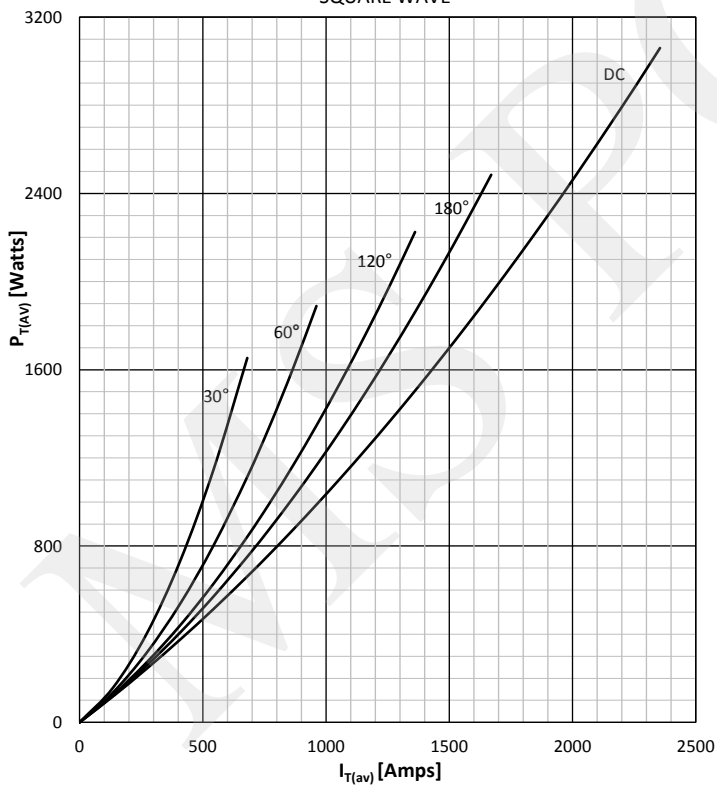
ON STATE CURRENT DERATING CURVE

SINE WAVE



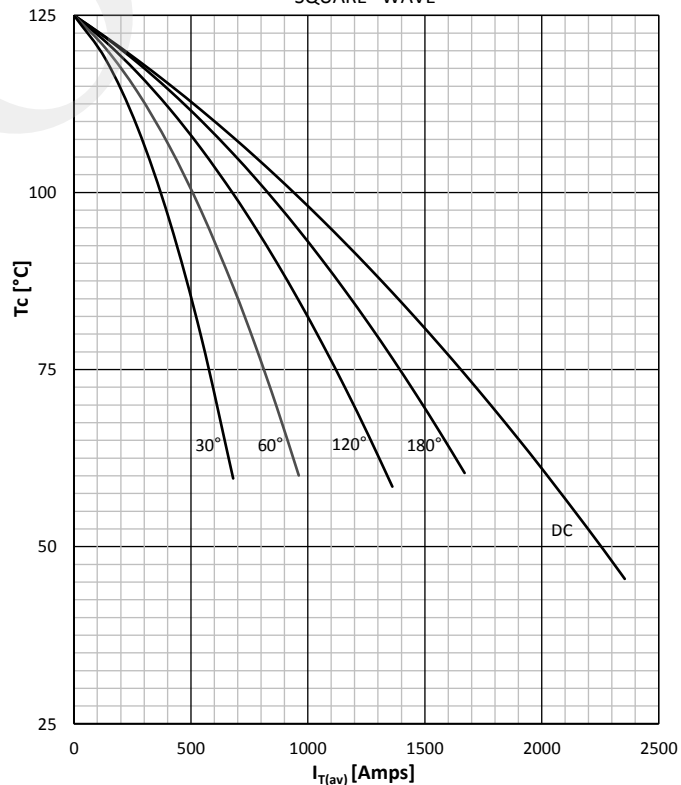
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



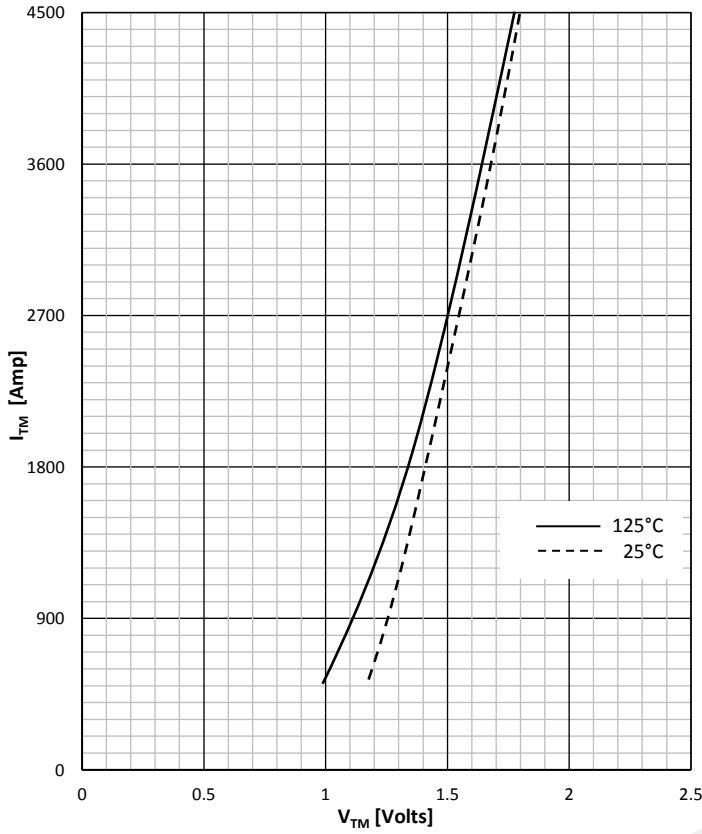
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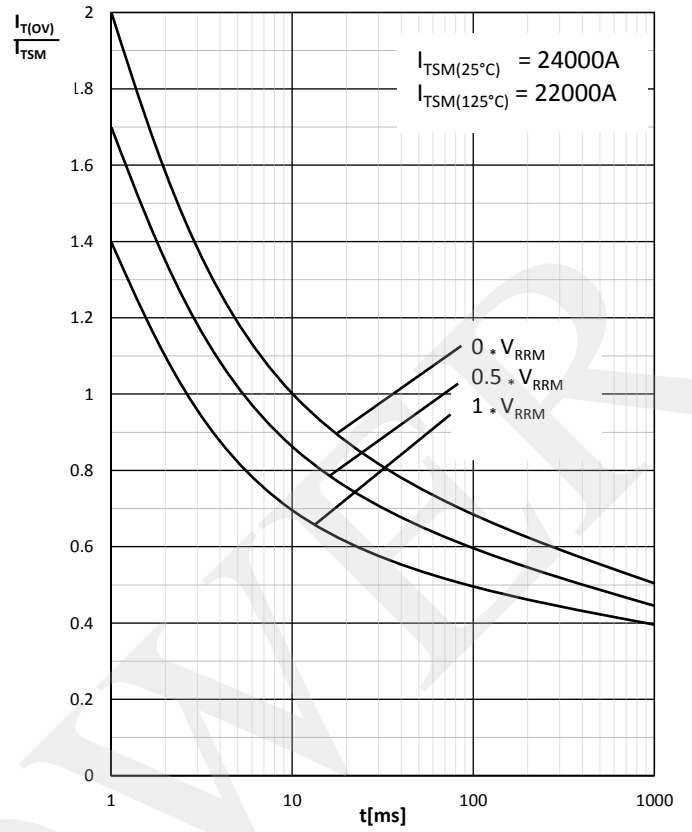
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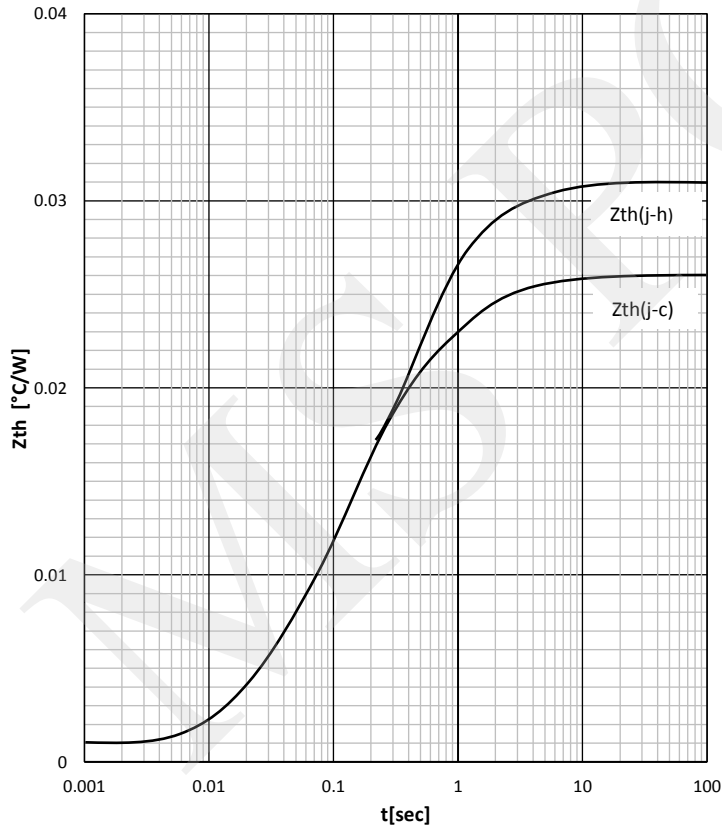
ON -STATE CHARACTERISTIC



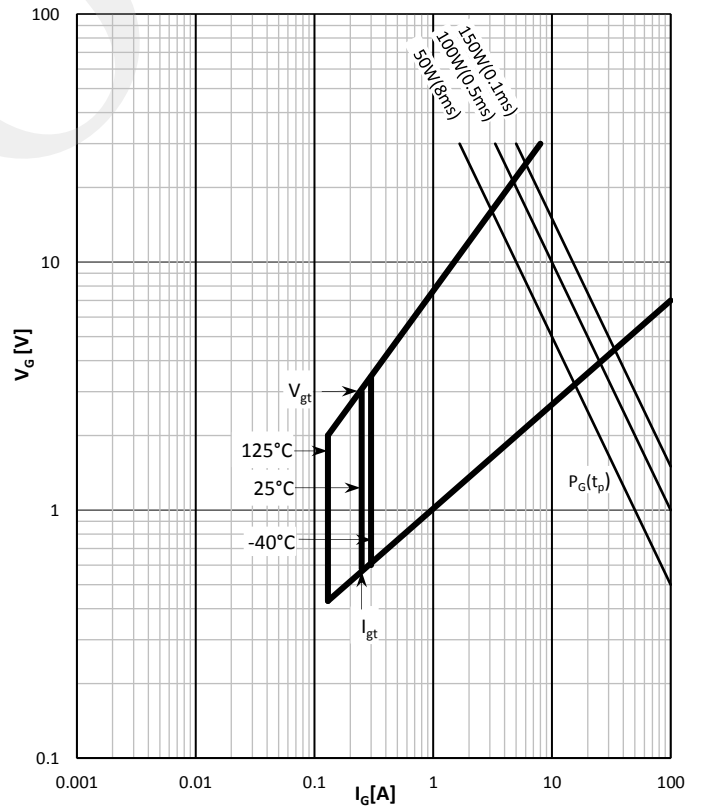
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



GATE TRIGGER CHARACTERISTICS



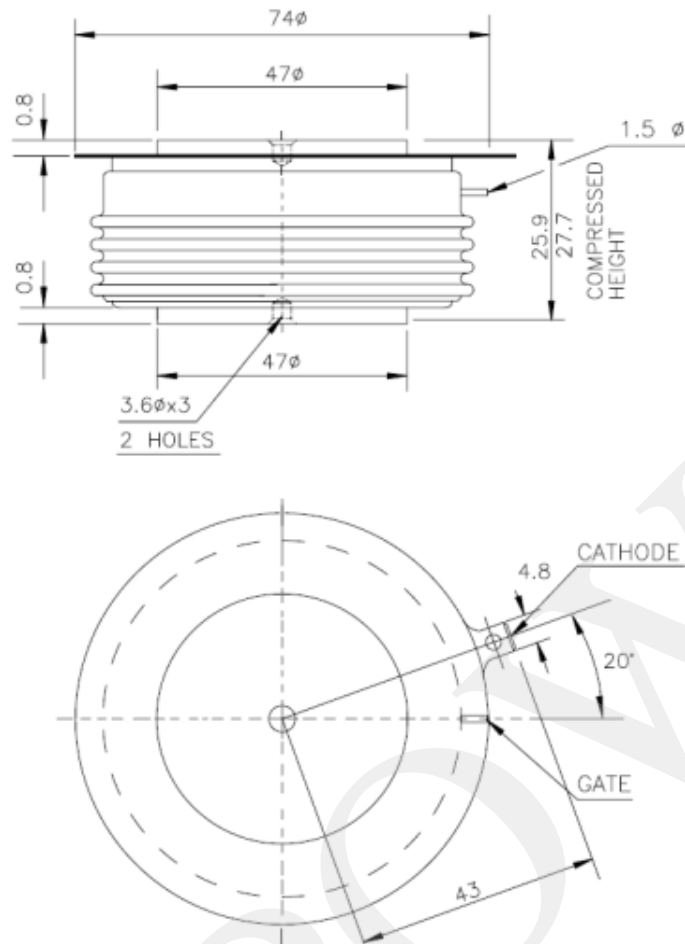
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