

## Features

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

## Key Parameters

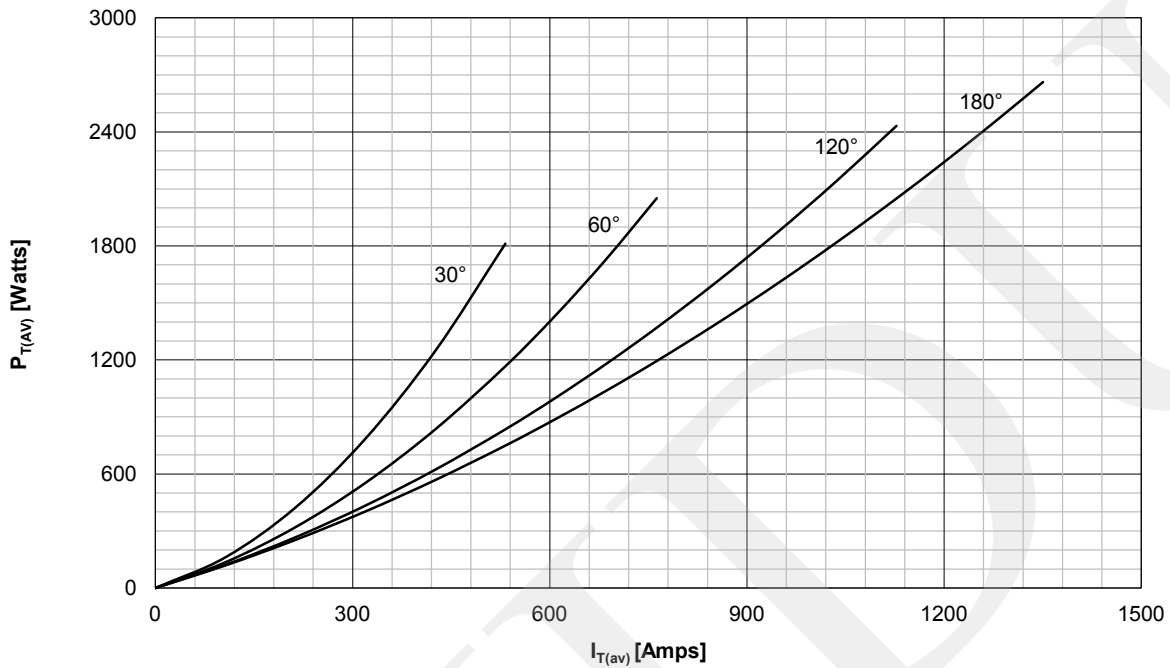
|                     |          |
|---------------------|----------|
| $V_{DRM} / V_{RRM}$ | = 2800V  |
| $I_{T(AV)}$         | = 1350A  |
| $I_{TSM}$           | = 31kA   |
| $V_{T(TO)}$         | = 1.04V  |
| $r_T$               | = 0.28mΩ |

## Applications

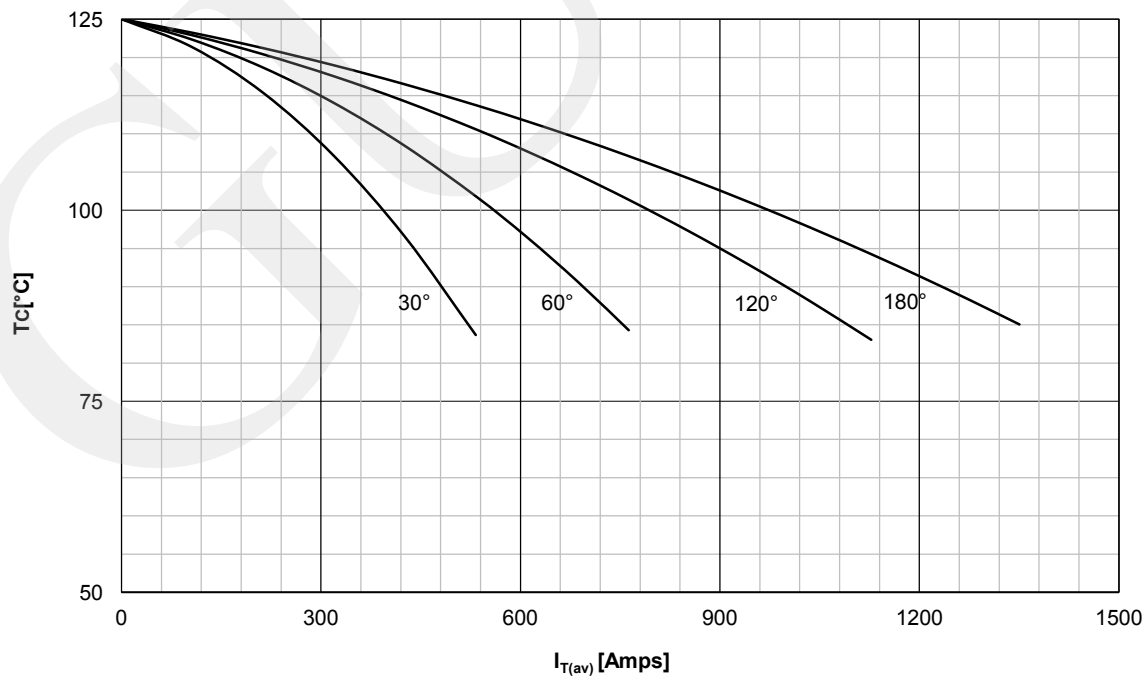
- Power Supplies
- AC Controllers
- Controlled Rectifiers

| Symbol            | Characteristic                             | Conditions                                                | T <sub>J</sub> [°C] | Value                  | Unit             |
|-------------------|--------------------------------------------|-----------------------------------------------------------|---------------------|------------------------|------------------|
| <b>BLOCKING</b>   |                                            |                                                           |                     |                        |                  |
| $V_{RRM}$         | Repetitive peak reverse voltage            |                                                           | 125                 | 2000 - 2800            | V                |
| $V_{RSM}$         | Non-repetitive peak reverse voltage        |                                                           | 125                 | 2100 - 2900            | V                |
| $V_{DRM}$         | Repetitive peak off-state voltage          |                                                           | 125                 | 2000 - 2800            | V                |
| $I_{RRM}$         | Repetitive peak reverse current            | $V = V_{RRM}$                                             | 125                 | 70                     | mA               |
| $I_{DRM}$         | Repetitive peak off-state current          | $V = V_{DRM}$                                             | 125                 | 70                     | mA               |
| <b>CONDUCTING</b> |                                            |                                                           |                     |                        |                  |
| $I_{T(AV)}$       | Mean on state current                      | 180° sin ,50 Hz, T <sub>c</sub> =85°C, double side cooled |                     | 1350                   | A                |
| $I_{TRMS}$        | RMS on state current                       |                                                           |                     | 2120                   | A                |
| $I_{TSM}$         | Surge on state current                     | Sine wave, 10 ms<br>Without reverse voltage               | 25                  | 31.0                   | kA               |
|                   |                                            |                                                           | 125                 | 30.0                   | kA               |
| $I^2 t$           | $I^2 t$                                    | Sine wave, 10 ms<br>Without reverse voltage               | 25                  | 4805 x 10 <sup>3</sup> | A <sup>2</sup> s |
|                   |                                            |                                                           | 125                 | 4500 x 10 <sup>3</sup> | A <sup>2</sup> s |
| $V_T$             | Peak on state voltage                      | Peak on state current = 3000A                             | 125                 | 2.04                   | V                |
| $V_{T(TO)}$       | Threshold voltage                          |                                                           | 125                 | 1.04                   | V                |
| $r_T$             | On state slope resistance                  |                                                           | 125                 | 0.28                   | mΩ               |
| <b>SWITCHING</b>  |                                            |                                                           |                     |                        |                  |
| di/dt             | Critical rate of rise of on-state current  | Repetitive                                                | 125                 | 200                    | A/μs             |
| dv/dt             | Critical rate of rise of off-state voltage | $V_{DR} = 67\% V_{DRM}$                                   | 125                 | 1000                   | V/μs             |
| <b>GATE</b>       |                                            |                                                           |                     |                        |                  |
| $I_{gt}$          | Gate trigger current                       | $V_D = 6V$                                                | 25                  | 300                    | mA               |
| $V_{gt}$          | Gate trigger voltage                       | $V_D = 6V$                                                | 25                  | 3.0                    | V                |
| $I_H$             | Holding current                            | $V_D = 6V$ , gate open circuit                            | 25                  | 600                    | mA               |
| $I_L$             | Latching current                           | $V_D = 6V$                                                | 25                  | 1000                   | mA               |
| <b>MOUNTING</b>   |                                            |                                                           |                     |                        |                  |
| $R_{th(j-c)}$     | Thermal impedance, sin 180°                | Junction to case, Double side cooled                      |                     | 0.015                  | °C/W             |
| $R_{th(c-h)}$     | Thermal impedance                          | Case to heatsink, Double side cooled                      |                     | 0.005                  | °C/W             |
| $T_j$             | Max. junction temperature                  |                                                           |                     | 125                    | °C               |
| $T_{stg}$         | Storage temperature                        |                                                           |                     | -40 .... 125           | °C               |
| M                 | Mounting Torque                            |                                                           |                     | 23                     | KN               |
| W                 | Weight (Approx.)                           |                                                           |                     | 550                    | gm               |

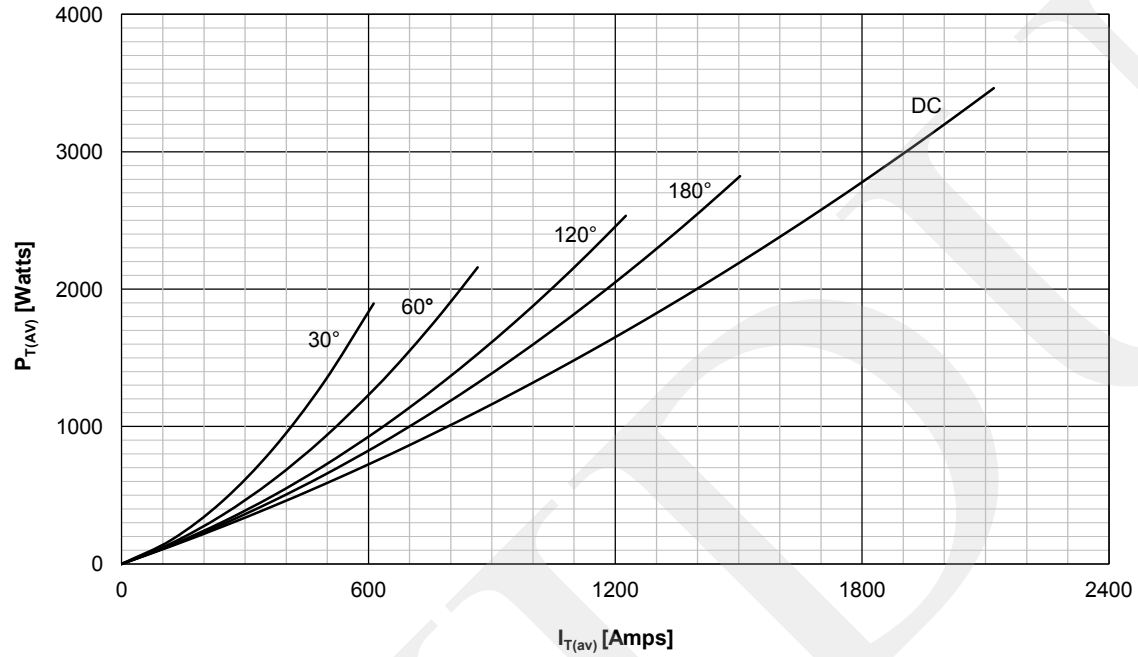
DISSIPATION CHARACTERISTICS  
SINE WAVE



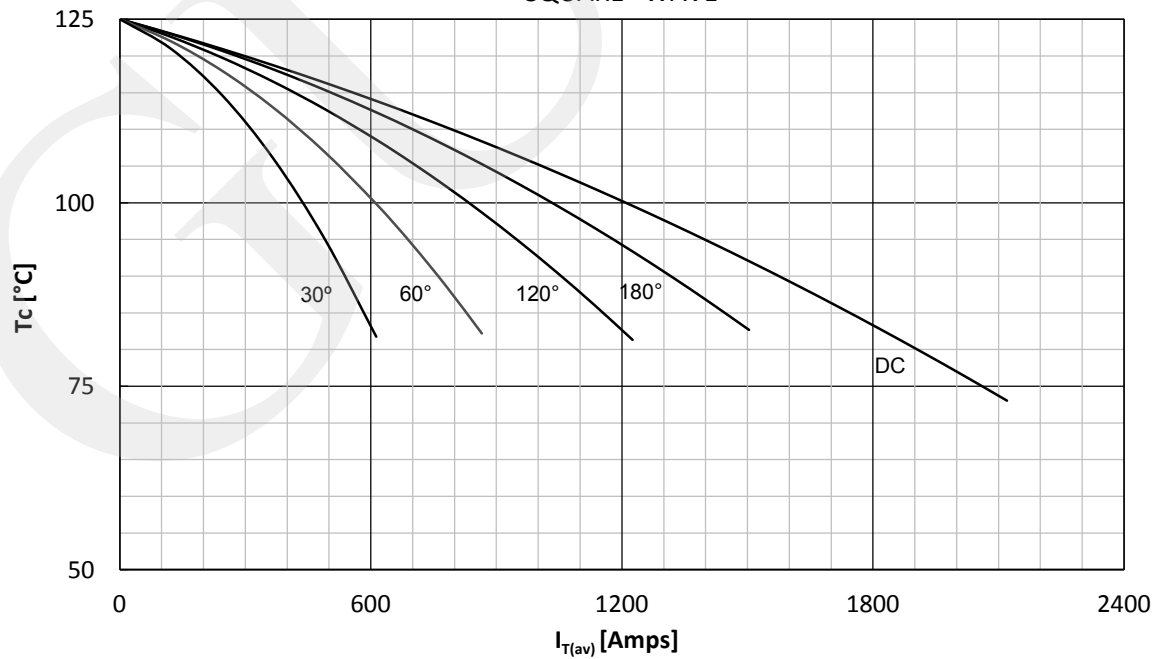
ON STATE CURRENT DERATING CURVE  
SINE WAVE



DISSIPATION CHARACTERISTICS  
SQUARE WAVE

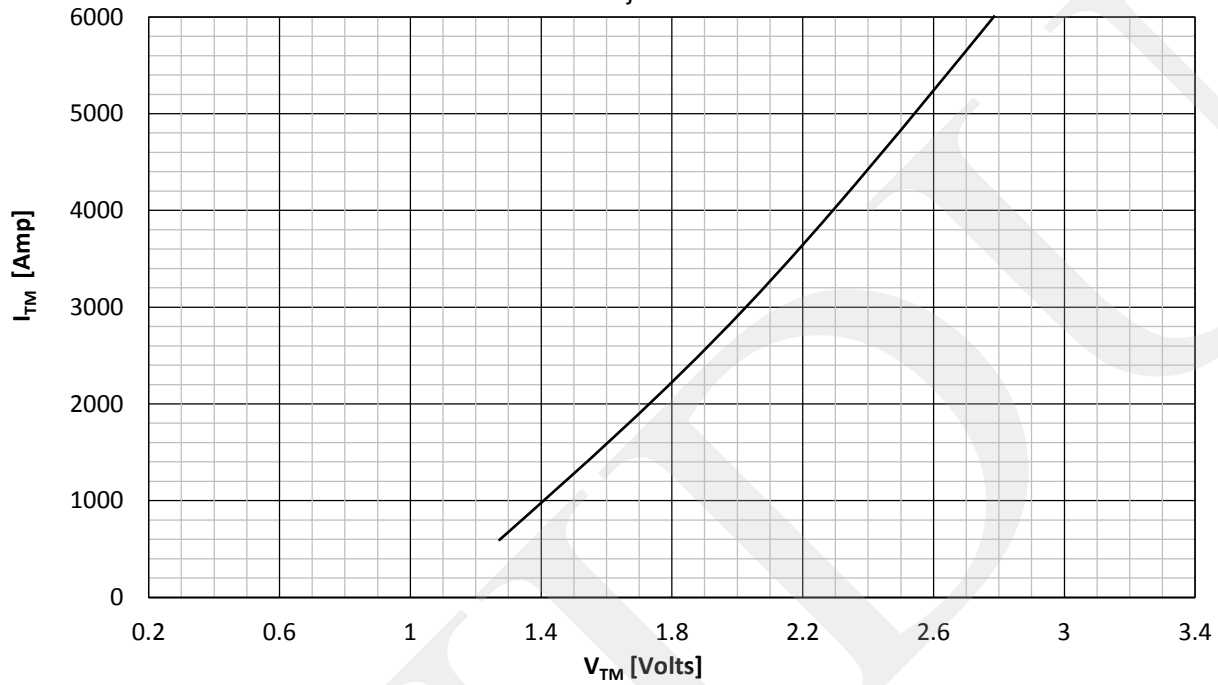


ON STATE CURRENT DERATING CURVE  
SQUARE WAVE

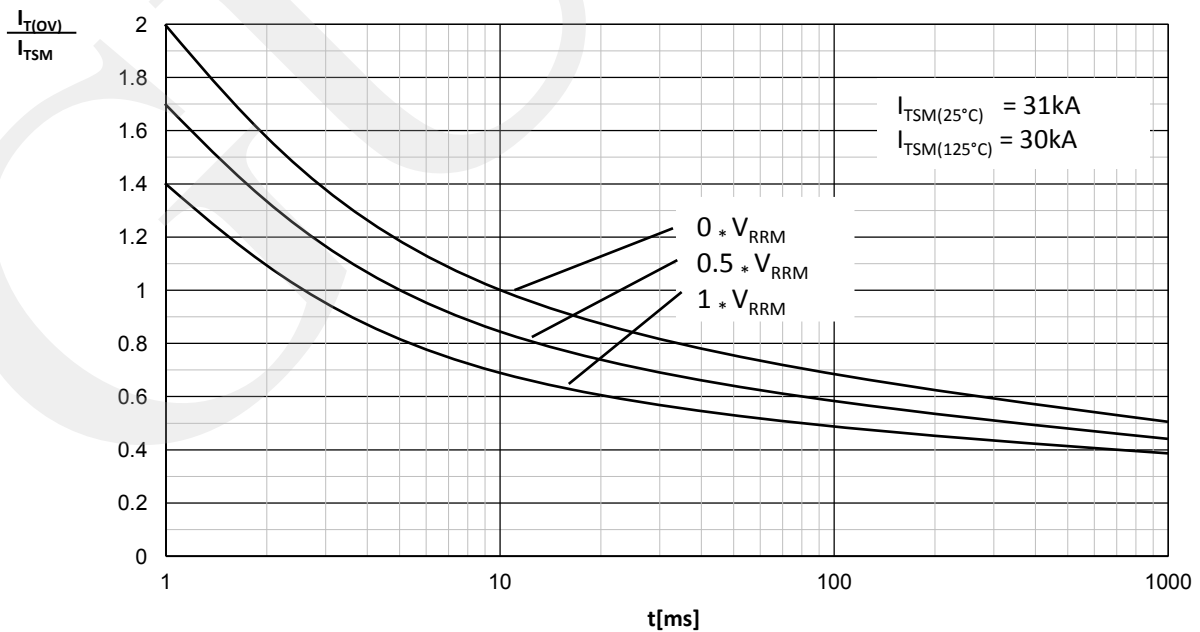


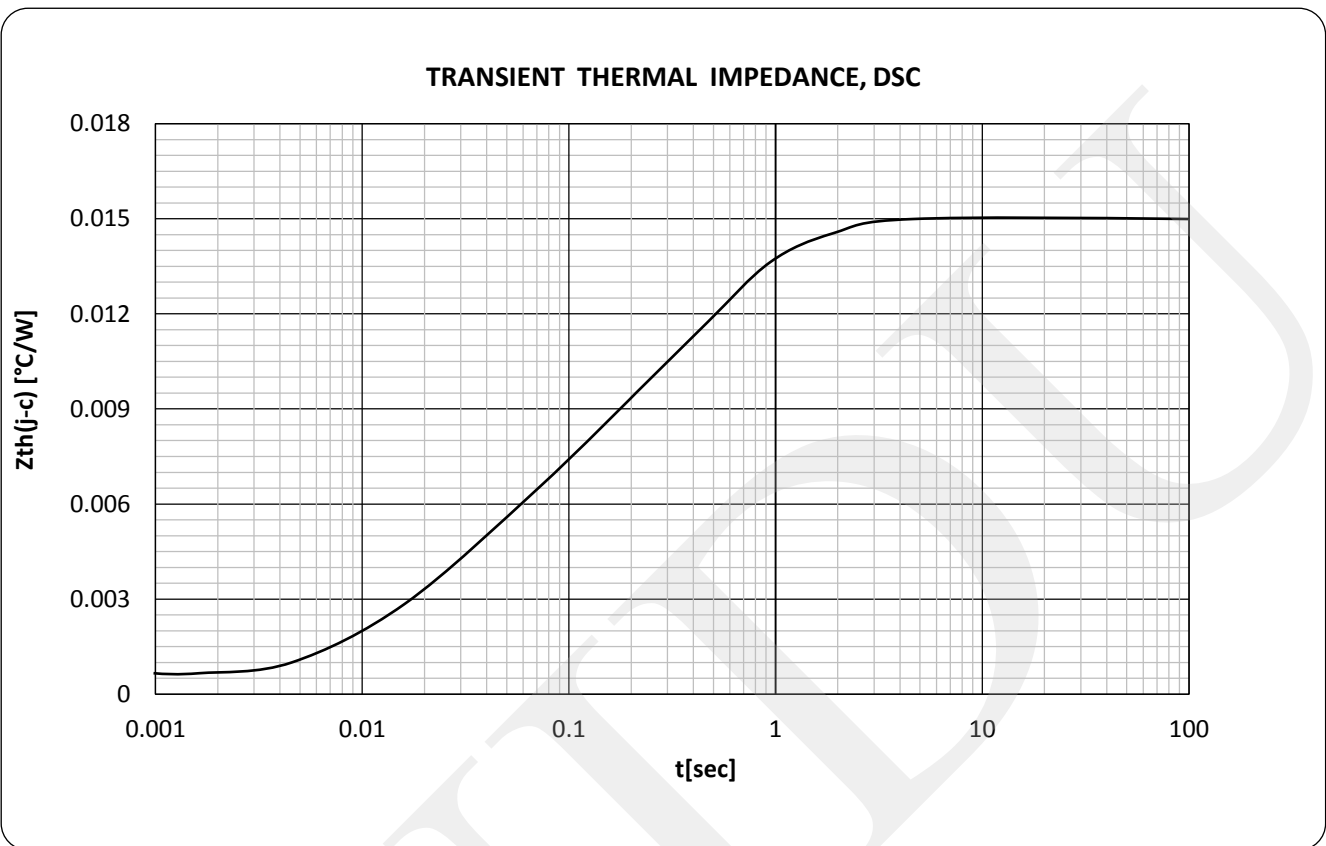
### ON -STATE CHARACTERISTICS

$T_j = 125^\circ\text{C}$



### SURGE CHARACTERISTICS





### ORDERING INFORMATION

| <b>GDKP</b>             | <b>1350</b>  | <b>C</b>        | <b>X X</b>                                     |
|-------------------------|--------------|-----------------|------------------------------------------------|
| Phase Control Thyristor | Current code | Capsule Version | Voltage Code<br>Code X 100 = $V_{DRM}/V_{RRM}$ |

Order Code GDKP1350C28 – 2800V  $V_{DRM}$ ,  $V_{RRM}$ , 26mm clamp height capsule

## Outline

