# PHASE CONTROL THYRISTOR
# GDKP760

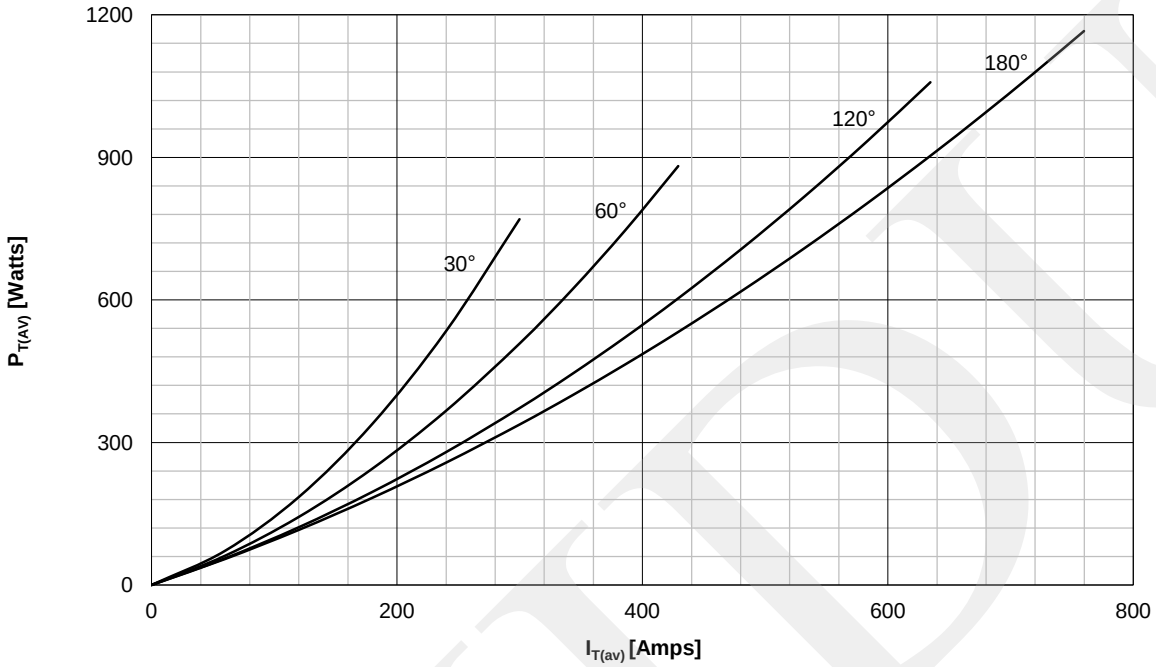
## Features
- Full blocking capability over wide temperature range
- High Surge current capability
- Hermetic metal case with ceramic insulator

## Key Parameters
$V_{DRM}$ /$V_{RRM}$ = 1800V
$I_{T(AV)}$ = 760A
$I_{TSM}$ = 14kA
$V_{T(TO)}$ = 0.86V
$r_T$ = 0.36mΩ

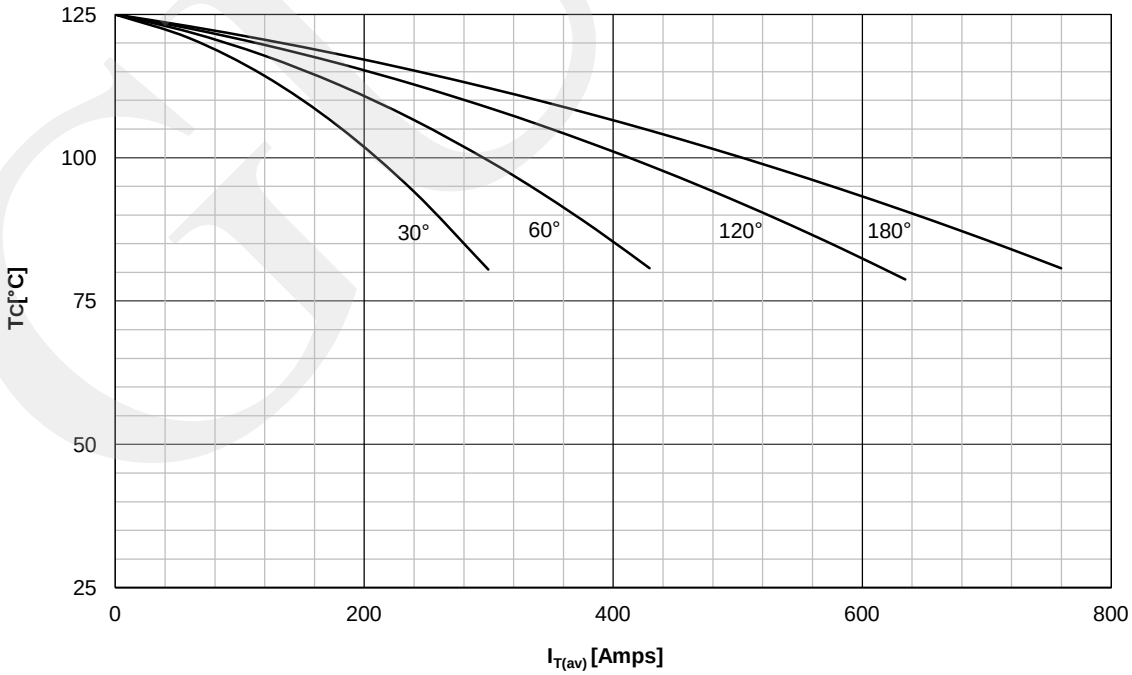
## Applications
- Power Supplies
- AC Controllers
- Controlled Rectifiers
- Welding Rectifier

| Symbol | Characteristic | Conditions | Tj [°C] | Value | Unit |
|---|---|---|---|---|---|
| **BLOCKING** | | | | | |
| $V_{RRM}$ | Repetitive peak reverse voltage | | 125 | 200 - 1800 | V |
| $V_{RSM}$ | Non-repetitive peak reverse voltage | | 125 | 300 - 1900 | V |
| $V_{DRM}$ | Repetitive peak off-state voltage | | 125 | 200 - 1800 | V |
| $I_{RRM}$ | Repetitive peak reverse current | V= $V_{RRM}$ | 125 | 80 | mA |
| $I_{DRM}$ | Repetitive peak off-state current | V= $V_{DRM}$ | 125 | 80 | mA |
| **CONDUCTING** | | | | | |
| $I_{T(AV)}$ | Mean on state current | 180° sin ,50 Hz, $T_c$ =80°C, double side cooled | | 760 | A |
| $I_{TRMS}$ | RMS on state current | | | 1193 | A |
| $I_{TSM}$ | Surge on state current | Sine wave, 10 ms Without reverse voltage | 25 | 14.0 | kA |
| | | | 125 | 13.0 | kA |
| $I^2t$ | $I^2t$ | Sine wave, 10 ms Without reverse voltage | 25 | 980 x $10^3$ | $A^2s$ |
| | | | 125 | 845 x $10^3$ | $A^2s$ |
| $V_T$ | Peak on state voltage | Peak on state current = 2400A | 125 | 1.82 | V |
| $V_{T(TO)}$ | Threshold voltage | | 125 | 0.86 | V |
| $r_T$ | On state slope resistance | | 125 | 0.36 | mΩ |
| **SWITCHING** | | | | | |
| 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 |
| **GATE** | | | | | |
| $I_{gt}$ | Gate trigger current | $V_D$=6V | 25 | 250 | 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 |
| **MOUNTING** | | | | | |
| $R_{th(j-c)}$ | Thermal impedance, sin 180° | Junction to case, Double side cooled | | 0.038 | °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 | | | 12 - 15 | KN |
| W | Weight (Approx.) | | | 255 | gm |

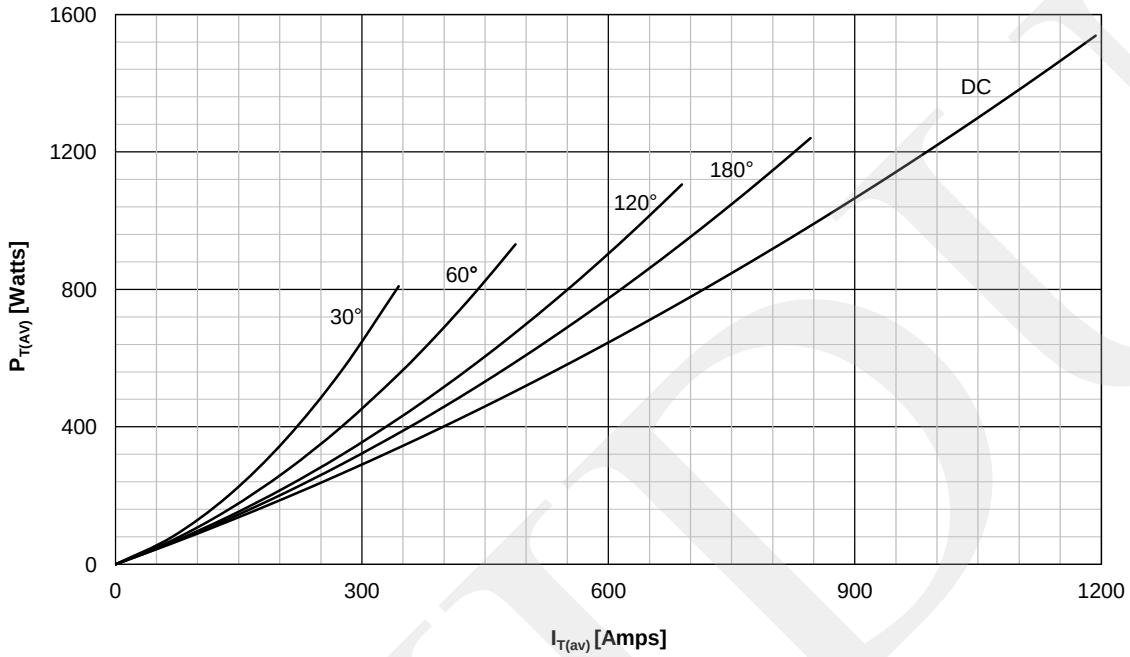
DISSIPATION CHARACTERISTICS
SINE WAVE



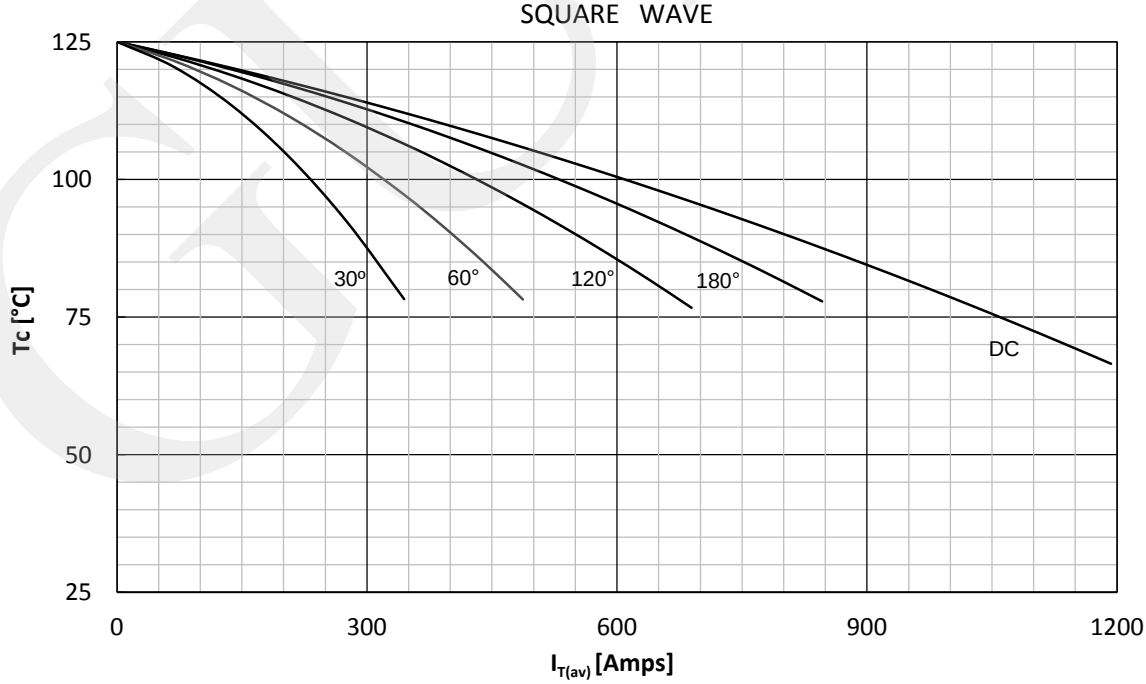

ON STATE CURRENT DERATING CURVE
SINE WAVE



DISSIPATION CHARACTERISTICS
SQUARE WAVE

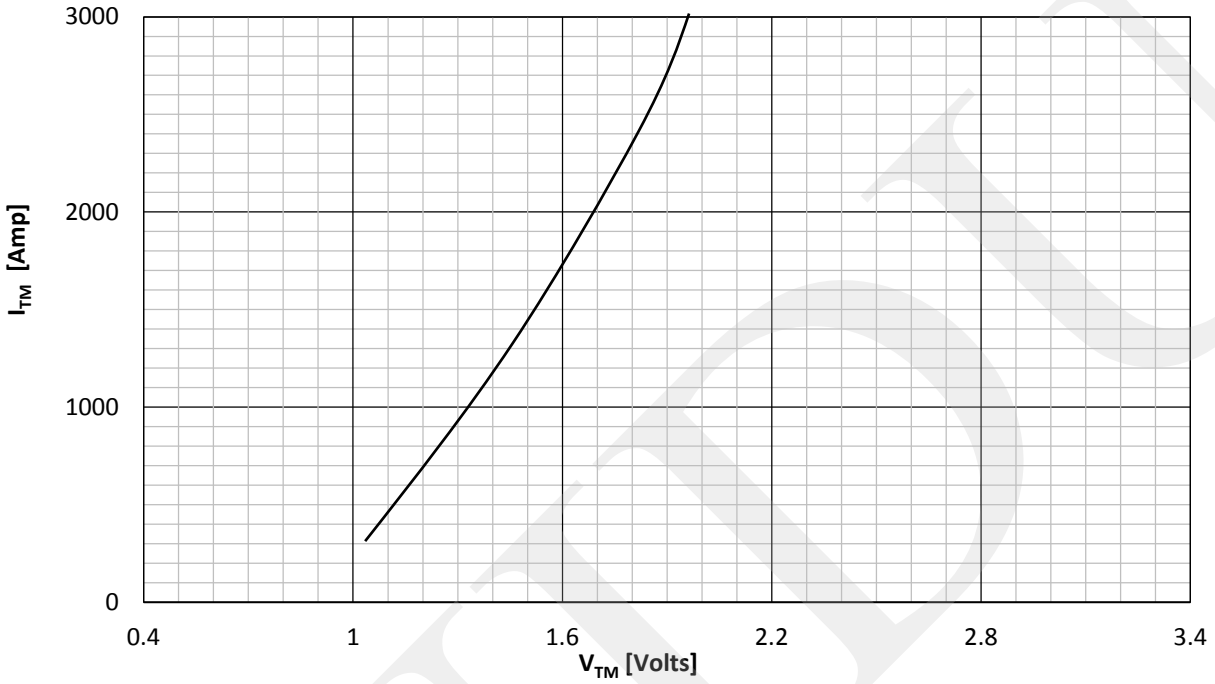



ON STATE CURRENT DERATING CURVE
SQUARE WAVE

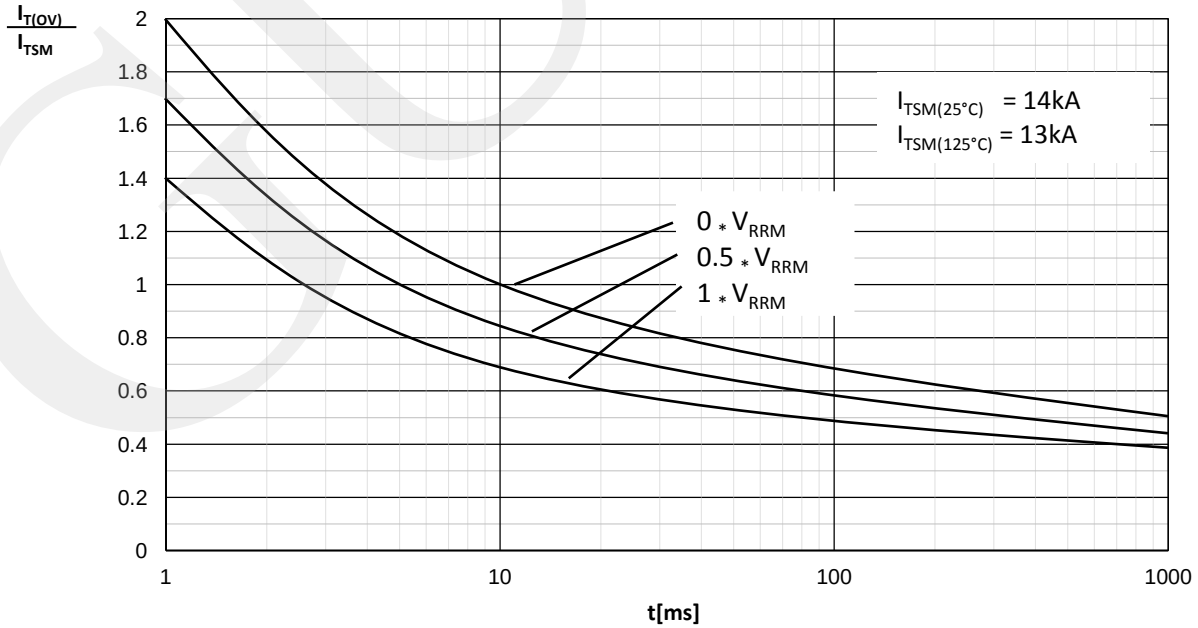


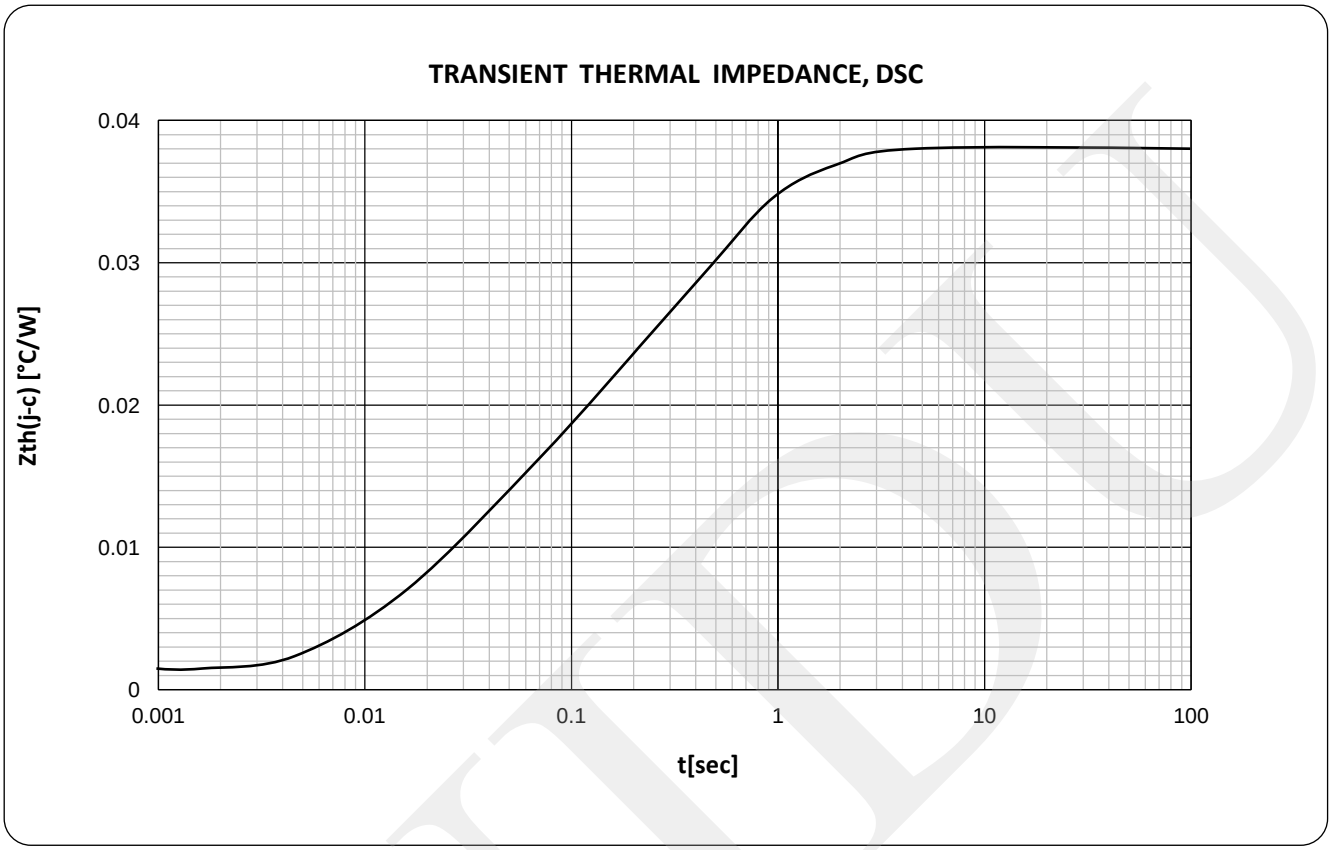
ON -STATE CHARACTERISTICS

Tj = 125°C




SURGE CHARACTERISTICS



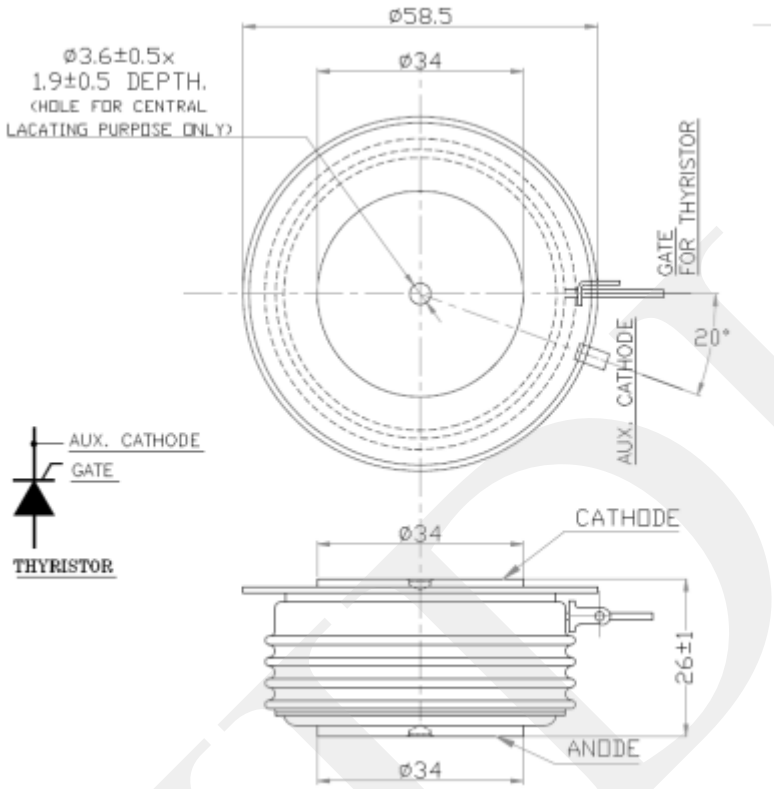



## ORDERING INFORMATION

| GDKP | 760 | C | X X |
|---|---|---|---|
| Phase Control Thyristor | Current code | Capsule Version | Voltage Code<br>Code X 100 = $V_{DRM}/V_{RRM}$ |

Order Code GDKP760C18 – 1800V $V_{DRM}$,$V_{RRM}$, 26mm clamp height capsule

## Outline

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