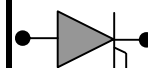


# PHASE CONTROL THYRISTOR H285TBXX



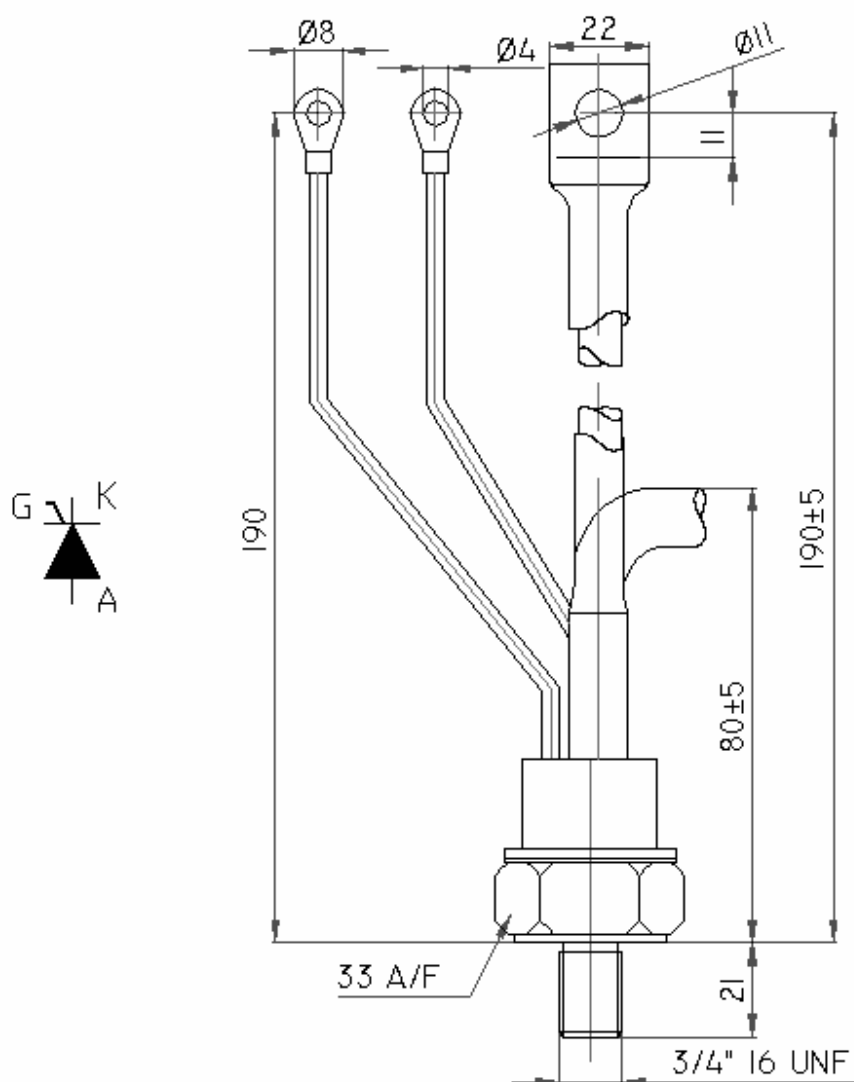
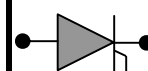
| Symbol                                     | Characteristics                             | Conditions                                    | $T_J$<br>( $^{\circ}\text{C}$ ) | Value     | Unit                  |
|--------------------------------------------|---------------------------------------------|-----------------------------------------------|---------------------------------|-----------|-----------------------|
| <b>BLOCKING PARAMETERS</b>                 |                                             |                                               |                                 |           |                       |
| $V_{RRM}$                                  | Repetitive peak reverse voltage             |                                               | 125                             | 200-600   | V                     |
| $V_{DRM}$                                  | Repetitive peak off-state voltage           |                                               | 125                             | 200-600   | V                     |
| $I_{RRM}$                                  | Repetitive peak reverse current             | $V = V_{RRM}$                                 | 125                             | 50        | mA                    |
| $I_{DRM}$                                  | Repetitive peak off-state current           | $V = V_{RRM}$                                 | 125                             | 50        | mA                    |
| <b>CONDUCTING PARAMETERS</b>               |                                             |                                               |                                 |           |                       |
| $I_{F(AV)}$                                | Average on-state current                    | 180 sine, 50Hz,<br>$T_C = 82^{\circ}\text{C}$ |                                 | 285       | A                     |
| $I_{RMS}$                                  | RMS on-state current                        |                                               |                                 | 450       | A                     |
| $I_{TSM}$                                  | Surge on-state current                      | Sine wave,<br>10mS without<br>reverse voltage | 125                             | 6.50      | kA                    |
| $I^2t$                                     | $I^2t$                                      |                                               |                                 | 211       | $\text{kA}^2\text{S}$ |
| $V_T$                                      | Peak on-state voltage drop                  | On-state<br>current = 1 kA                    | 125                             | 1.70      | V                     |
| $V_0$                                      | Threshold voltage                           |                                               | 125                             | 0.80      | V                     |
| $R_0$                                      | On-state slope resistance                   |                                               | 125                             | 0.75      | m $\Omega$            |
| <b>TRIGGERING PARAMETERS</b>               |                                             |                                               |                                 |           |                       |
| $I_{GT}$                                   | Gate trigger current                        | $V_D = 5\text{V}$                             | 25                              | 200       | mA                    |
| $V_{GT}$                                   | Gate trigger voltage                        |                                               | 25                              | 2.00      | V                     |
| $I_L$                                      | Latching Current                            | $V_D = 5\text{V}$                             | 25                              | 600       | mA                    |
| $P_{G-PEAK}$                               | Maximum Peak Gate Power                     | Pulse width<br>100 $\mu\text{Sec}$            |                                 | 130       | W                     |
| $di/dt$                                    | Repetitive rate of rise of current          |                                               |                                 | 150       | A/ $\mu\text{Sec}$    |
| $V_{FGM}$                                  | Maximum forward gate voltage                |                                               |                                 | 12        | V                     |
| $I_{FGM}$                                  | Maximum forward gate current                |                                               |                                 | 30        | A                     |
| <b>THERMAL &amp; MECHANICAL PARAMETERS</b> |                                             |                                               |                                 |           |                       |
| $R_{TH(J-C)}$                              | Thermal impedance, 180<br>conduction, Sine  | Junction to case                              |                                 | 0.113     | $^{\circ}\text{C/W}$  |
| $R_{TH(C-HK)}$                             | Thermal impedance                           | Case to<br>heatsink                           |                                 | 0.04      | $^{\circ}\text{C/W}$  |
| $T_J$                                      | Maximum Permissible junction<br>temperature |                                               |                                 | 125       | $^{\circ}\text{C}$    |
| $T_{STG}$                                  | Storage temperature range                   |                                               |                                 | -40 - 125 | $^{\circ}\text{C}$    |
| F                                          | Mounting Torque                             |                                               |                                 | 26        | NM                    |
| W                                          | Weight                                      |                                               |                                 | 320       | gms                   |



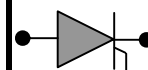
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1 of 6

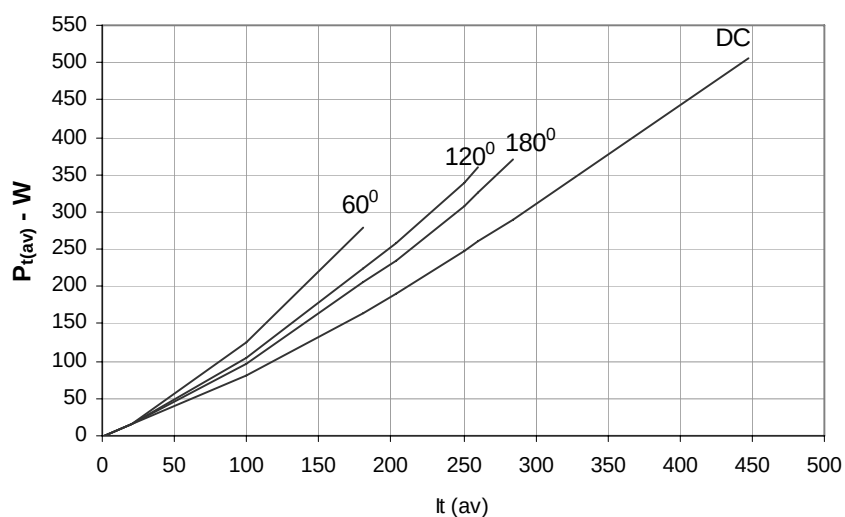
# PHASE CONTROL THYRISTOR H285TBXX



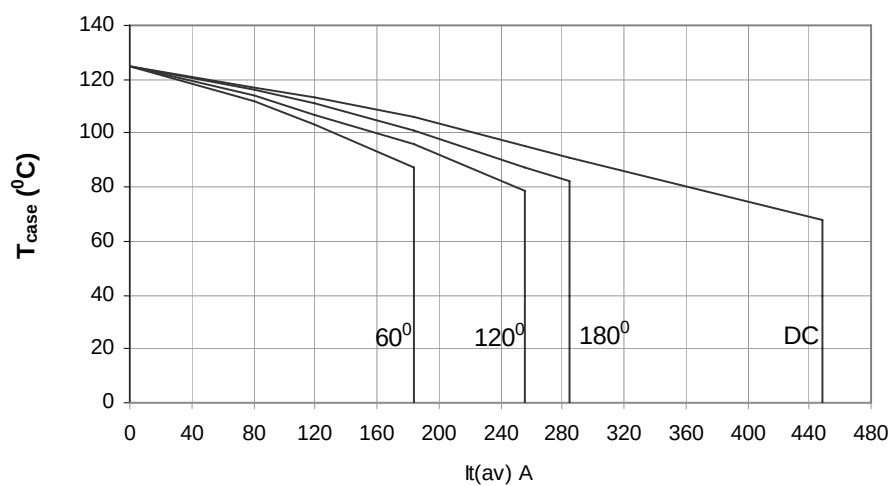
All dimensions in mm

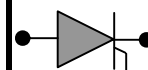


## On State Power Loss

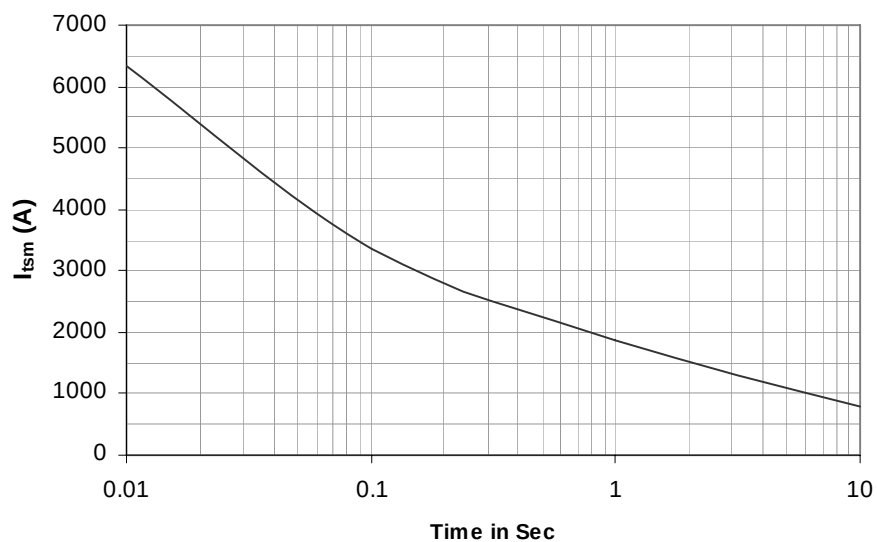


## Maximum Permissible Case Temp

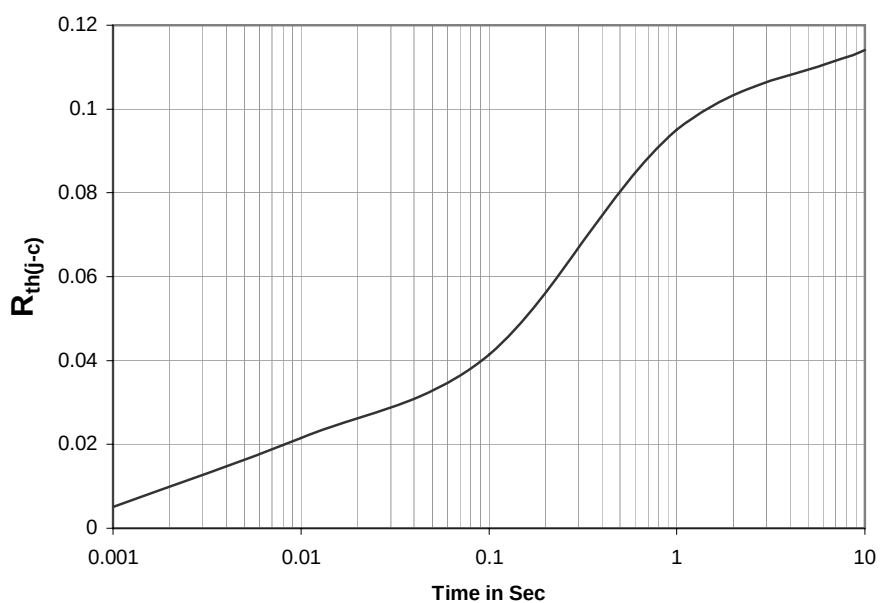


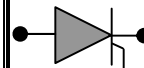


## Max non repetitive Surge Current

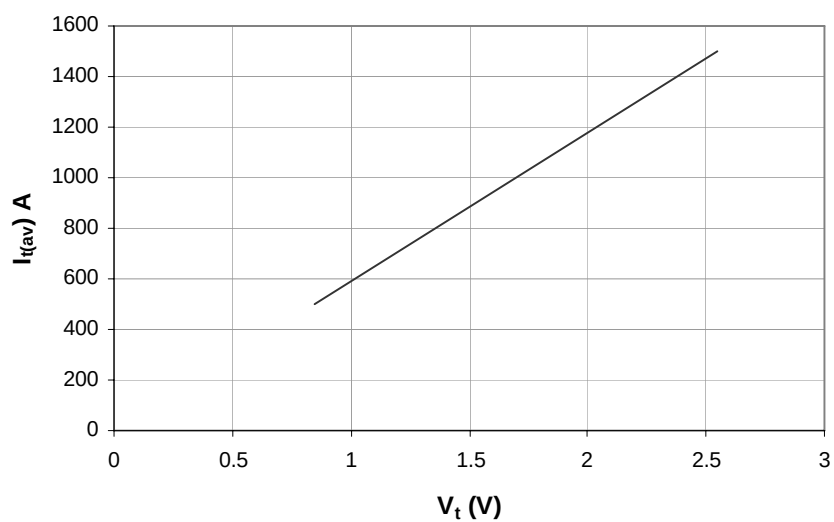


## Transient Thermal Impedance Junction to Case

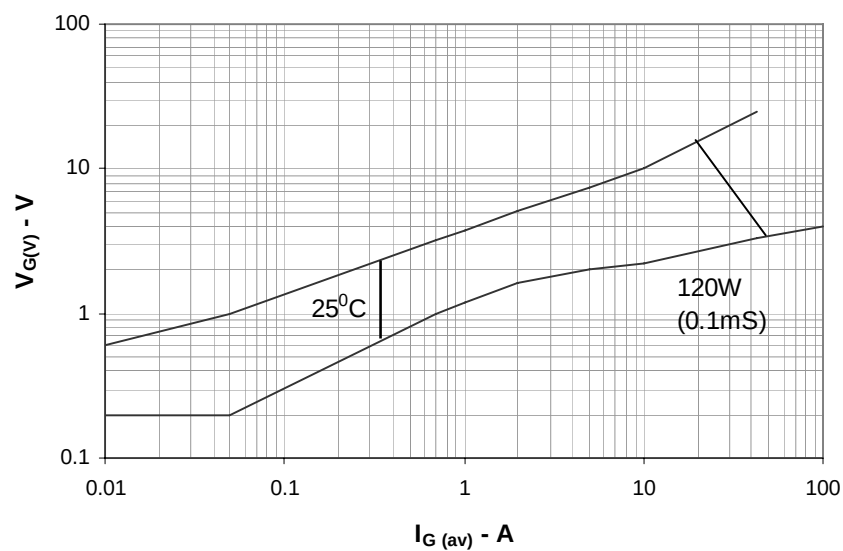




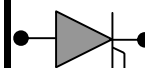
## On State Characteristics



## Gate Trigger Characteristics



## PHASE CONTROL THYRISTOR H285TBXX



### Ordering Information: -

| H                     | 285                | TB                  | XX                                            |
|-----------------------|--------------------|---------------------|-----------------------------------------------|
| Hirect make Thyristor | $I_{F(AV)} = 285A$ | TB – with a Pigtail | $V_{RRM} = XX * 100$<br>e.g. $6 * 100 = 600V$ |

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6 of 6