

## Capsule Type Rectifier Diode SHXXC1850

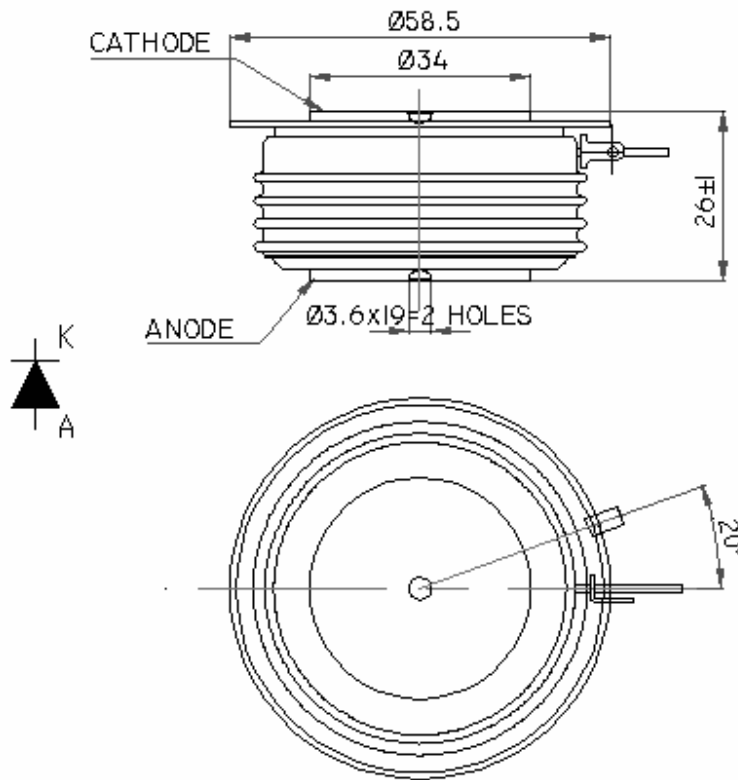
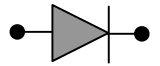


| Symbol                                     | Characteristics                                 | Conditions                                    | T <sub>J</sub> (°C) | Value     | Unit              |
|--|---|---|---------------------|-----------|-------------------|
| <b>BLOCKING PARAMETERS</b>                 |   |   |                     |           |                   |
| V <sub>RRM</sub>                           | Repetitive peak reverse voltage                 |   | 180                 | 200-1800  | V                 |
| I <sub>RRM</sub>                           | Repetitive peak reverse current                 | V = V <sub>RRM</sub>                          | 180                 | 40        | mA                |
| <b>CONDUCTING PARAMETERS</b>               |   |   |                     |           |                   |
| I <sub>F(AV)</sub>                         | Average on-state current                        | 180 sine, 50Hz,<br>T <sub>C</sub> = 63°C      |                     | 1850      | A                 |
| I <sub>RMS</sub>                           | RMS on-state current                            |   |                     | 2900      | A                 |
| I <sub>FSM</sub>                           | Non repetitive peak surge on-state current      | Sine wave, 10mS<br>without reverse<br>voltage | 180                 | 20500     | A                 |
| I <sup>2</sup> t                           | Permissible surge energy                        |   |                     | 2100      | kA <sup>2</sup> S |
| V <sub>FM</sub>                            | Peak on-state voltage drop                      | On-state<br>current = 3000A                   | 180                 | 1.44      | V                 |
| V <sub>0</sub>                             | Typical forward conduction<br>Threshold voltage |   | 180                 | 0.74      | V                 |
| r <sub>0</sub>                             | Typical forward slope resistance                |   | 180                 | 0.20      | mΩ                |
| <b>THERMAL &amp; MECHANICAL PARAMETERS</b> |   |   |                     |           |                   |
| R <sub>TH(J-C)</sub>                       | Thermal impedance, 180°<br>conduction, Sine     | Junction to case                              |                     | 0.038     | °C/W              |
| R <sub>TH(C-HK)</sub>                      | Thermal impedance                               | Case to heatsink                              |                     | 0.005     | °C/W              |
| T <sub>J</sub>                             | Maximum Permissible junction<br>temperature     |   |                     | 180       | °C                |
| T <sub>STG</sub>                           | Storage temperature range                       |   |                     | -40 – 180 | °C                |
| F  | Mounting Torque                                 |   |                     | 15        | KN                |
| W  | Weight  |   |                     | 340       | gms               |



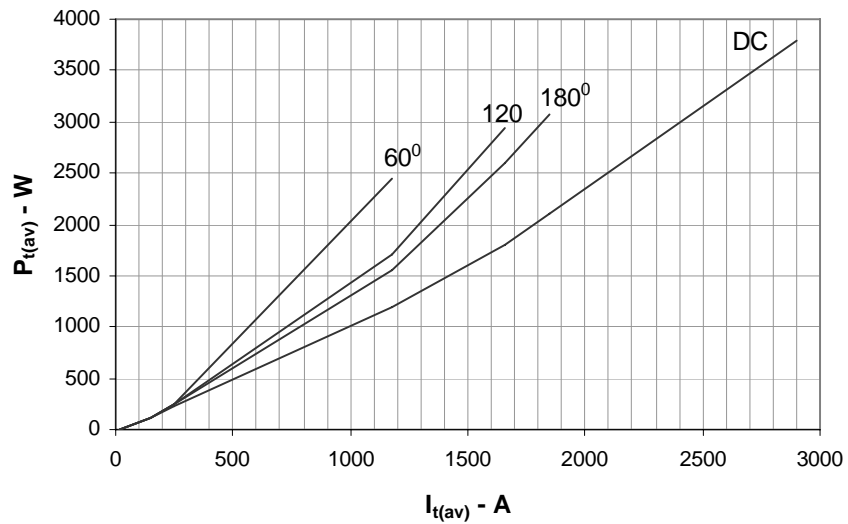
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All dimensions in mm

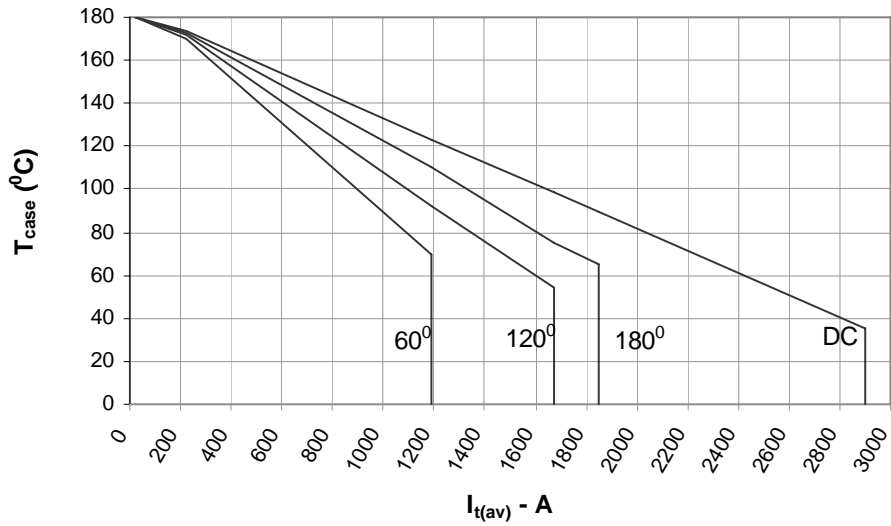
## On State Power Loss



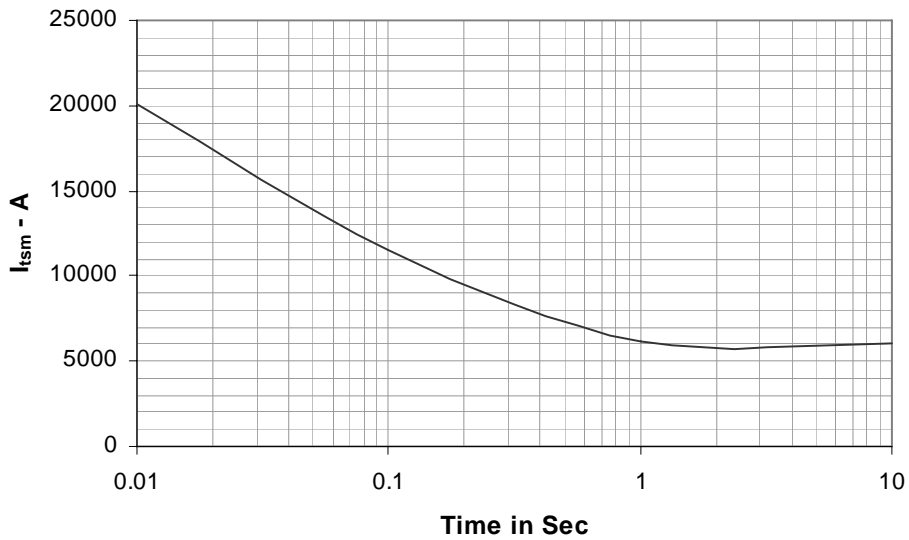
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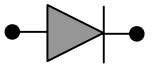


Maximum Permissible Case Temp

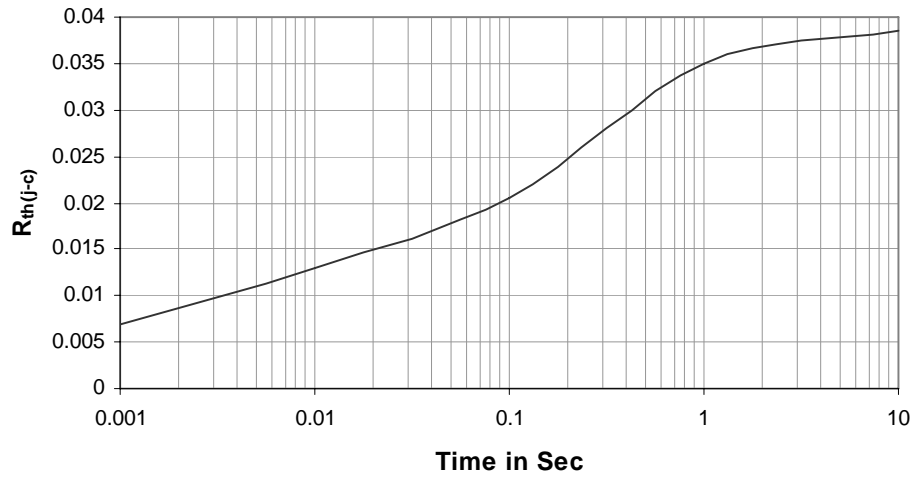


Max non repetitive Surge Current

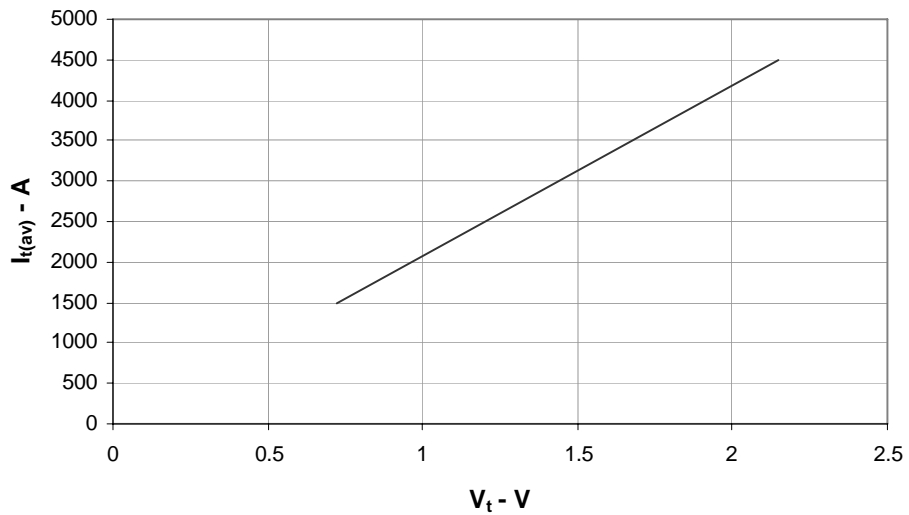




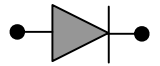
Transient Thermal Impedance Junction to Case



On State Characteristics



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### Ordering Information: -

| SH                           | XX  | C             | 1850                |
|------------------------------|---|---------------|---------------------|
| Hirect make<br>Capsule Diode | $V_{RRM} = XX * 100$<br>e.g. 12 * 100 = 1200V | Capsule Diode | $I_{F(AV)} = 1850A$ |

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