



## PRESS - PACK RECTIFIER DIODE D373-1600

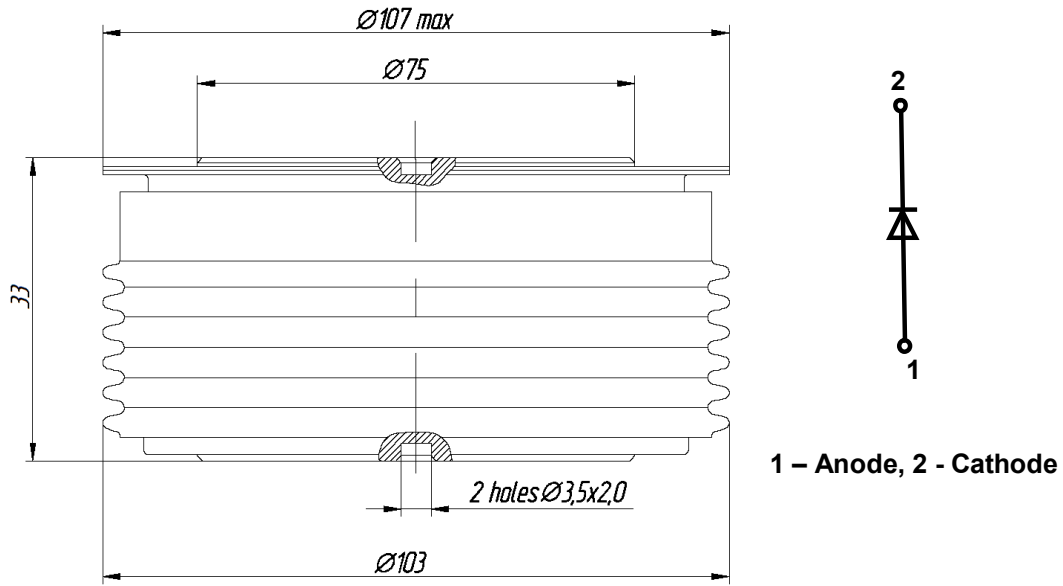
| <ul style="list-style-type: none"> <li>◆ <math>V_{RRM} = \underline{7000-8000\text{ V}}</math></li> <li>◆ <math>I_{F(AV)} = \underline{1830\text{ A}}</math> (<math>T_C = 85^\circ\text{C}</math>)</li> <li>◆ <math>I_{FSM} = \underline{24\text{ kA}}</math> (<math>t_p = 10\text{ms}</math>)</li> </ul> |  |  |                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------|
| <ul style="list-style-type: none"> <li>◆ Low forward losses</li> <li>◆ Low dispersion <math>Q_{RR}</math> and <math>V_{FM}</math> for series and parallel connections</li> <li>◆ Press-pack design</li> </ul>                                                                                             |                                                                                   |                                                                                     |                      |
| <b>MAXIMUM RATED VALUES</b>                                                                                                                                                                                                                                                                               |                                                                                   |                                                                                     |                      |
| Parameter and conditions                                                                                                                                                                                                                                                                                  | Symbol                                                                            | Values                                                                              | Units                |
| Repetitive peak reverse voltage,<br>$T_j = -60 \dots +140\text{ }^\circ\text{C}$                                                                                                                                                                                                                          | $V_{RRM}$                                                                         | 7000-8000                                                                           | V                    |
| Non- repetitive peak reverse voltage,<br>$T_j = -60 \dots +140\text{ }^\circ\text{C}$                                                                                                                                                                                                                     | $V_{RSM}$                                                                         | 7100-8100                                                                           |                      |
| Repetitive peak reverse current,<br>$T_j = 140\text{ }^\circ\text{C}$ , $V_R = V_{RRM}$                                                                                                                                                                                                                   | $I_{RRM}$                                                                         | 200                                                                                 | mA                   |
| Maximum average forward current,<br>$T_C = 85\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$                                                                                                                                                                                                                 | $I_{F(AV)}$                                                                       | 1830                                                                                | A                    |
| RMS forward current,<br>$T_C = 85\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$                                                                                                                                                                                                                             | $I_{FRMS}$                                                                        | 2873                                                                                |                      |
| Surge non-repetitive current,<br>$T_j = 140\text{ }^\circ\text{C}$ , $V_R = 0$ , $t_p = 10\text{ ms}$                                                                                                                                                                                                     | $I_{FSM}$                                                                         | 24                                                                                  | kA                   |
| Safety factor                                                                                                                                                                                                                                                                                             | $I^2t$                                                                            | $2880 \cdot 10^3$                                                                   | $\text{A}^2\text{s}$ |
| Operation junction temperature range                                                                                                                                                                                                                                                                      | $T_j$                                                                             | -60 ... +140                                                                        | $^\circ\text{C}$     |
| Storage temperature range                                                                                                                                                                                                                                                                                 | $T_{stg}$                                                                         | -60 ... +50                                                                         |                      |

**D373-1600**

| <b>ELECTRICAL CHARACTERISTICS</b>                                                                                                  |               |        |      |                         |                  |
|------------------------------------------------------------------------------------------------------------------------------------|---------------|--------|------|-------------------------|------------------|
| Parameter and conditions                                                                                                           | Symbol        | Values |      |                         | Units            |
|                                                                                                                                    |               | min    | typ. | max                     |                  |
| Maximum peak forward voltage,<br>$T_j = 25\text{ °C}$ , $I_F = 5000\text{ A}$                                                      | $V_{FM}$      | -      | -    | 1,80                    | V                |
| On-state threshold voltage,<br>$T_j = 140\text{ °C}$ , $I_F = 2500 - 7500\text{ A}$                                                | $V_{TO}$      | -      | -    | 1,2                     |                  |
| On-state slope resistance,<br>$T_j = 140\text{ °C}$ , $I_F = 2500 - 7500\text{ A}$                                                 | $r_T$         | -      | -    | 0,40                    | mΩ               |
| Recovery charge,<br>$T_j = 140\text{ °C}$ , $I_F = 1600\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$  | $Q_{RR}$      | -      | -    |                         | μAs              |
| Recovery current,<br>$T_j = 140\text{ °C}$ , $I_F = 1600\text{ A}$ , $di_F/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$ | $I_{RR}$      | -      | -    |                         | A                |
| <b>THERMAL PARAMETERS</b>                                                                                                          |               |        |      |                         |                  |
| Thermal resistance junction to case, DC per diode<br>double side cooled<br>anode side cooled<br>cathode side cooled                | $R_{th(j-c)}$ | -      | -    | 0,010<br>0,020<br>0,020 | °C/W             |
| Thermal resistance case to heatsink,<br>double side cooled<br>single side cooled                                                   | $R_{th(c-h)}$ | -      | -    | 0,003<br>0,006          |                  |
| <b>MECHANICAL PARAMETERS</b>                                                                                                       |               |        |      |                         |                  |
| Weight                                                                                                                             | w             | -      | 1,30 | -                       | kg               |
| Mounting force                                                                                                                     | F             | 40     |      | 50                      | kN               |
| Maximum acceleration (at nominal mounting force)                                                                                   | a             | -      | -    |                         | m/s <sup>2</sup> |



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**Fig. 1. Device Outline Drawing**  
(dimensions in mm)



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