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POSEICO SPA

POwer SEmiconductors Italian Corporation

POSEICO 捷多邦 专业PCB打样工厂, 24小时加急出货

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## RECTIFIER DIODE

## AR771

Repetitive voltage up to

5000 V

Mean forward current

3680 A

Surge current

50 kA

## FINAL SPECIFICATION

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| Symbol               | Characteristic                      | Conditions                                   | T <sub>J</sub><br>[°C] | Value       | Unit             |
|----------------------|-------------------------------------|----------------------------------------------|------------------------|-------------|------------------|
| BLOCKING             |                                     |                                              |                        |             |                  |
| V <sub>RRM</sub>     | Repetitive peak reverse voltage     |                                              | 150                    | 5000        | V                |
| V <sub>RSM</sub>     | Non-repetitive peak reverse voltage |                                              | 150                    | 5100        | V                |
| I <sub>RRM</sub>     | Repetitive peak reverse current     | V=VRRM                                       | 150                    | 200         | mA               |
| CONDUCTING           |                                     |                                              |                        |             |                  |
| I <sub>F(AV)</sub>   | Mean forward current                | 180° sin ,50 Hz, Th=55°C, double side cooled |                        | 3680        | A                |
| I <sub>F(AV)</sub>   | Mean forward current                | 180° sin ,50 Hz, Tc=85°C, double side cooled |                        | 3300        | A                |
| I <sub>FSM</sub>     | Surge forward current               | Sine wave, 10 ms<br>without reverse voltage  | 150                    | 50          | kA               |
| I <sup>2</sup> t     | I <sup>2</sup> t                    |                                              |                        | 12500 x 1E3 | A <sup>2</sup> s |
| V <sub>FM</sub>      | Forward voltage                     | Forward current = 3000 A                     | 25                     | 1.45        | V                |
| V <sub>F(TO)</sub>   | Threshold voltage                   |                                              | 150                    | 0.80        | V                |
| r <sub>F</sub>       | Forward slope resistance            |                                              | 150                    | 0.170       | mohm             |
| SWITCHING            |                                     |                                              |                        |             |                  |
| t <sub>rr</sub>      | Reverse recovery time               | I= 1600 A                                    | 150                    |             | μs               |
| Q <sub>rr</sub>      | Reverse recovery charge             | di/dt= 2A/μs                                 |                        |             | μC               |
| I <sub>rr</sub>      | Peak reverse recovery current       |                                              |                        |             | A                |
| MOUNTING             |                                     |                                              |                        |             |                  |
| R <sub>th(j-h)</sub> | Thermal impedance, DC               | Junction to heatsink, double side cooled     |                        | 11          | °C/kW            |
| R <sub>th(c-h)</sub> | Thermal impedance                   | Case to heatsink, double side cooled         |                        | 2           | °C/kW            |
| T <sub>j</sub>       | Operating junction temperature      |                                              |                        | -30 / 150   | °C               |
| F                    | Mounting force                      |                                              |                        | 46.0 / 54.0 | kN               |
|                      | Mass                                |                                              |                        | 1700        | g                |

## ORDERING INFORMATION : AR771 S 50

standard specification

VRRM/100



# AR771 RECTIFIER DIODE

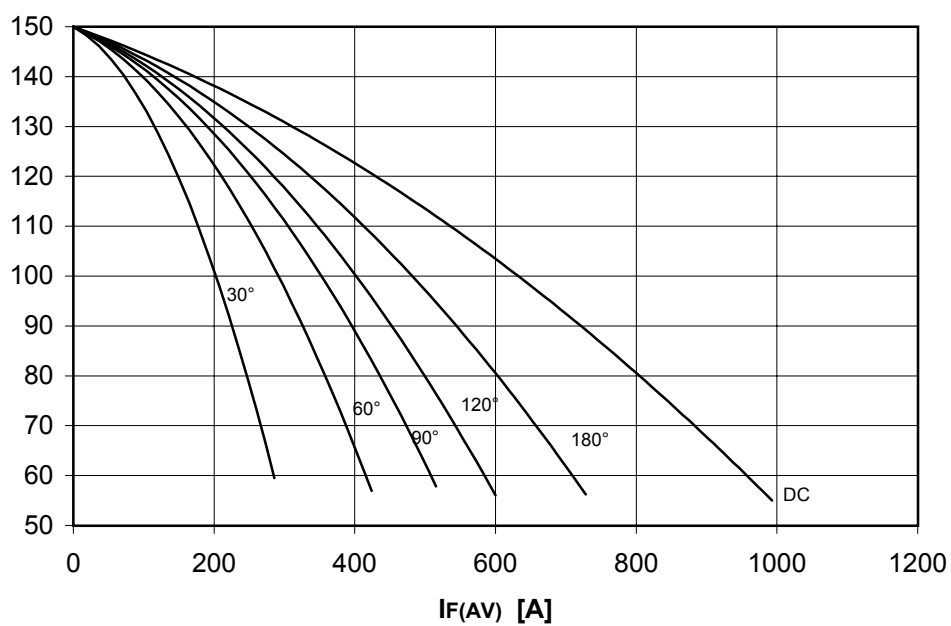


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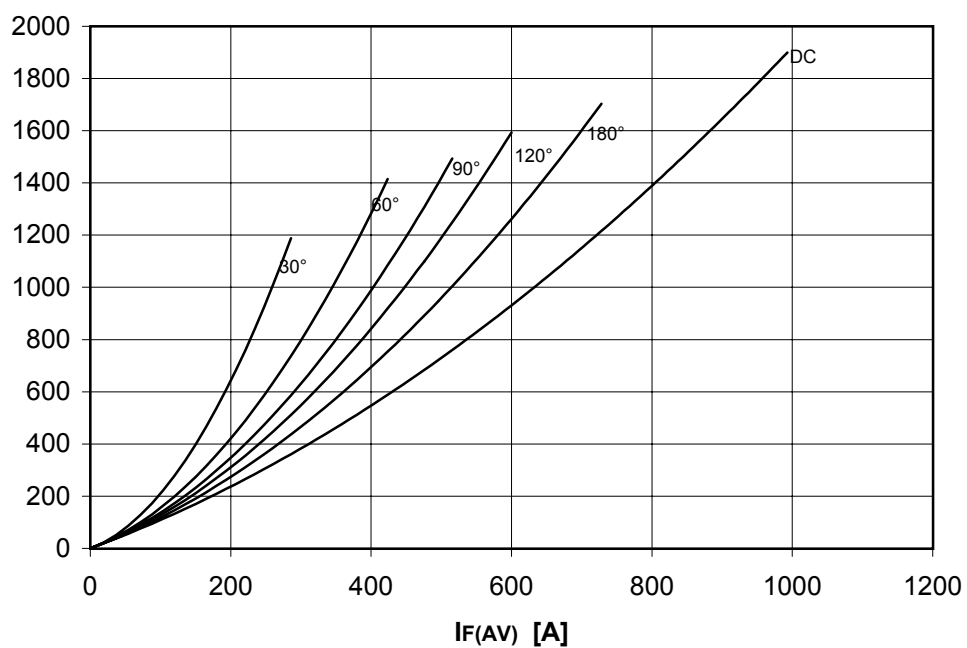
## DISSIPATION CHARACTERISTICS

SQUARE WAVE

$T_h$  [°C]



$P_F(AV)$  [W]



# AR771 RECTIFIER DIODE

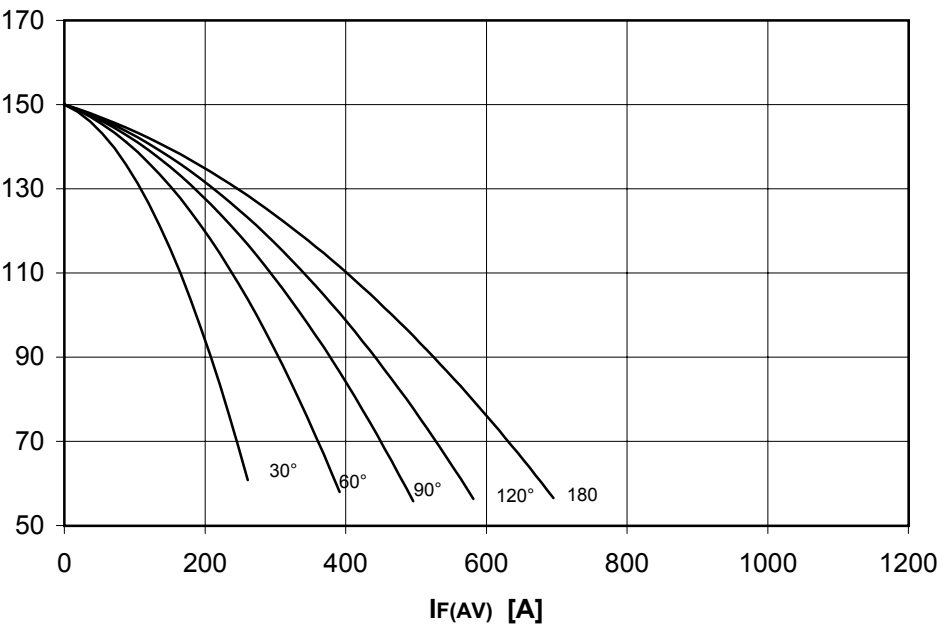


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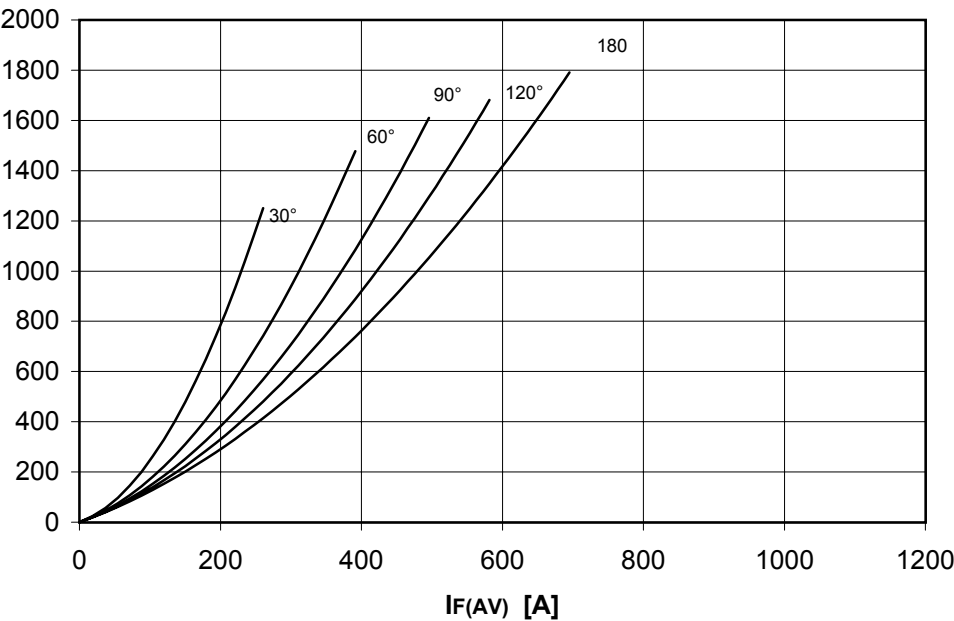
## DISSIPATION CHARACTERISTICS

SINE WAVE

Th [°C]



PF(AV) [W]

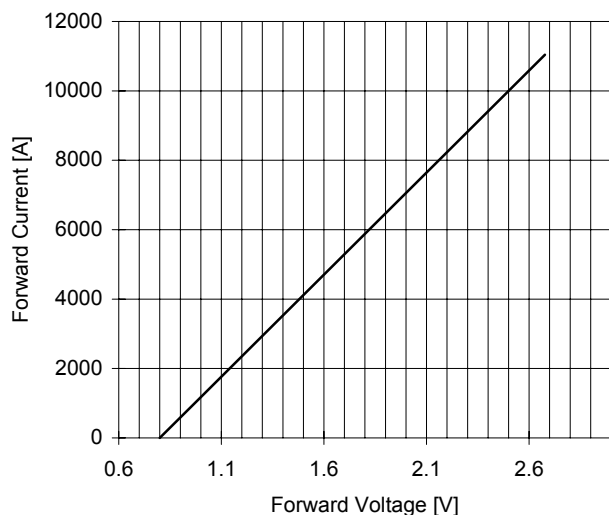


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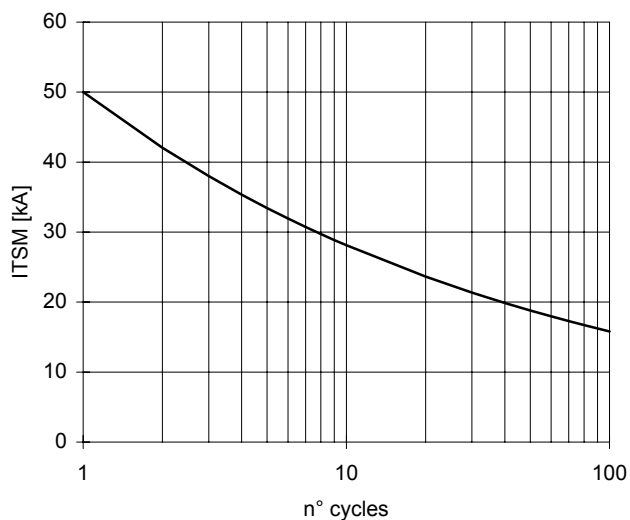


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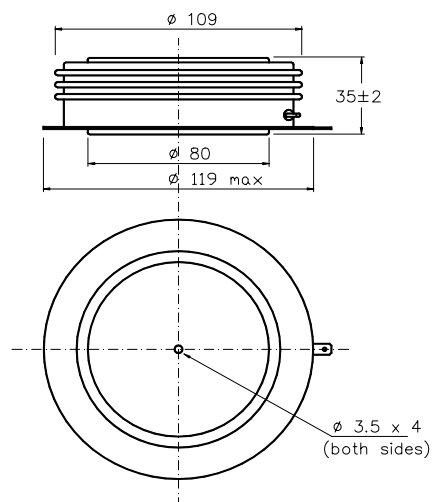
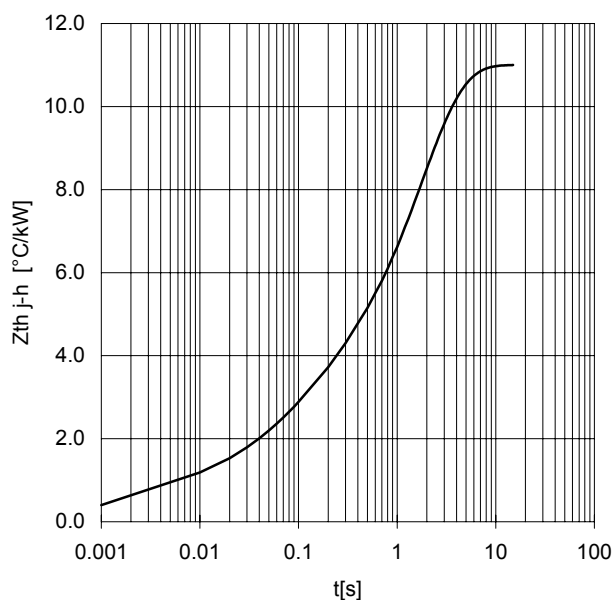
FORWARD CHARACTERISTIC  
 $T_j = 150^\circ\text{C}$



SURGE CHARACTERISTIC  
 $T_j = 150^\circ\text{C}$



TRANSIENT THERMAL IMPEDANCE  
DOUBLE SIDE COOLED



Dimensions  
in mm



All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink, surfaces with flatness  $< .03 \text{ mm}$  and roughness  $< 2 \mu\text{m}$ .

In the interest of product improvement POSEICO reserves the right to change any data given in this data sheet at any time without previous notice.

If not stated otherwise the maximum value of ratings (symbols over shaded background) and characteristics is reported.

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