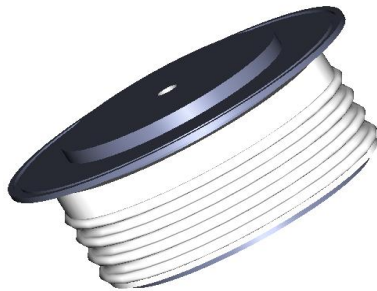


# GPDN6076

RECTIFIER DIODE



**BLOCKING VOLTAGE UP TO**            **6000 V**  
**AVERAGE CURRENT**                    **765 A**  
**SURGE CURRENT**                        **11 kA**

## BLOCKING CHARACTERISTICS

| Characteristic   |                                       | Conditions  | Value  |
|------------------|---------------------------------------|---|--------|
| V <sub>RRM</sub> | Repetitive peak reverse voltage       |   | 6000 V |
| V <sub>RSM</sub> | Non-repetitive peak reverse voltage   |   | 6100 V |
| I <sub>RRM</sub> | Repetitive peak reverse current, max. | V <sub>RRM</sub> , single phase, half wave, T <sub>jmax</sub> | 50 mA  |

## FORWARD CHARACTERISTICS

|                     |  |  |                       |
|---------------------|--|--|-----------------------|
| I <sub>F(AV)</sub>  | Average forward current                  | Sine wave, 180° conduction, Th = 55°C  | 765 A                 |
| I <sub>F(RMS)</sub> | R.M.S. forward current                   | Sine wave, 180° conduction, Th = 55°C  | 1202 A                |
| I <sub>FSM</sub>    | Surge forward current                    | Non rep. half sine wave, 50 Hz, V <sub>R</sub> = 0 V, T <sub>j</sub> = T <sub>jmax</sub> | 11 kA                 |
| I <sup>2</sup> t    | I <sup>2</sup> t for fusing coordination |  | 605 kA <sup>2</sup> s |
| V <sub>F(TO)</sub>  | Threshold voltage                        | T <sub>j</sub> = T <sub>jmax</sub>   | 1.066 V               |
| r <sub>F</sub>      | Forward slope resistance                 | T <sub>j</sub> = T <sub>jmax</sub>   | 0.778 mΩ              |
| V <sub>FM</sub>     | Peak forward voltage, max                | Forward current I <sub>F</sub> = 800 A, T <sub>j</sub> = T <sub>jmax</sub>               | 1.69 V                |

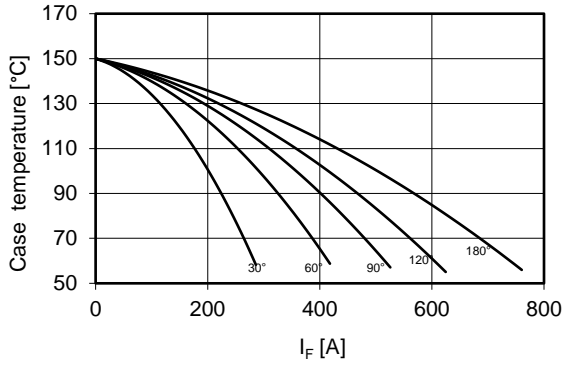
## SWITCHING CHARACTERISTICS

|                 |                             |   |    |
|-----------------|-----------------------------|---|----|
| Q <sub>rr</sub> | Rverse recovery charge, typ | T <sub>j</sub> = T <sub>jmax</sub> , I <sub>F</sub> = A, di/dt = A/μs | μC |
| I <sub>rr</sub> | Reverse recovery current    |   | A  |

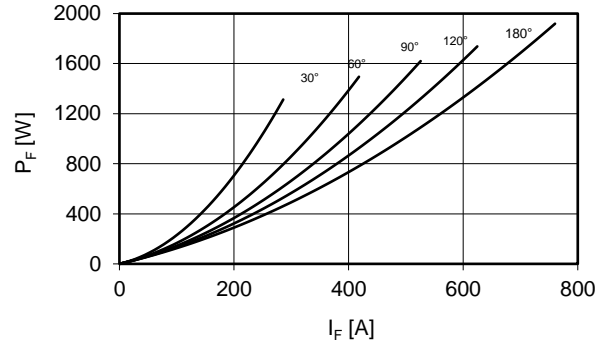
## THERMAL AND MECHANICAL CHARACTERISTICS

|                      |                                       |                    |              |
|----------------------|---------------------------------------|--------------------|--------------|
| R <sub>th(j-c)</sub> | Thermal resistance (junction to case) | Double side cooled | 0.042 °C/W   |
| R <sub>th(c-h)</sub> | Thermal resistance (case to heatsink) | Double side cooled | 0.007 °C/W   |
| T <sub>jmax</sub>    | Max operating junction temperature    |                    | 150 °C       |
| T <sub>stg</sub>     | Storage temperature                   |                    | -40 / 150 °C |
| F                    | Clamping force ± 10%                  |                    | 11 kN        |
|                      | Mass                                  |                    | 300 g        |

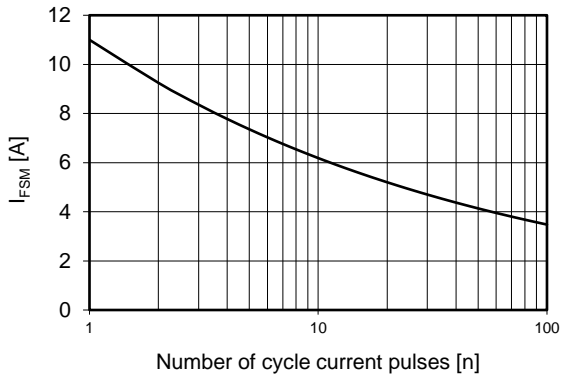
Current rating - sine wave



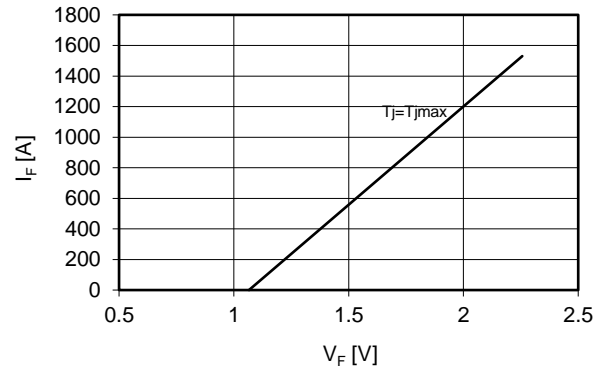
Power loss - sine wave



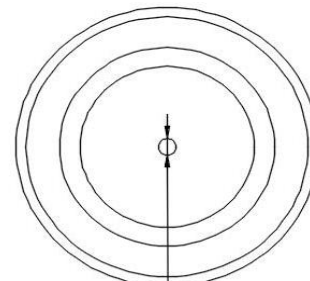
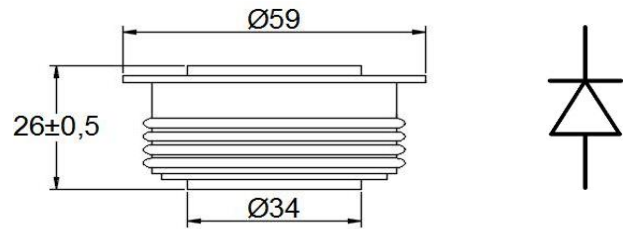
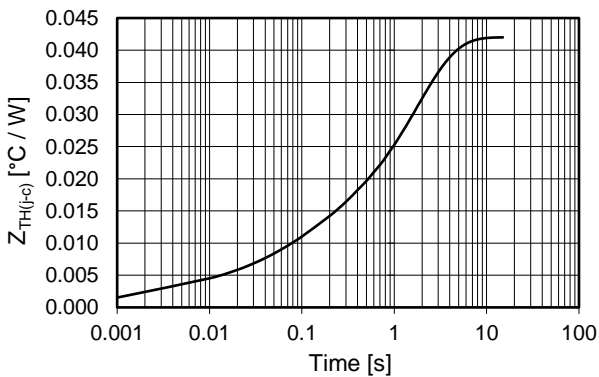
Maximum surge current d.s. cooled



Forward voltage drop



Thermal Impedance (j-c)



Ordering information GPDN6076-VV

VV: blocking voltage / 100 (e.g. 60 for 6000V)

dimensions mm

$\text{Ø}3,5 \pm 0,2 \times 3,5 \pm 0,2$   
Both sides

In the interest of product improvement Green Power Solutions reserves the right to change any specification given in this data sheet without notice.