

# GPDG3115

## RECTIFIER DIODE

Low profile ceramic package



|                        |               |
|------------------------|---------------|
| <b>VOLTAGE UP TO</b>   | <b>2200 V</b> |
| <b>AVERAGE CURRENT</b> | <b>1150 A</b> |
| <b>SURGE CURRENT</b>   | <b>14 kA</b>  |

### BLOCKING CHARACTERISTICS

| Characteristic   |                                       | Conditions   | Value  |
|------------------|---------------------------------------|--|--------|
| V <sub>RRM</sub> | Repetitive peak reverse voltage       |  | 2200 V |
| V <sub>RSM</sub> | Non-repetitive peak reverse voltage   |  | 2300 V |
| I <sub>RRM</sub> | Repetitive peak reverse current, max. | V <sub>RRM</sub> , single phase, half wave, T <sub>j</sub> = T <sub>jmax</sub> | 30 mA  |

### FORWARD CHARACTERISTICS

|                     |  |  |                       |
|---------------------|--|--|-----------------------|
| I <sub>F(AV)</sub>  | Average forward current                  | Sine wave, 180° conduction, Th = 55°C  | 1150 A                |
| I <sub>F(RMS)</sub> | R.M.S. forward current                   | Sine wave, 180° conduction, Th = 55°C  | 1806 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> | 14 kA                 |
| I <sup>2</sup> t    | I <sup>2</sup> t for fusing coordination |  | 980 kA <sup>2</sup> s |
| V <sub>F(TO)</sub>  | Threshold voltage                        | T <sub>j</sub> = T <sub>jmax</sub>   | 0.925 V               |
| r <sub>F</sub>      | Forward slope resistance                 | T <sub>j</sub> = T <sub>jmax</sub>   | 0.258 mΩ              |
| V <sub>FM</sub>     | Peak forward voltage, max                | Forward current I <sub>F</sub> = 1200 A, T <sub>j</sub> = T <sub>jmax</sub>              | 1.235 V               |

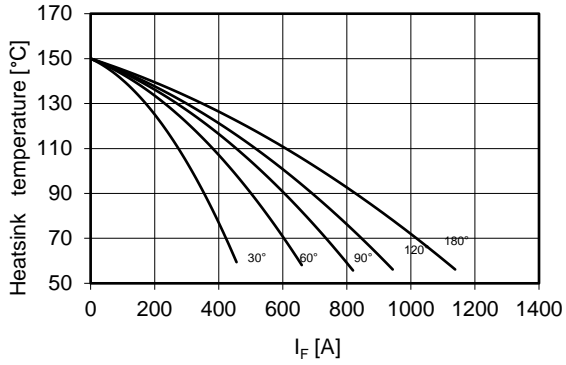
### SWITCHING CHARACTERISTICS

|                 |                              |   |    |
|-----------------|------------------------------|---|----|
| Q <sub>rr</sub> | Reverse recovery charge, typ | T <sub>j</sub> = T <sub>jmax</sub> , I <sub>F</sub> = 2000 A, di/dt = -5 A/μs | μC |
| I <sub>rr</sub> | Reverse recovery current     | V <sub>R</sub> = 100 V  | A  |
| t <sub>rr</sub> | Reverse recovery time        |   | μs |
| V <sub>FP</sub> | Forward recovery voltage     | T <sub>j</sub> = T <sub>jmax</sub> , di/dt = A/μs                             | V  |

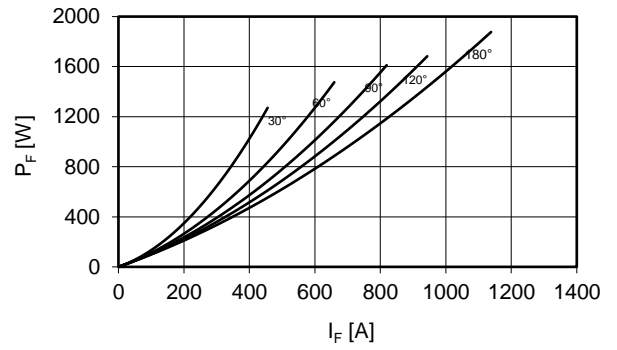
### THERMAL AND MECHANICAL CHARACTERISTICS

|                      |                                       |                    |              |
|----------------------|---------------------------------------|--------------------|--------------|
| R <sub>th(j-c)</sub> | Thermal resistance (junction to case) | Double side cooled | 0.038 °C/W   |
| R <sub>th(c-h)</sub> | Thermal resistance (case to heatsink) | Double side cooled | 0.012 °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%                  |                    | 9 kN         |
|                      | Mass                                  |                    | 110 g        |

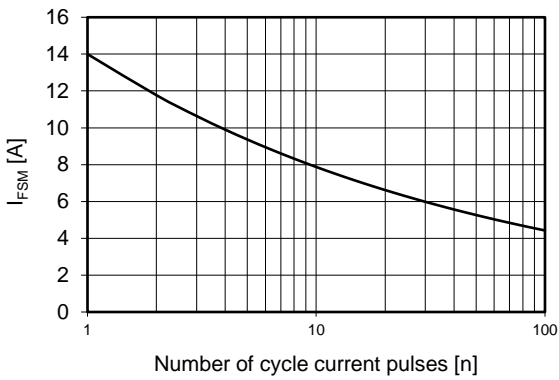
Current rating - sine wave



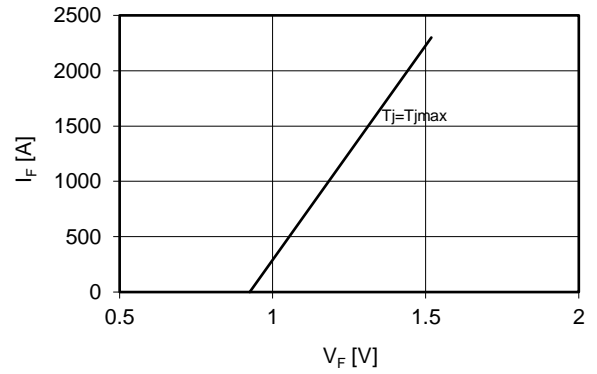
Power loss - sine wave



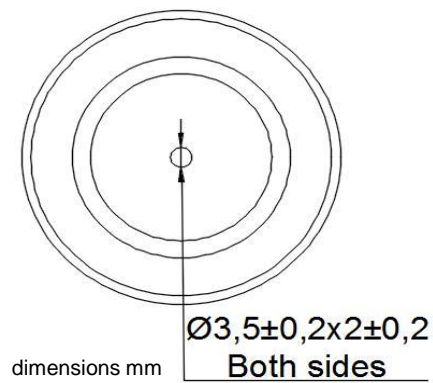
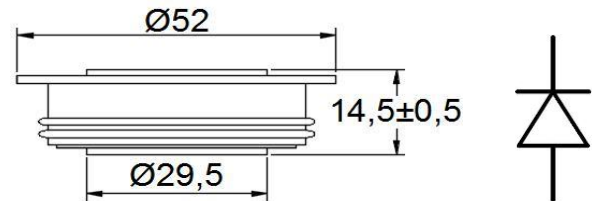
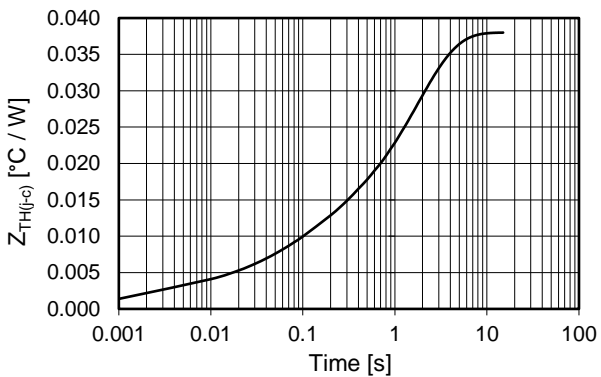
Maximum surge current d.s. cooled



Forward voltage drop



Thermal Impedance (j-c)



Ordering information GPDG3115-VV

VV: blocking voltage / 100 (e.g. 22 for 2200V)

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