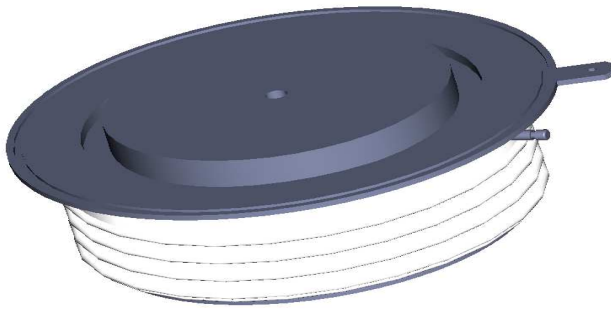




# GPTR2360

## PHASE CONTROLLED SCR

High reliability operation  
DC power supply  
AC drives

|                        |               |
|------------------------|---------------|
| <b>VOLTAGE UP TO</b>   | <b>1600 V</b> |
| <b>AVERAGE CURRENT</b> | <b>3600 A</b> |
| <b>SURGE CURRENT</b>   | <b>50 kA</b>  |

### BLOCKING CHARACTERISTICS

| Characteristic | Conditions                              | Value                                     |
|----------------|-----------------------------------------|-------------------------------------------|
| VRRM           | Repetitive peak reverse voltage         | 1600 V                                    |
| VRSM           | Non-repetitive peak reverse voltage     | 1700 V                                    |
| VDRM           | Repetitive peak off-state voltage       | 1600 V                                    |
| IDRM           | Repetitive peak off-state current, max. | VDRM, single phase, half wave, Tj = Tjmax |
| IRRM           | Repetitive peak reverse current, max.   | VRRM, single phase, half wave, Tj = Tjmax |

### ON-STATE CHARACTERISTICS

|         |                              |                                                      |            |
|---------|------------------------------|------------------------------------------------------|------------|
| IT(AV)  | Average on-state current     | Sine wave, 180° conduction, Th = 55 °C               | 3600 A     |
| IT(RMS) | R.M.S. on-state current      | Sine wave, 180° conduction, Th = 55 °C               | 5655 A     |
| ITSM    | Surge on-state current       | Non rep. half sine wave, 50 Hz, VR = 0 V, Tj = Tjmax | 50 kA      |
| I²t     | I² t for fusing coordination |                                                      | 12500 kA²s |
| VT(TO)  | Threshold voltage            | Tj = Tjmax                                           | 0.94 V     |
| rT      | On-state slope resistance    | Tj = Tjmax                                           | 0.066 mΩ   |
| VTM     | Peak on-state voltage, max   | On-state current It = 4000 A, Tj = 25 °C             | 1.25 V     |
| IH      | Holding current, max         | Tj = 25 °C                                           | 170 mA     |
| IL      | Latching current, typ        | Tj = 25 °C                                           | 1500 mA    |

### TRIGGERING CHARACTERISTICS

|        |                                |                           |        |
|--------|--------------------------------|---------------------------|--------|
| VGT    | Gate trigger voltage           | Tj = 25 °C, VD = 5 V      | 3 V    |
| IGT    | Gate trigger current           | Tj = 25 °C, VD = 5 V      | 250 mA |
| VGD    | Non-trigger voltage            | VD = 67% VRRM, Tj = Tjmax | 0.2 V  |
| PGM    | Peak gate power dissipation    | Pulse width 0.5 ms        | 100 W  |
| PG(AV) | Average gate power dissipation |                           | 5 W    |
| IFGM   | Peak gate current              |                           | 10 A   |
| VFGM   | Peak gate voltage (forward)    |                           | 12 V   |
| VRGM   | Peak gate voltage (reverse)    |                           | 10 V   |

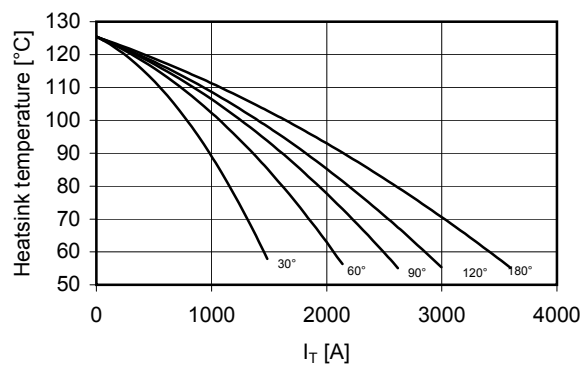
### SWITCHING CHARACTERISTICS

|       |                                            |                                                                                          |           |
|-------|--------------------------------------------|------------------------------------------------------------------------------------------|-----------|
| di/dt | Critical rate of rise of on-state current  | Tj = Tjmax                                                                               | 200 A/μs  |
| dV/dt | Critical rate of rise of off-state voltage | Tj = Tjmax                                                                               | 1000 V/μs |
| tq    | Turn-off time, typ                         | Tj = Tjmax, It = 800 A, di/dt = -12.5 A/μs<br>VR = 100 V, VD = 67% VDRM, dV/dt = 20 V/μs | 400 μs    |

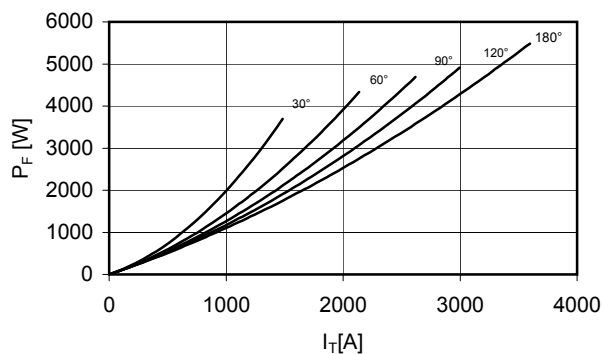
### THERMAL AND MECHANICAL CHARACTERISTICS

|          |                                       |                    |              |
|----------|---------------------------------------|--------------------|--------------|
| Rth(j-c) | Thermal resistance (junction to case) | Double side cooled | 0.010 °C/W   |
| Rth(c-h) | Thermal resistance (case to heatsink) | Double side cooled | 0.003 °C/W   |
| Tjmax    | Max operating junction temperature    |                    | 125 °C       |
| Tstg     | Storage temperature                   |                    | -40 / 125 °C |
| F        | Clamping force ± 10%                  |                    | 50 kN        |
|          | Mass                                  |                    | 650 g        |

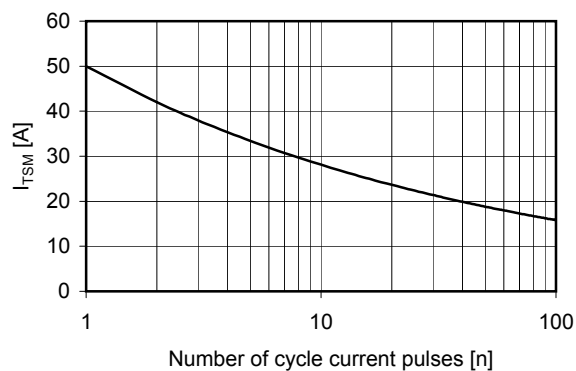
Current rating - sine wave



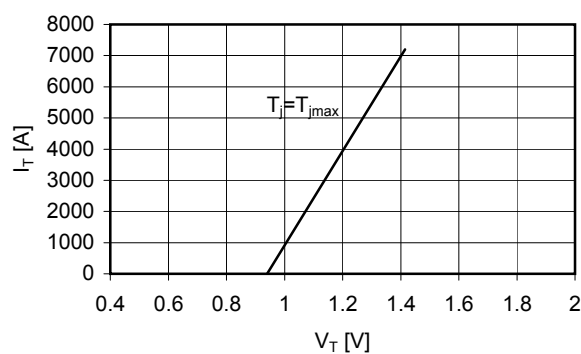
Power loss - sine wave



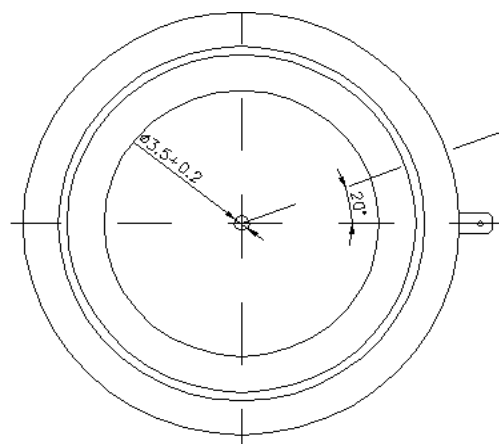
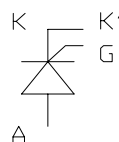
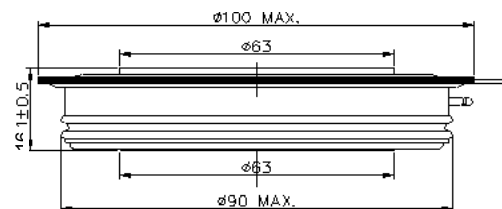
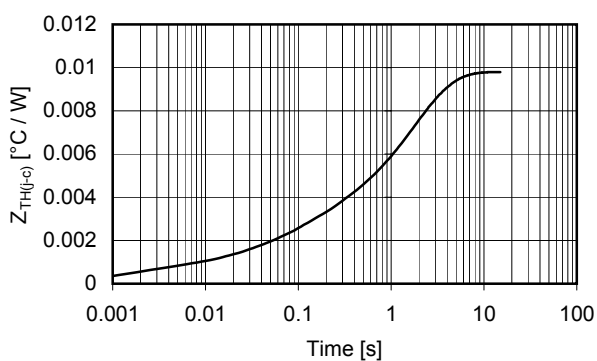
Maximum surge current  
d.s. cooled



On-state voltage drop



Thermal impedance (j-c)



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