

# GPTR3280

## PHASE CONTROLLED SCR

High reliability operation  
DC power supply  
Controlled rectifiers  
DC drives - Motor starters

**BLOCKING VOLTAGE UP TO**            **2800 V**  
**AVERAGE CURRENT**                **2800 A**  
**SURGE CURRENT**                      **43 kA**

### BLOCKING CHARACTERISTICS

Characteristic	Conditions	Value
VRRM	Repetitive peak reverse voltage	2800 V
VRSM	Non-repetitive peak reverse voltage	2900 V
VDRM	Repetitive peak off-state voltage	2800 V
IDRM	Repetitive peak off-state current, max.	VDRM, single phase, half wave, Tj = Tjmax 200 mA
IRRM	Repetitive peak reverse current, max.	VRRM, single phase, half wave, Tj = Tjmax 200 mA

### ON-STATE CHARACTERISTICS

IT(AV)	Average on-state current	Sine wave, 180° conduction, Th = 55 °C	2800 A
IT(RMS)	R.M.S. on-state current	Sine wave, 180° conduction, Th = 55 °C	4398 A
ITSM	Surge on-state current	Non rep. half sine wave, 50 Hz, VR = 0 V, Tj = Tjmax	43 kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination		9245 kA <sup>2</sup> s
VT(TO)	Threshold voltage	Tj = Tjmax	1,039 V
rT	On-state slope resistance	Tj = Tjmax	0,127 mΩ
VTM	Peak on-state voltage, max	On-state current IT = 4000 A , Tj = 25 °C	1,55 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 = 12 V	3 V
IGT	Gate trigger current	Tj = 25 °C, VD = 12 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

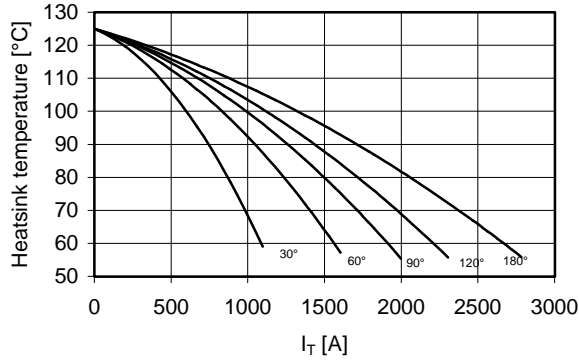
### SWITCHING CHARACTERISTICS

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 = 4000 A, di/dt = -12.5 A/μs VR = 100 V, VD = 67% VDRM, dV/dt = 20 V/μs	300 μs

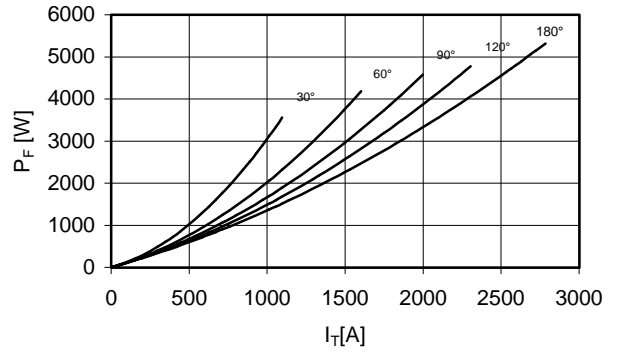
### THERMAL AND MECHANICAL CHARACTERISTICS

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		950 g

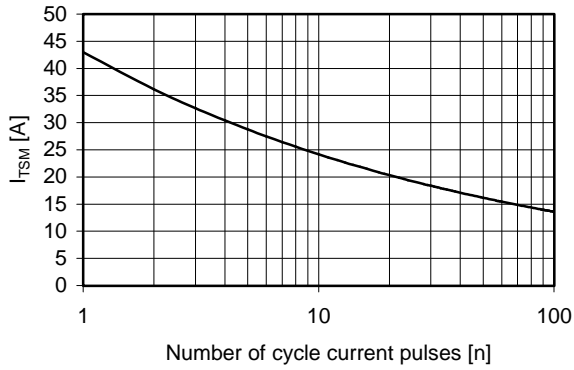
Current rating - sine wave



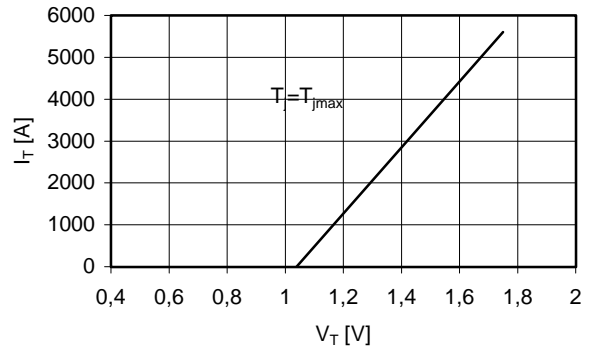
Power loss - sine wave



Maximum surge current d.s. cooled

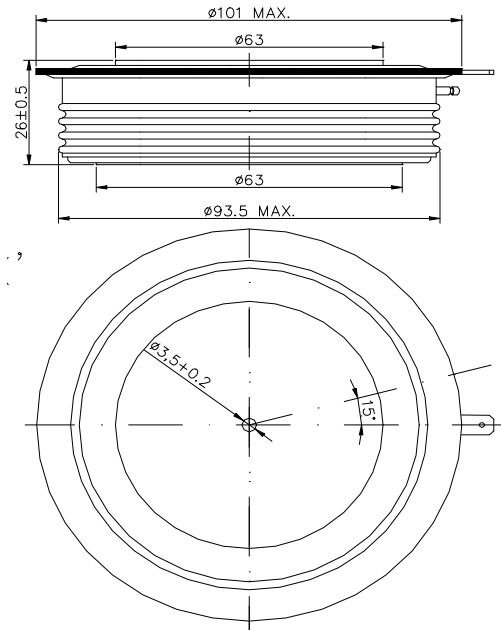
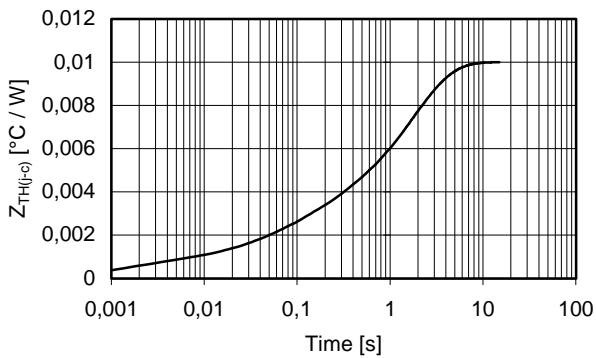


On-state voltage drop



Thermal impedance (j-c)

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