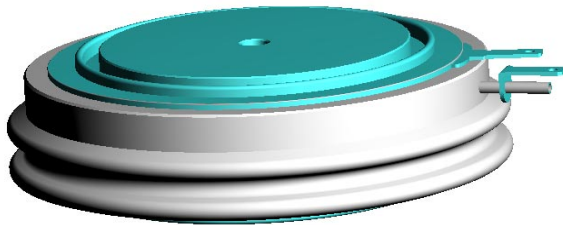


GPTR4154

PHASE CONTROLLED SCR



High reliability operation
DC power supply
AC drives

VOLTAGE UP TO **3200 V**
AVERAGE CURRENT **1540 A**
SURGE CURRENT **18 kA**

BLOCKING CHARACTERISTICS

Characteristic	Conditions	Value
VRRM	Repetitive peak reverse voltage	3200 V
VRSM	Non-repetitive peak reverse voltage	3300 V
VDRM	Repetitive peak off-state voltage	3200 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	1540 A
IT(RMS)	R.M.S. on-state current	Sine wave, 180° conduction, Th = 55 °C	2419 A
ITSM	Surge on-state current	Non rep. half sine wave, 50 Hz, VR = 0 V, Tj = Tjmax	18 kA
I²t	I² t for fusing coordination		1620 kA²s
VT(TO)	Threshold voltage	Tj = Tjmax	1.27 V
rT	On-state slope resistance	Tj = Tjmax	0.37 mΩ
VTM	Peak on-state voltage, max	On-state current It = 3200 A, Tj = 25 °C	2.16 V
IH	Holding current, max	Tj = 25 °C	300 mA
IL	Latching current, typ	Tj = 25 °C	500 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	400 mA
VGD	Non-trigger voltage	VD = 67% VRRM, Tj = Tjmax	0.15 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		30 A
VFGM	Peak gate voltage (forward)		12 V
VRGM	Peak gate voltage (reverse)		3 V

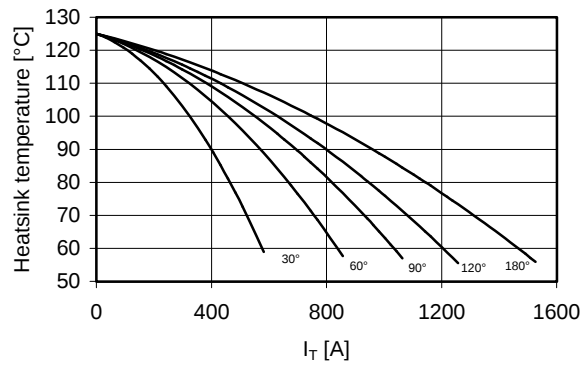
SWITCHING CHARACTERISTICS

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 VR = 100 V, VD = 67% VDRM, dV/dt = 20 V/μs	400 μs

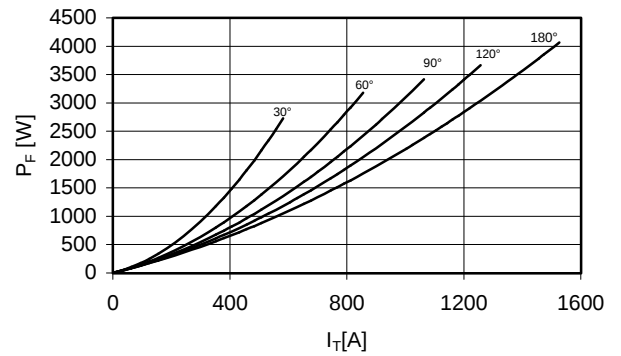
THERMAL AND MECHANICAL CHARACTERISTICS

Rth(j-c)	Thermal resistance (junction to case)	Double side cooled	0.016 °C/W
Rth(c-h)	Thermal resistance (case to heatsink)	Double side cooled	0.001 °C/W
Tjmax	Max operating junction temperature		125 °C
Tstg	Storage temperature		-40 / 125 °C
F	Clamping force ± 10%		30 kN
	Mass		1400 g

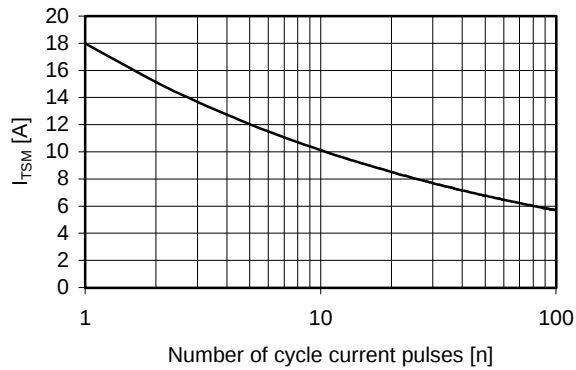
Current rating - sine wave



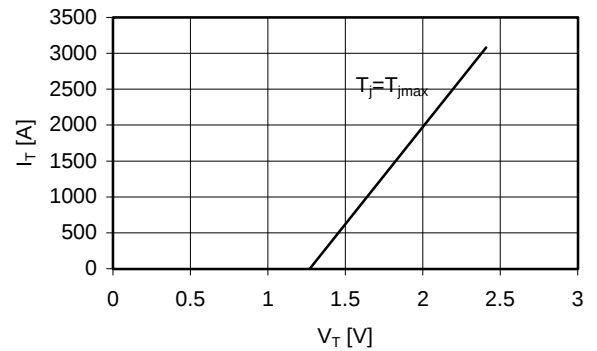
Power loss - sine wave



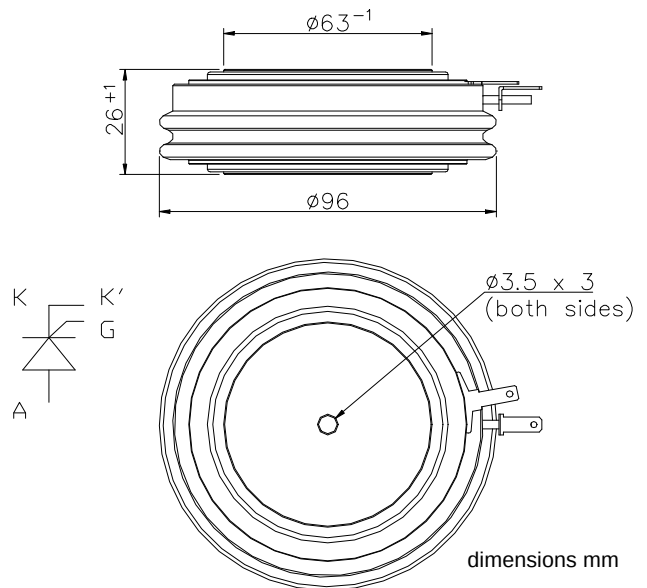
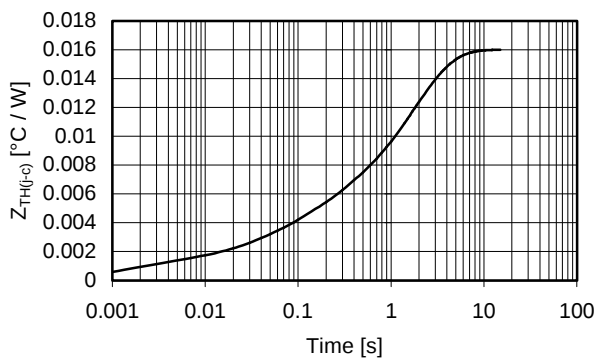
Maximum surge current
d.s. cooled



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.