GPDR1960

RECTIFIER DIODE

VOLTAGE UP TO	1000	V
AVERAGE CURRENT	9600	A
SURGE CURRENT	85	kA

BLOCKING CHARACTERISTICS

| Characteristic		Conditions	Value	
V_{RRM}	Repetitive peak reverse voltage		1000	V
V_{RSM}	Non-repetitive peak reverse voltage		1100	V
I_{RRM}	Repetitive peak reverse current, max.	V_{RRM}, single phase, half wave, Tj = Tjmax	200	mA

FORWARD CHARACTERISTICS

Characteristic		Conditions	Value	
$I_{F(AV)}$	Average forward current	Sine wave,180° conduction, Th = 55°C	9600	A
$I_{F(RMS)}$	R.M.S. forward current	Sine wave,180° conduction, Th = 55°C	15080	A
I_{FSM}	Surge forward current	Non rep. half sine wave, 50 Hz, V_R = 0 V, Tj = Tjmax	85	kA
I^2t	I² t for fusing coordination		36125	kA²s
$V_{F(TO)}$	Threshold voltage	Tj = Tjmax	0.71	V
r_F	Forward slope resistance	Tj = Tjmax	0.033	mΩ
V_{FM}	Peak forward voltage, max	Forward current I_F = 8500 A, Tj = Tjmax	0.99	V

SWITCHING CHARACTERISTICS

Q_{rr}	Rverse recovery charge, typ	Tj = Tjmax, I_F = 2000 A, di/dt = -5 A/µs		µC
I_{rr}	Reverse recovery current	V_R = 100 V		A
t_{rr}	Reverse recovery time			µs
V_{FP}	Forward recovery voltage	Tj = Tjmax, di/dt = A/µs		V

THERMAL AND MECHANICAL CHARACTERISTICS

$R_{th(j-c)}$	Thermal resistance (junction to case)	Double side cooled	0.008	°C/W
$R_{th(c-h)}$	Thermal resistance (case to heatsink)	Double side cooled	0.002	°C/W
T_{jmax}	Max operating junction temperature		190	°C
T_{stg}	Storage temperature		-40 / 190	°C
F	Clamping force ± 10%		50	kN
	Mass		1200	g

Current rating - sine wave

Case temperature [°C] vs I_F [A]

(curves: 30°, 60°, 90°, 120°, 180°)

Power loss - sine wave

P_F [W] vs I_F [A]

(curves: 30°, 60°, 90°, 120°, 180°)
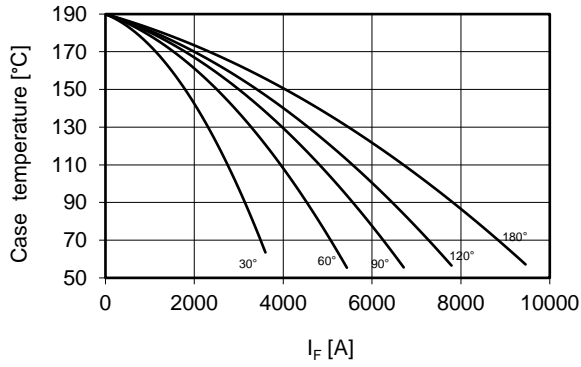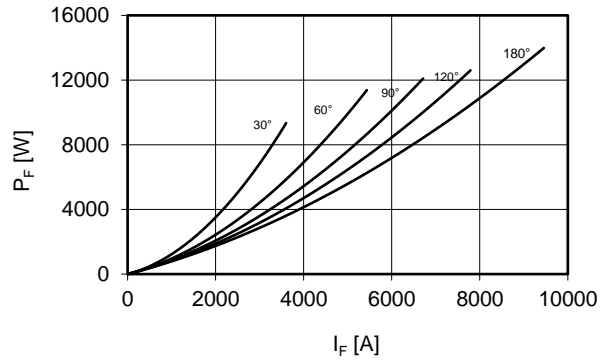
Maximum surge current d.s. cooled

I_{FSM} [A] vs Number of cycle current pulses [n]
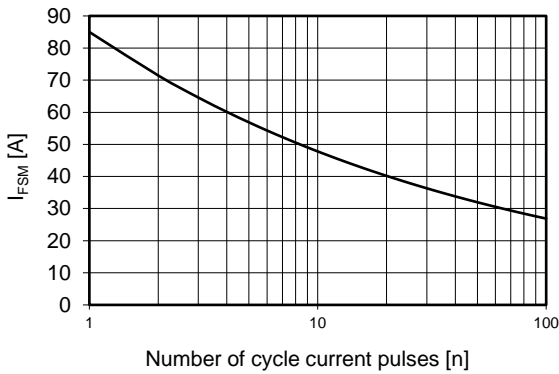
Forward voltage drop

I_F [A] vs V_F [V]

Tj=Tjmax

Thermal Impedance (j-c)

$Z_{TH(j-c)}$ [°C / W] vs Time [s]

Ø110

26±0,5

Ø72

Ø3,5±0,2x4±0,2
Both sides
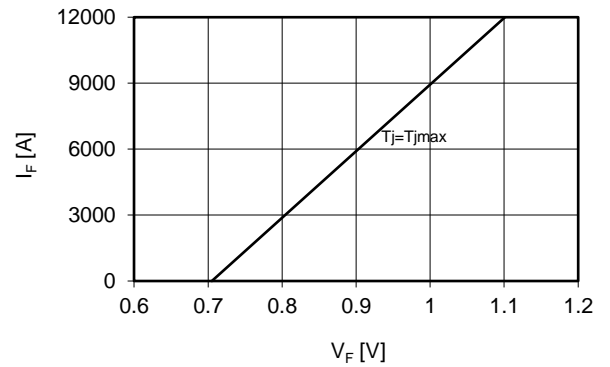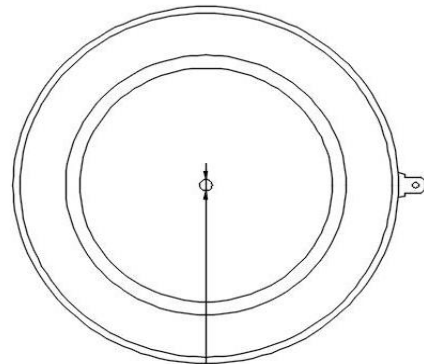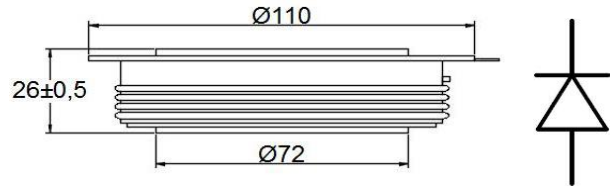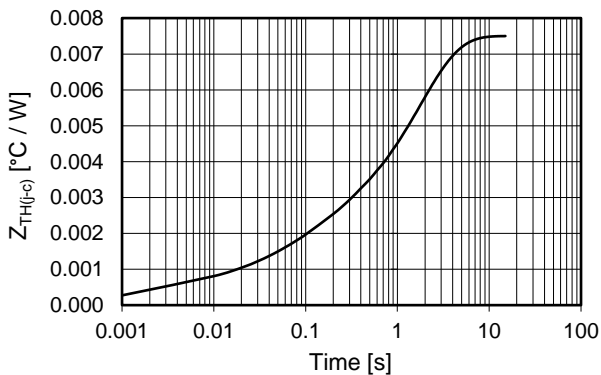
dimensions mm

Ordering information GPDR1960-VV

VV: blocking voltage / 100 (e.g. 10 for 1000V)