

SCT1180

Power Rectifier Diodes

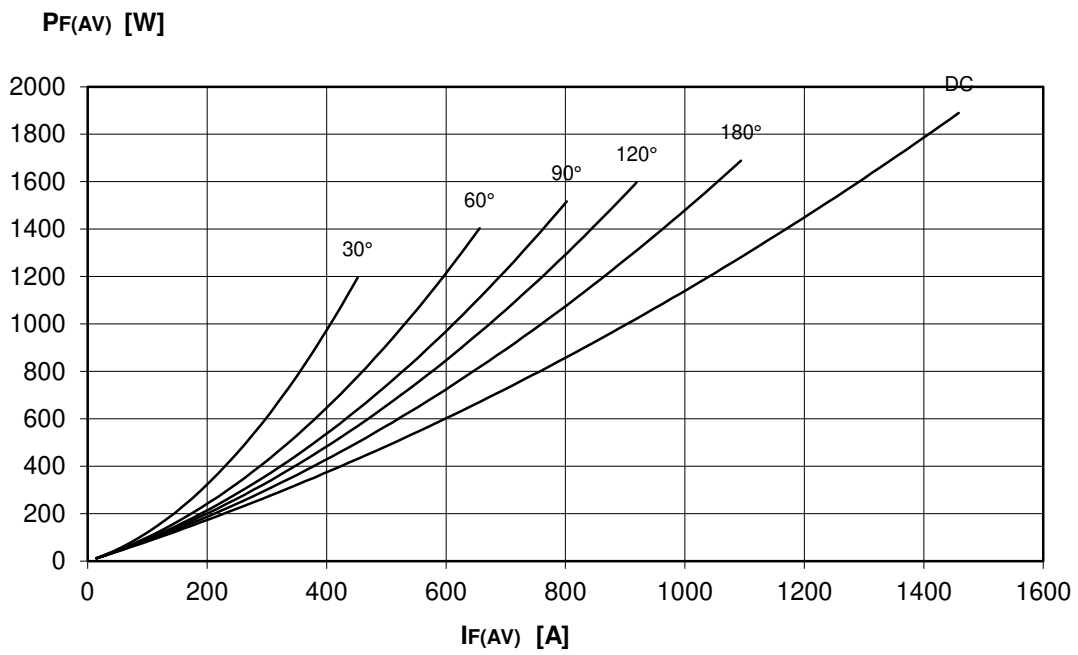
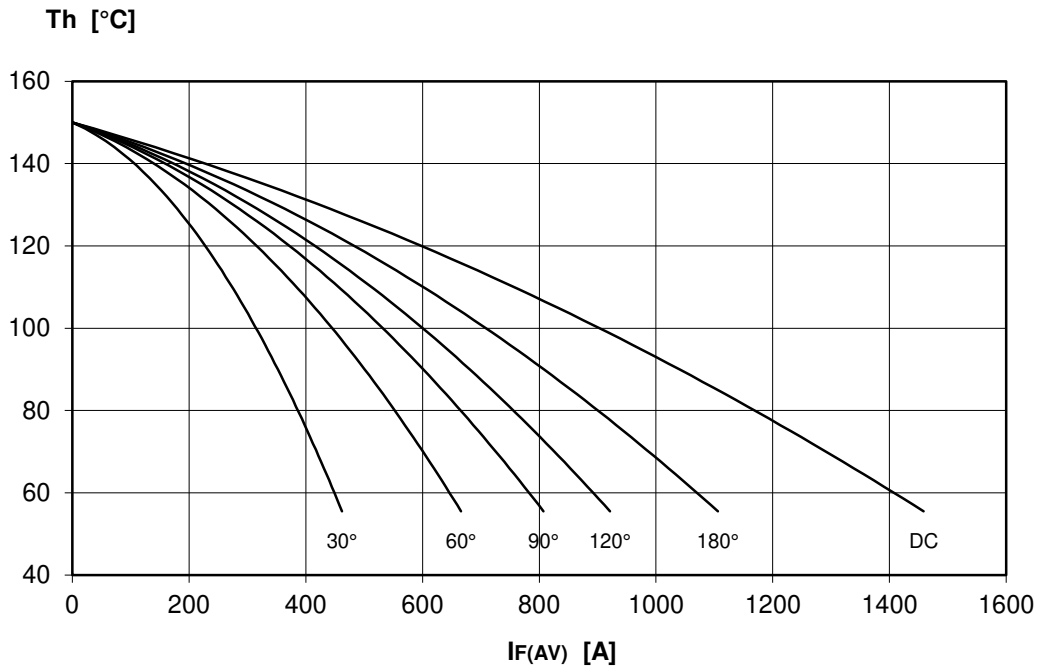


Repetitive voltage up to **800 V**
 Mean forward current **1102 A**
 Surge current **12 kA**

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		150	800	V
V _{RSM}	Non-repetitive peak reverse voltage		150	900	V
V _{DRM}	Repetitive peak off-state voltage		150	800	V
I _{RRM}	Repetitive peak reverse current	V=VRRM	150	50	mA
I _{DRM}	Repetitive peak off-state current	V=VDRM	150	50	mA
CONDUCTING					
I _{T(AV)}	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		1102	A
I _{T(AV)}	Mean forward current	180° sin, 50 Hz, Tc=85°C, double side cooled		1086	A
I _{TSM}	Surge forward current	Sine wave, 10 ms	150	12	kA
I ² t	I ² t	without reverse voltage		720 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 1900 A	25	1,45	V
V _{T(TO)}	Threshold voltage		150	0,80	V
r _T	On-state slope resistance		150	0,340	mohm
SWITCHING					
di/dt	Critical rate of rise of on-state current, min.	From 75% VDRM up to 1200 A; gate 10V, 5Ω	150	200	A/μs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 70% of VDRM	150	500	V/μs
t _d	Gate controlled delay time, typical	VD=200V; gate source 20V, 10Ω, tr=.5 μs	25	1,5	μs
t _q	Circuit commutated turn-off time, typical	dv/dt = 20 V/μs linear up to 80% VDRM			μs
Q _{rr}	Reverse recovery charge	di/dt = -20 A/μs, I _s = 1000 A	150		μC
I _{rr}	Peak reverse recovery current	VR= 50 V			A
I _H	Holding current, typical	VD=5V, gate open circuit	25	300	mA
I _L	Latching current, typical	VD=5V, tp=30μs	25		mA
GATE					
V _{GT}	Gate trigger voltage	VD=5V	25	3,50	V
I _{GT}	Gate trigger current	VD=5V	25	200	mA
V _{GD}	Non-trigger gate voltage, min.	VD=VDRM	150	0,25	V
V _{FGM}	Peak gate voltage (forward)			30	V
I _{FGM}	Peak gate current			10	A
V _{RGM}	Peak gate voltage (reverse)			5	V
P _{GM}	Peak gate power dissipation	Pulse width 100 μs		150	W
P _G	Average gate power dissipation			2	W
MOUNTING					
R _{th(j-h)}	Thermal impedance, DC	Junction to heatsink, double side cooled		50,0	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		15,0	°C/kW
T _j	Operating junction temperature			-30 / 150	°C
F	Mounting force			8,0 / 9,0	kN
	Mass			85	g

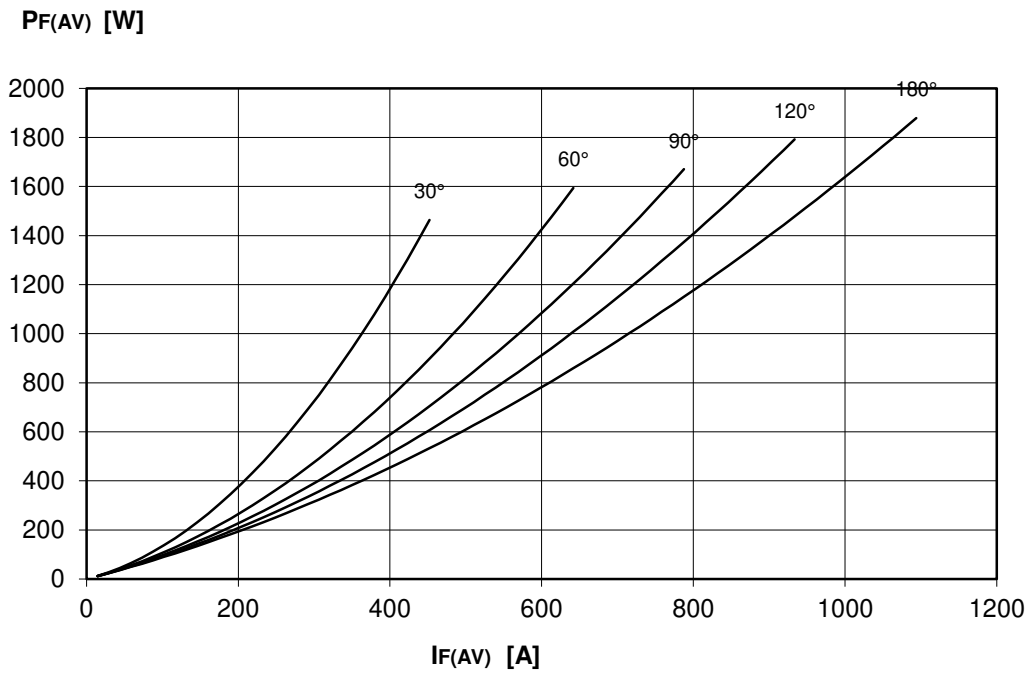
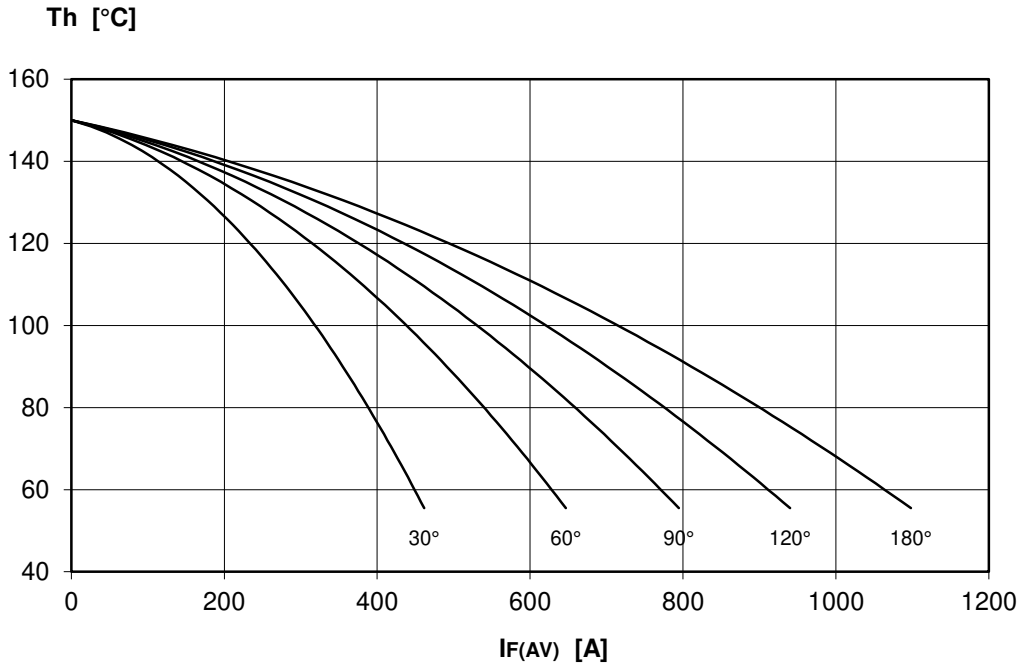
DISSIPATION CHARACTERISTICS

SQUARE WAVE

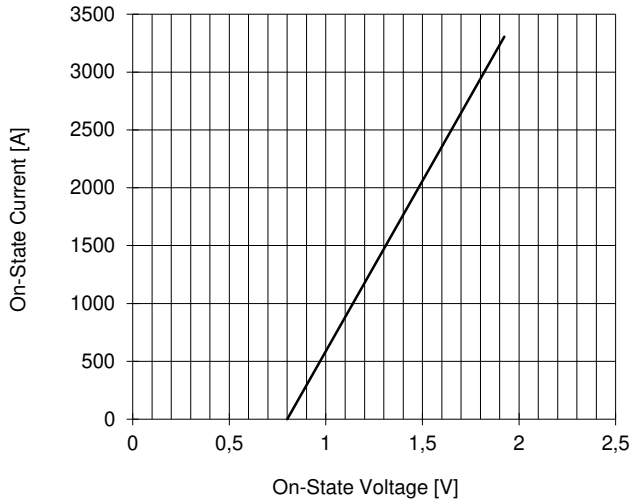


DISSIPATION CHARACTERISTICS

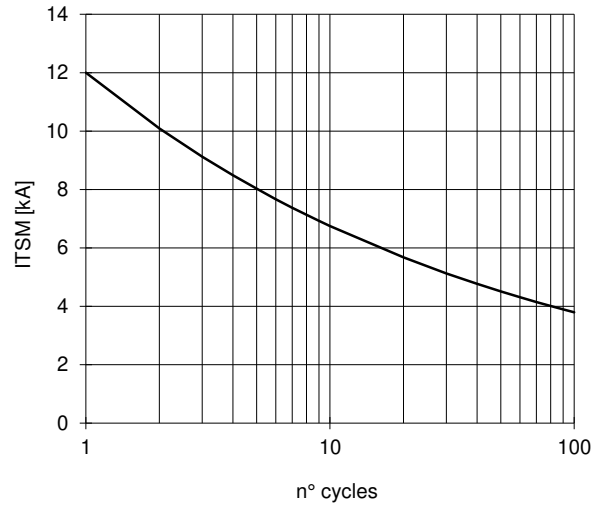
SINE WAVE



ON-STATE CHARACTERISTIC
T_j = 150 °C



SURGE CHARACTERISTIC
T_j = 150 °C



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED

