

SCT1730

Power Rectifier Thyristor

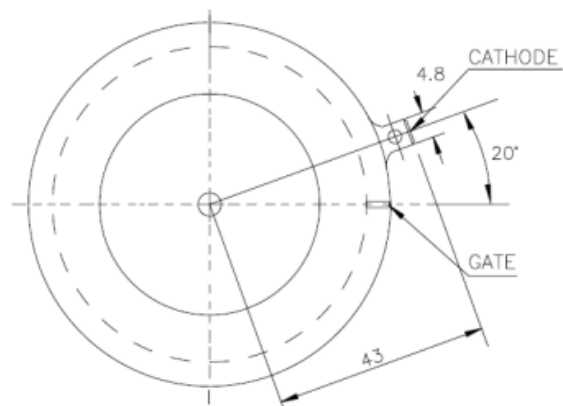
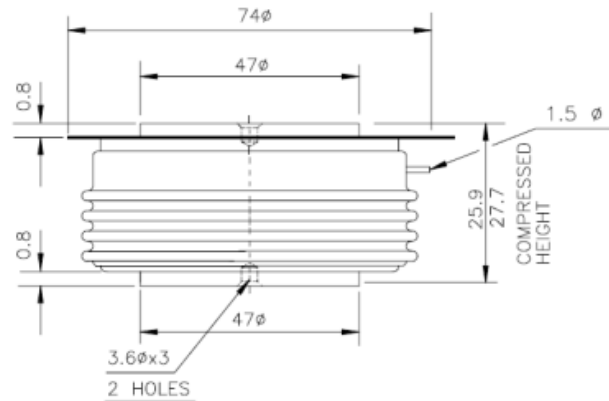


Key Parameters

V_{DRM} / V_{RRM}	= 2200V
$I_{T(AV)}$	= 1730A
I_{TSM}	= 38kA
$V_{T(TO)}$	= 0.90V
r_T	= 0.24m Ω

Features

- Full blocking capability over wide temperature range
- High Surge current capability
- Hermetic metal case with ceramic insulator



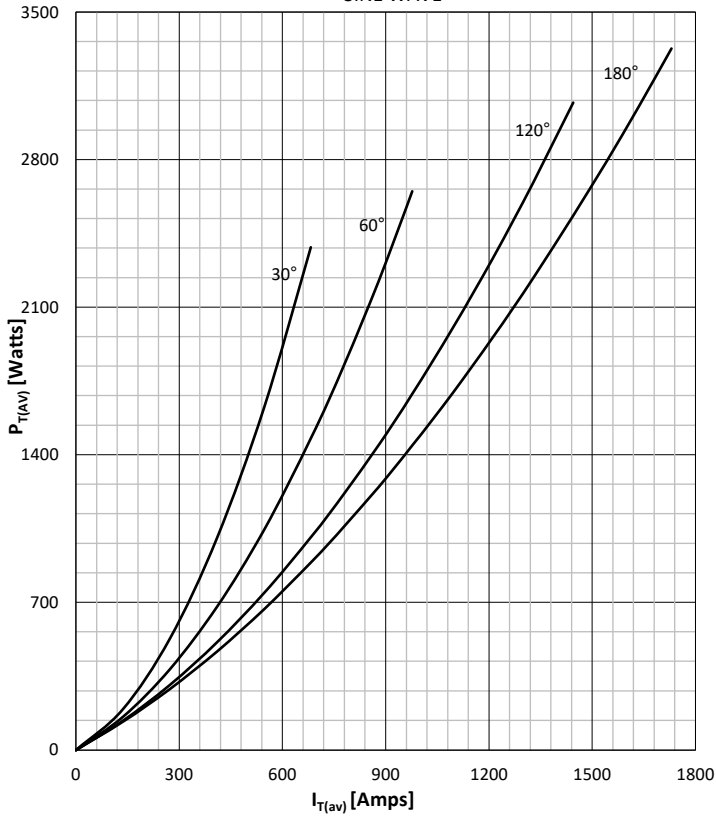
Applications

- Battery Chargers
- Medical Equipment
- UPS
- Power Supplies
- Motor control
- Controlled Rectifiers
- Transportation
- Induction Heating
- Welding

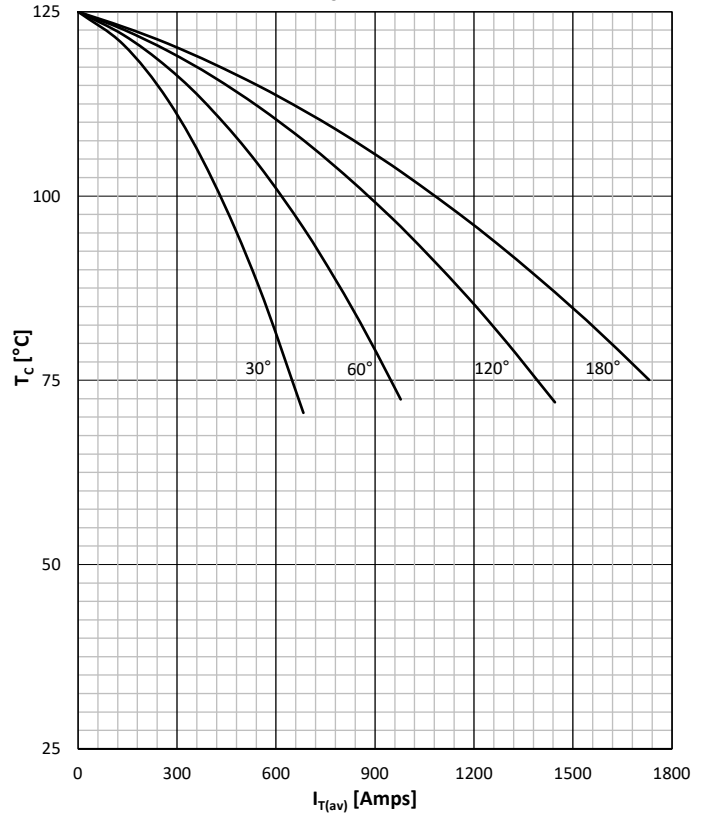
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	2000 - 2200	V
V _{RSM}	Non-repetitive peak reverse voltage		125	2100 - 2300	V
V _{DRM}	Repetitive peak off-state voltage		125	2000 - 2200	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	125	70	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	125	70	mA
CONDUCTING					
I _{T(AV)}	Mean on state current	180° sin ,50 Hz, T _c =70°C, Double side cooled		1730	A
I _{RMS}	RMS on-state current	T _c =70°C, Double side cooled		2716	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	38000	A
			125	36000	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	7220 x 10 ³	A ² s
			125	6480 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 2900A	125	1.6	V
V _{T(TO)}	Threshold voltage		125	0.90	V
r _T	On-state slope resistance		125	0.24	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current	From 75% V _{DRM} up to 2200A, gate 10V 5Ω	125	200	A/μs
dv/dt	Critical rate of rise of off-state voltage	V _{DR} = 70%V _{DRM}	125	500	V/μs
GATE					
I _{gt}	Gate trigger current	V _D =6V	25	250	mA
V _{gt}	Gate trigger voltage	V _D =6V	25	3.0	V
I _H	Holding current	V _D =6V, gate open circuit	25	600	mA
I _L	Latching current	V _D =6V	25	1000	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case, Double side cooled		0.016	°C/W
R _{th(j-c)}	Thermal impedance, rec120°	Junction to case, Double side cooled		0.018	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, Double side cooled		0.006	°C/W
T _j	Max. junction temperature			125	°C
T _{stg}	Storage temperature			-40 125	°C
M	Clamping Force			20 - 24	kN
W	Weight (Approx.)			500	gm

DISSIPATION CHARACTERISTICS

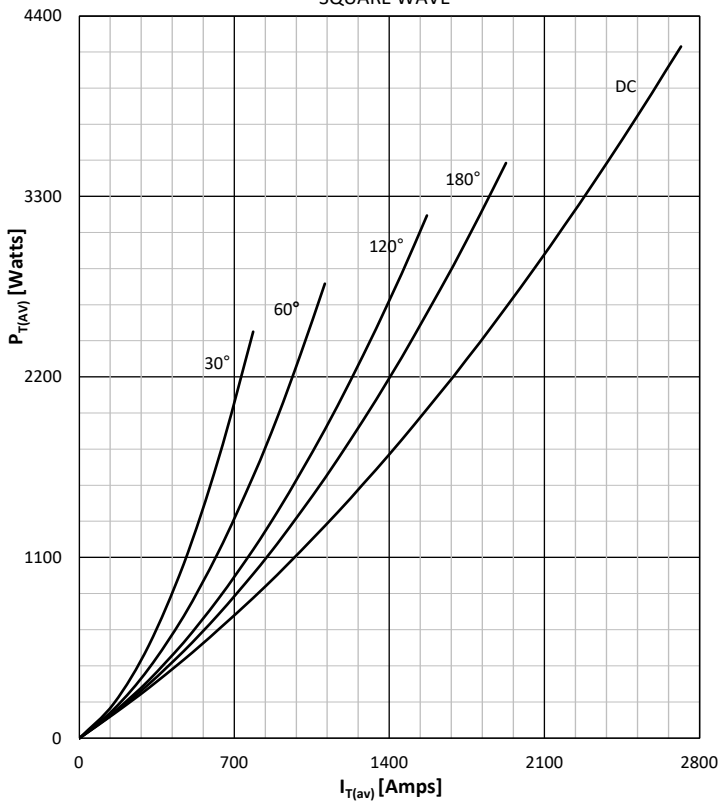
SINE WAVE


ON STATE CURRENT DERATING CURVE

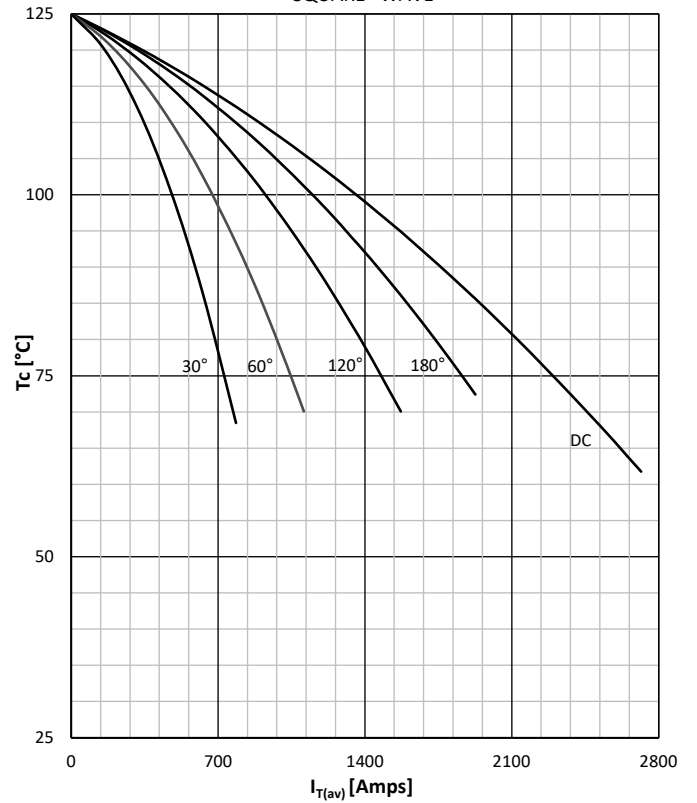
SINE WAVE

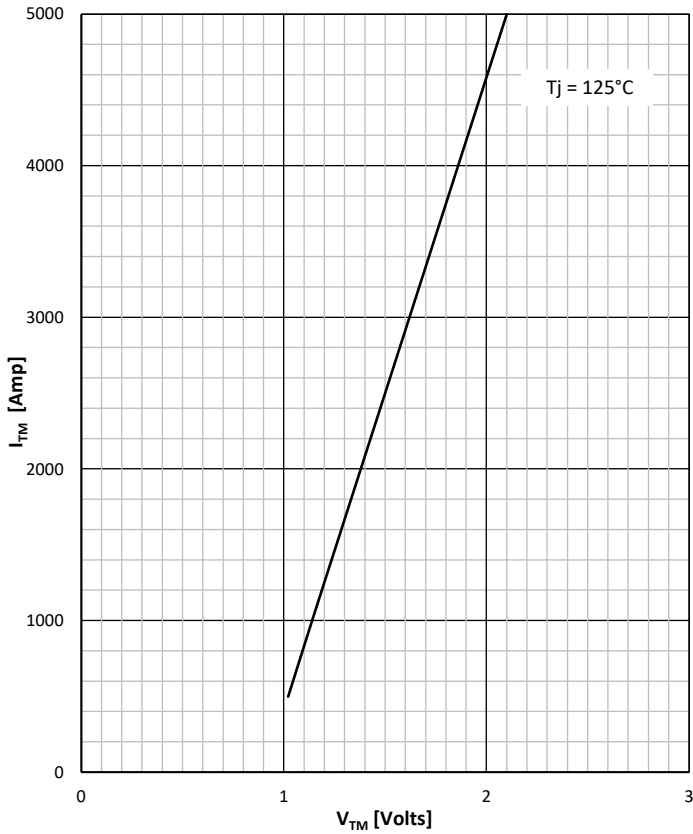
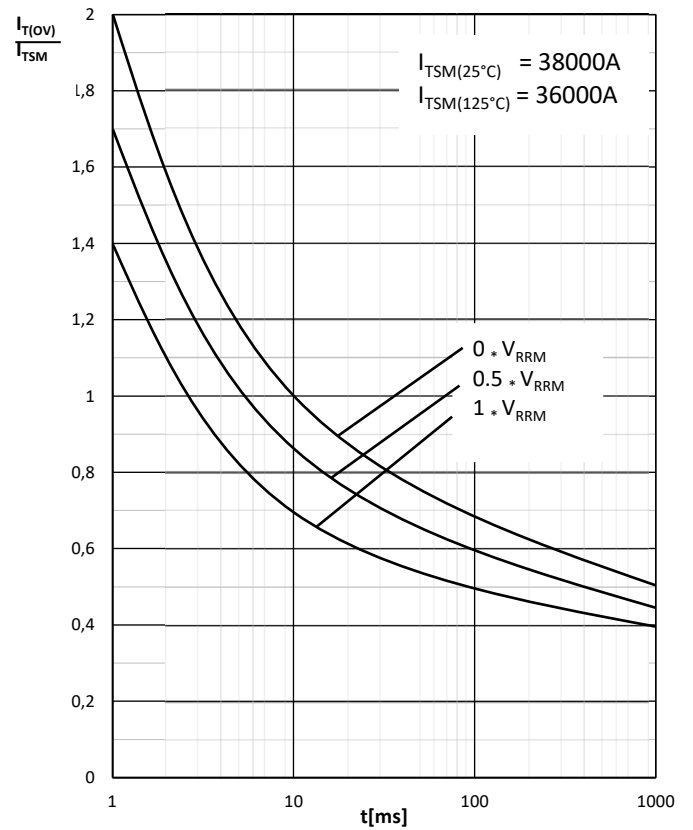
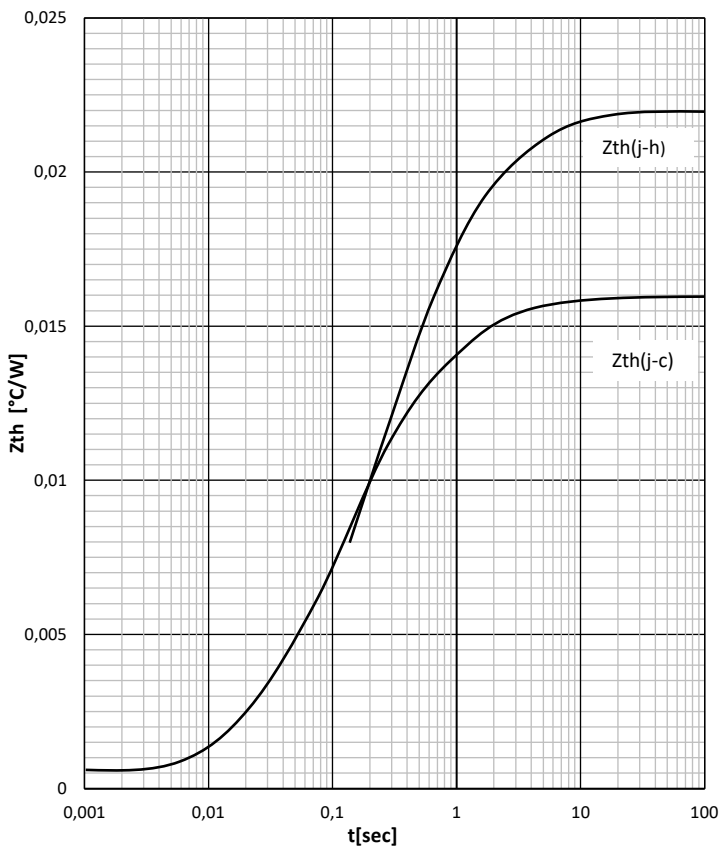

DISSIPATION CHARACTERISTICS

SQUARE WAVE


ON STATE CURRENT DERATING CURVE

SQUARE WAVE



ON STATE CHARACTERISTIC

SURGE CHARACTERISTICS

TRANSIENT THERMAL IMPEDANCE

GATE TRIGGER CHARACTERISTICS
