

SCT100

Power Rectifier Thyristor



Key Parameters

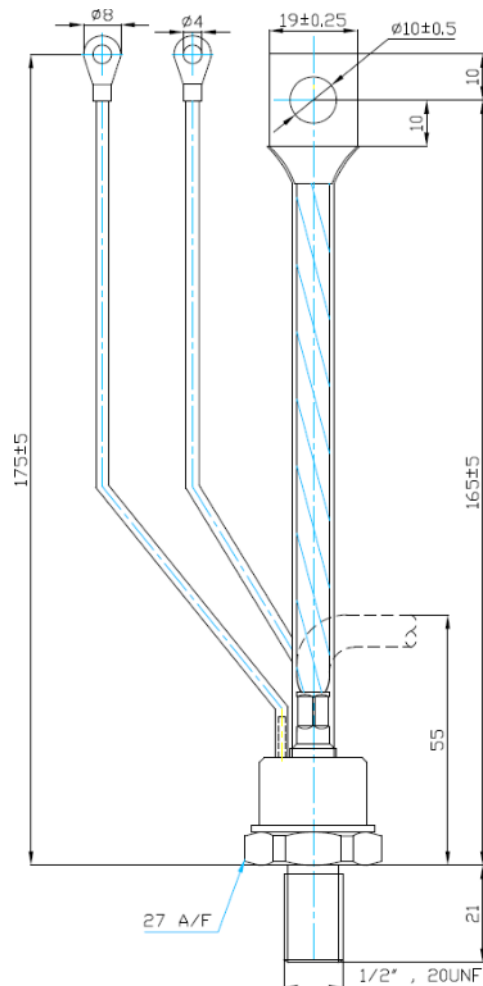
V_{DRM} / V_{RRM}	= 1600V
$I_{T(AV)}$	= 100A
I_{TSM}	= 1900A
$V_{T(TO)}$	= 1.20V
r_T	= 1.90m Ω

Features

- Full blocking capability over wide temperature range
- Hard soldered joints for high reliability

Applications

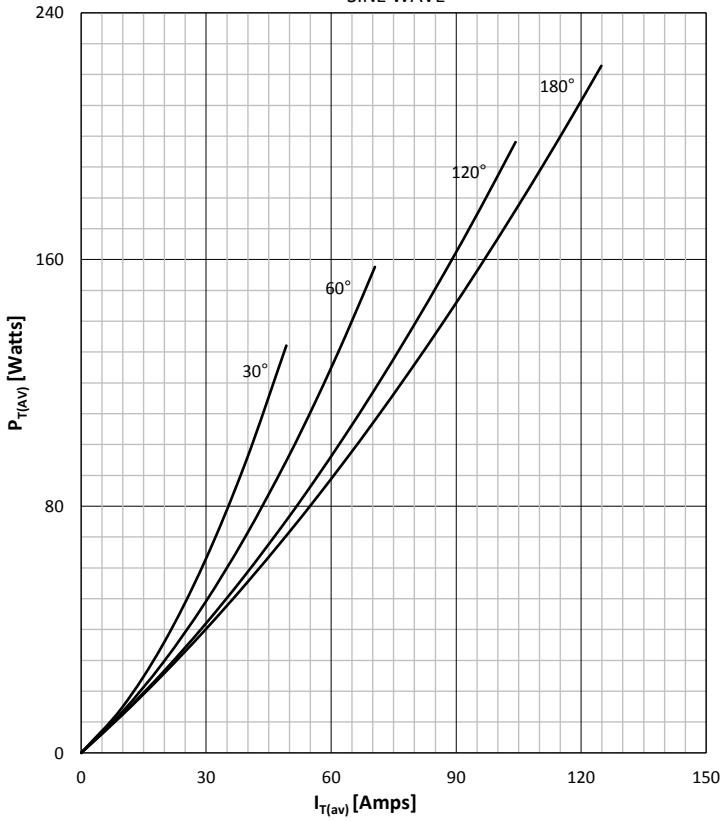
- Power Supplies
- DC motor control
- Controlled Rectifiers
- AC switch



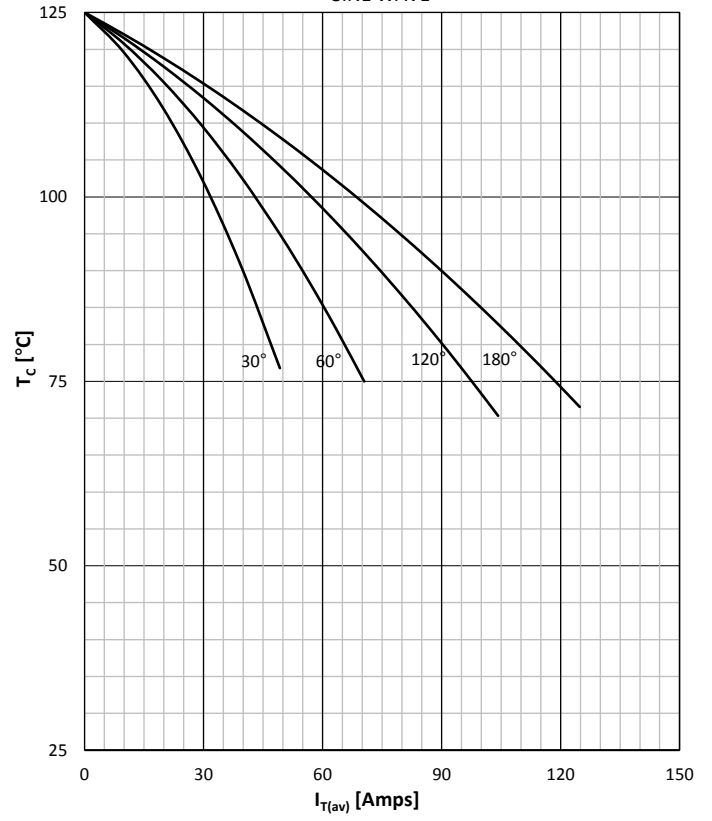
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	200 - 1600	V
V _{RSM}	Non-repetitive peak reverse voltage		125	300 - 1700	V
V _{DRM}	Repetitive peak off-state voltage		125	200 - 1600	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	125	25	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	125	25	mA
CONDUCTING					
I _{T(AV)}	Mean on state current	180° sin ,50 Hz, T _c =85°C 180° sin ,50 Hz, T _c =71°C		100 125	A
I _{RMS}	RMS on-state current	T _c =71°C		196	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	1900	A
			125	1800	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	18000	A ² s
			125	16200	A ² s
V _T	On-state voltage	On-state current = 392A	125	2.0	V
V _{T(TO)}	Threshold voltage		125	1.20	V
r _T	On-state slope resistance		125	1.90	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current		125	150	A/μs
dv/dt	Critical rate of rise of off-state voltage	V _{DR} = 67%V _{DRM}	125	1000	V/μs
GATE					
I _{gt}	Gate trigger current	V _D =6V	25	150	mA
V _{gt}	Gate trigger voltage	V _D =6V	25	3.0	V
I _H	Holding current	V _D =6V, gate open circuit	25	400	mA
I _L	Latching current	V _D =6V	25	600	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case		0.24	°C/W
R _{th(j-c)}	Thermal impedance, rec120°	Junction to case		0.27	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink		0.08	°C/W
T _j	Max. junction temperature			125	°C
T _{stg}	Storage temperature			-40 125	°C
M	Mounting torque			14	NM
W	Weight (Approx.)			200	gm

DISSIPATION CHARACTERISTICS

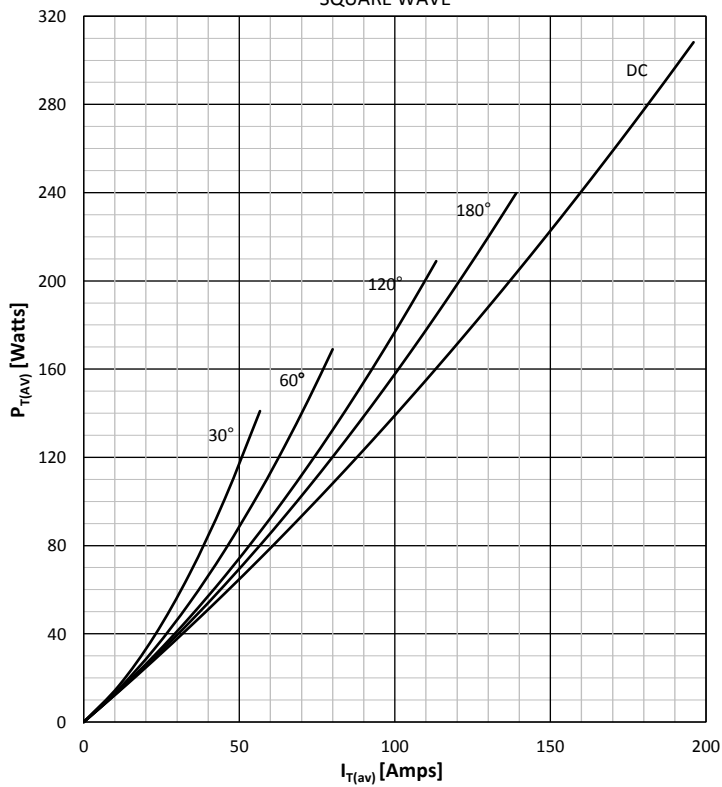
SINE WAVE


ON STATE CURRENT DERATING CURVE

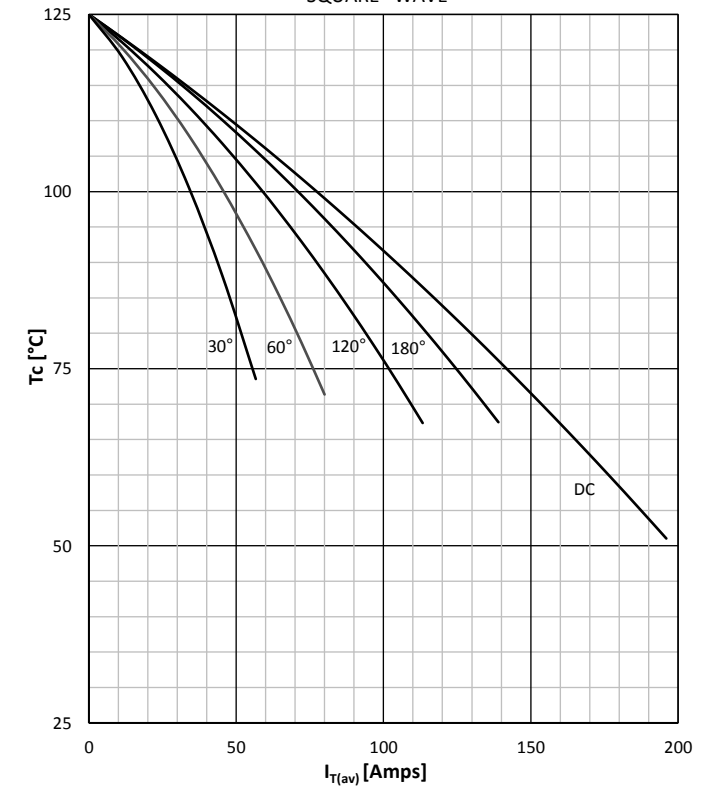
SINE WAVE

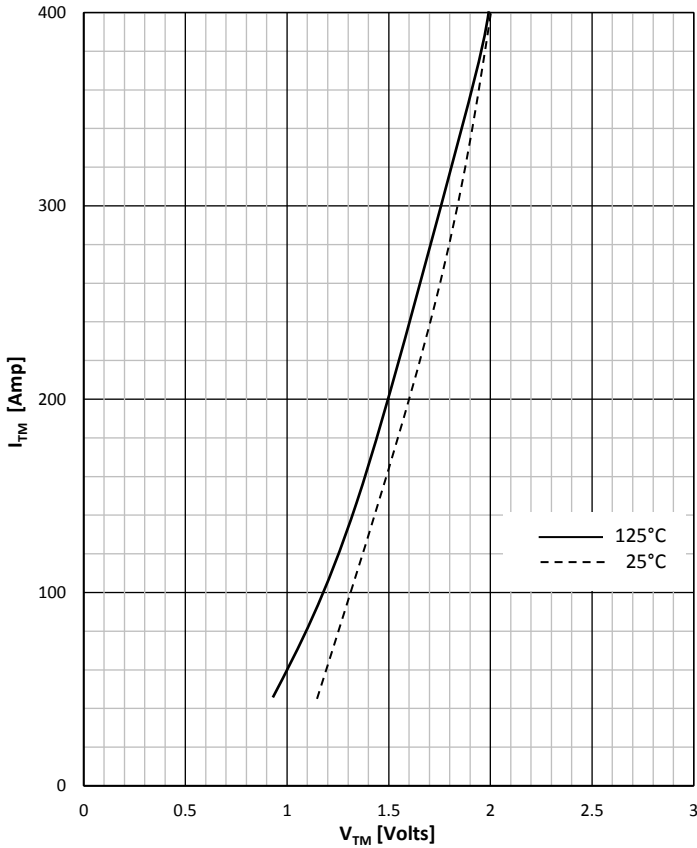
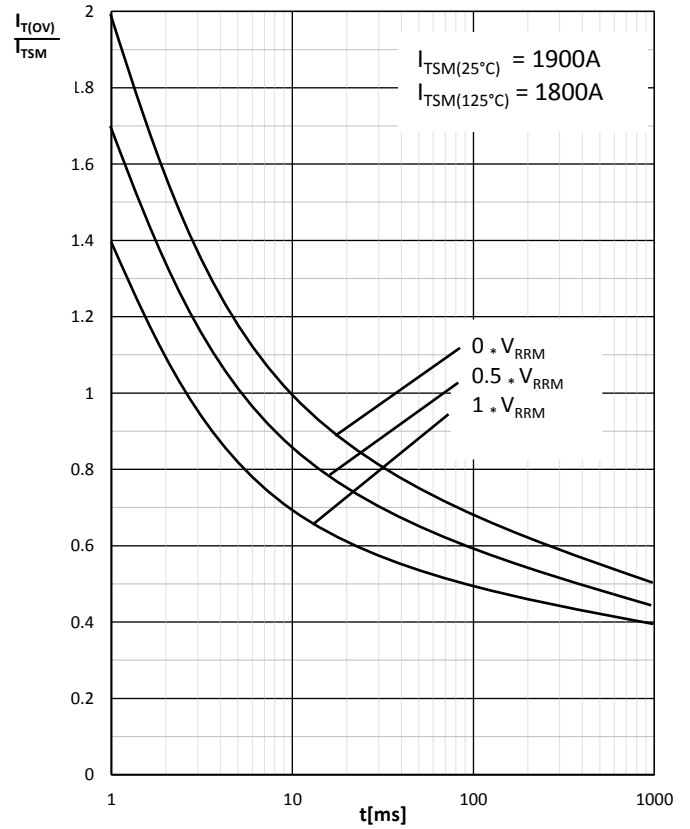
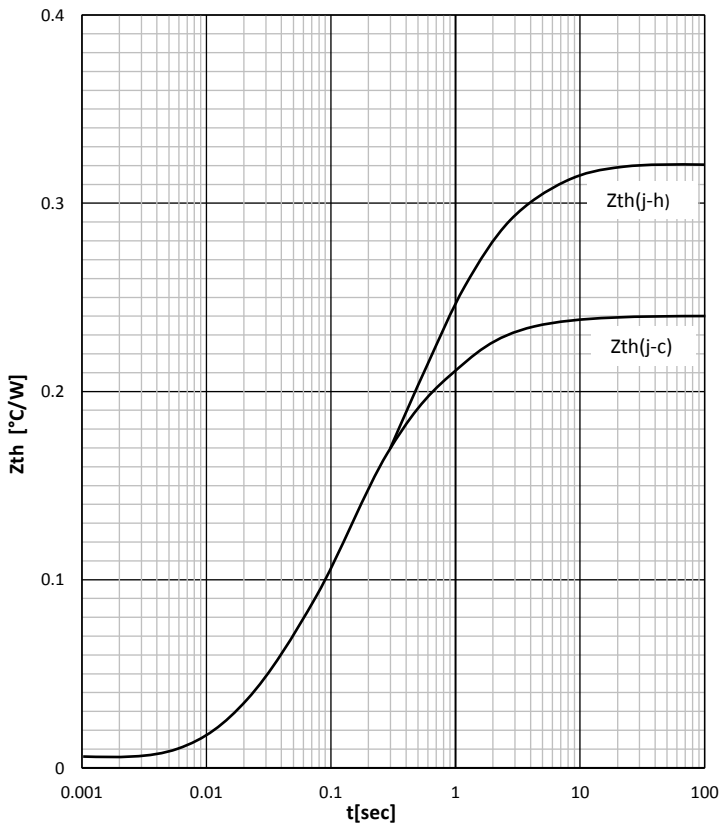

DISSIPATION CHARACTERISTICS

SQUARE WAVE


ON STATE CURRENT DERATING CURVE

SQUARE WAVE



ON STATE CHARACTERISTIC

SURGE CHARACTERISTICS

TRANSIENT THERMAL IMPEDANCE

GATE TRIGGER CHARACTERISTICS
