



Power Rectifier Thyristor

Features

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

Applications

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

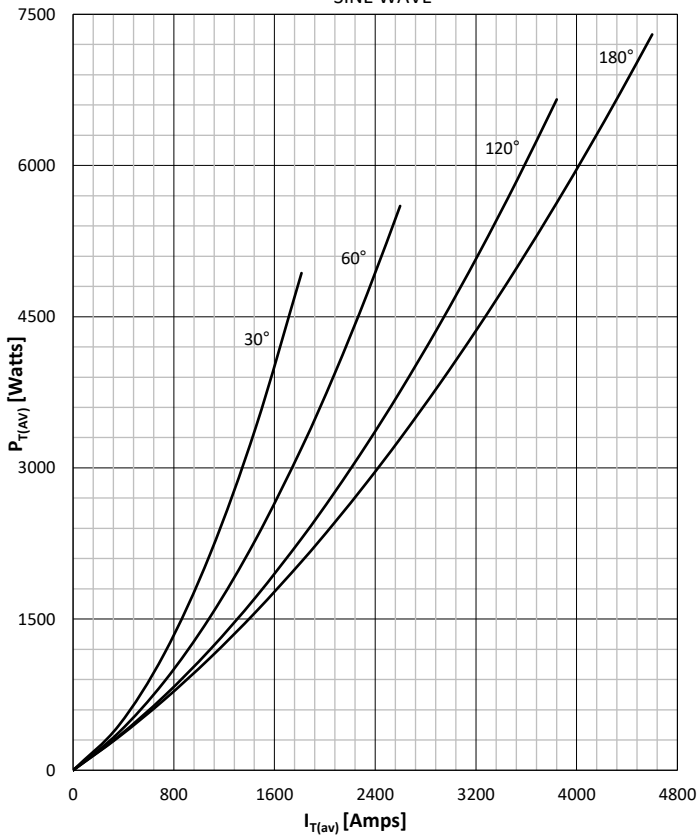
Key Parameters

V_{DRM} / V_{RRM}	= 1200V
$I_{T(AV)}$	= 4600A
I_{TSM}	= 70kA
$V_{T(TO)}$	= 0.85V
r_T	= 0.065m Ω

Symbol	Characteristic	Conditions	T _J [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	1000 - 1200	V
V_{RSM}	Non-repetitive peak reverse voltage		125	1100 - 1300	V
V_{DRM}	Repetitive peak off-state voltage		125	1000 - 1200	V
I_{RRM}	Repetitive peak reverse current	$V = V_{RRM}$	125	150	mA
I_{DRM}	Repetitive peak off-state current	$V = V_{DRM}$	125	150	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T _c =70°C, Double side cooled		4600	A
I_{RMS}	RMS on-state current	T _c =70°C, Double side cooled		7222	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	70000	A
			125	67000	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	24500 x 10 ³	A ² s
			125	22445 x 10 ³	A ² s
V_T	On-state voltage	On-state current = 2000A	25	1.02	V
$V_{T(TO)}$	Threshold voltage		125	0.85	V
r_T	On-state slope resistance		125	0.065	m Ω
SWITCHING					
di/dt	Critical rate of rise of on-state current		125	320	A/ μ s
dv/dt	Critical rate of rise of off-state voltage	$V_{DR} = 67\%V_{DRM}$	125	500	V/ μ s
GATE					
I_{gt}	Gate trigger current	$V_D=6V$	25	300	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	1000	mA
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, Double side cooled		0.0075	°C/W
$R_{th(j-c)}$	Thermal impedance, rec120°	Junction to case, Double side cooled		0.0086	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, Double side cooled		0.002	°C/W
T_j	Max. junction temperature			125	°C
T_{stg}	Storage temperature			-40 125	°C
M	Clamping Force			40 - 50	kN
W	Weight (Approx.)			1200	gm

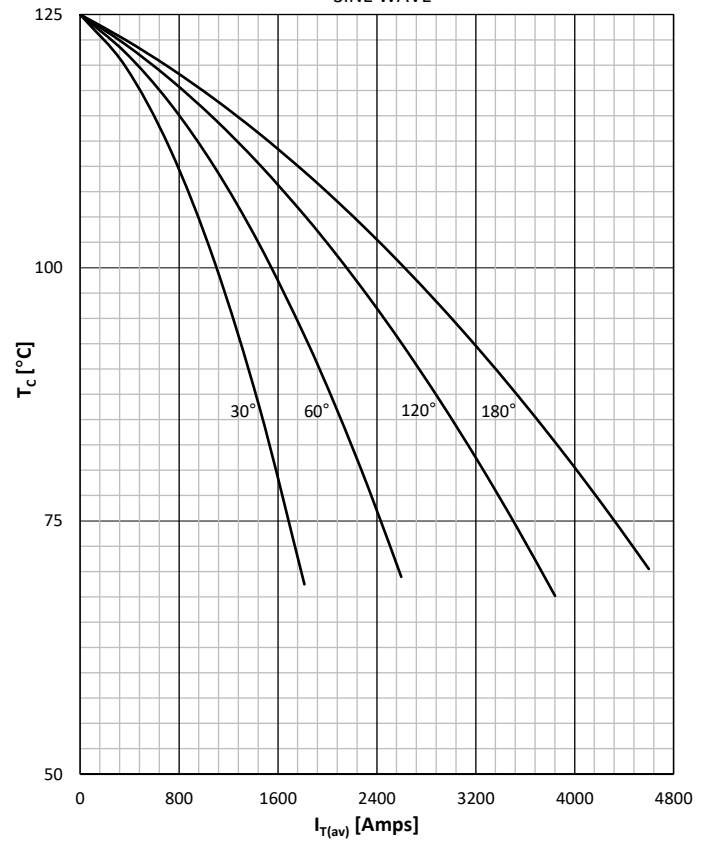
DISSIPATION CHARACTERISTICS

SINE WAVE



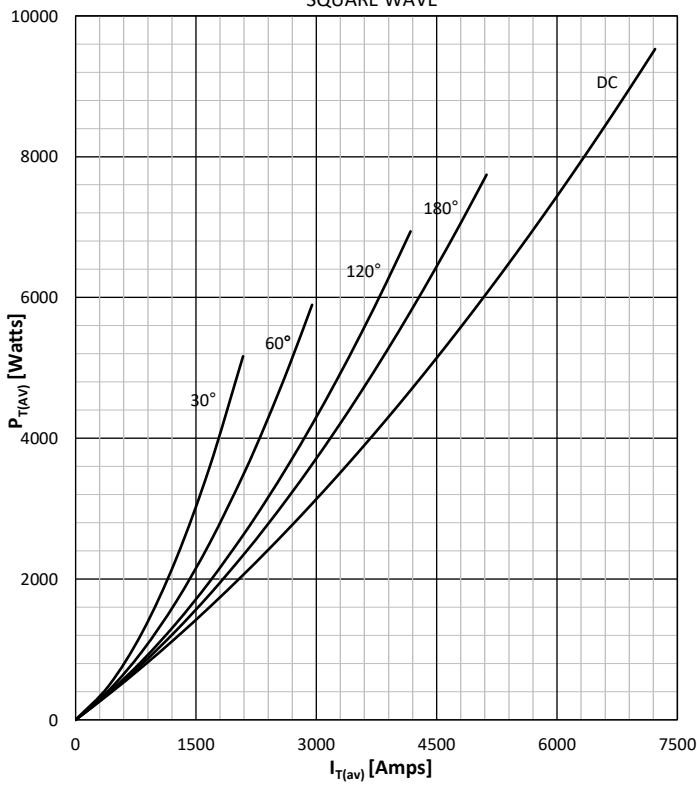
ON STATE CURRENT DERATING CURVE

SINE WAVE



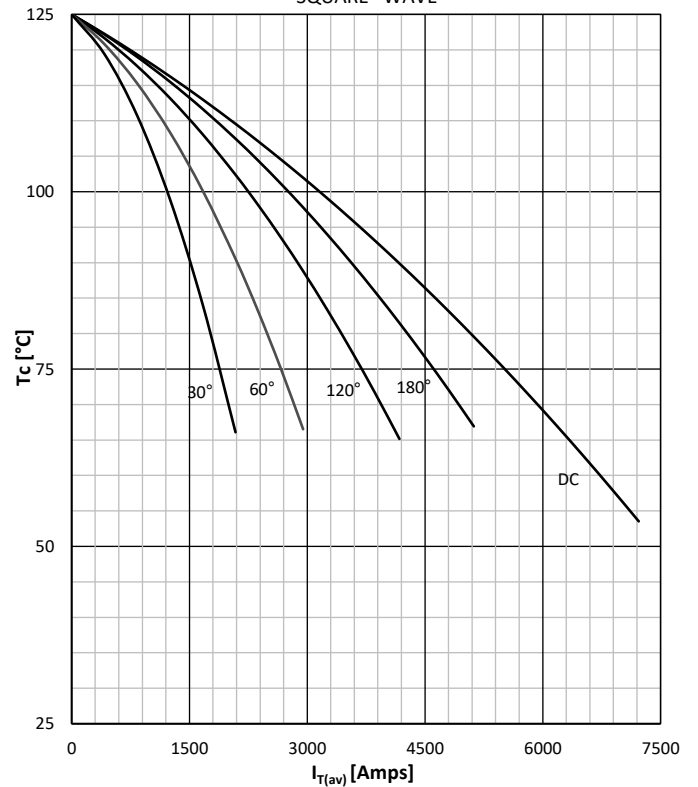
DISSIPATION CHARACTERISTICS

SQUARE WAVE

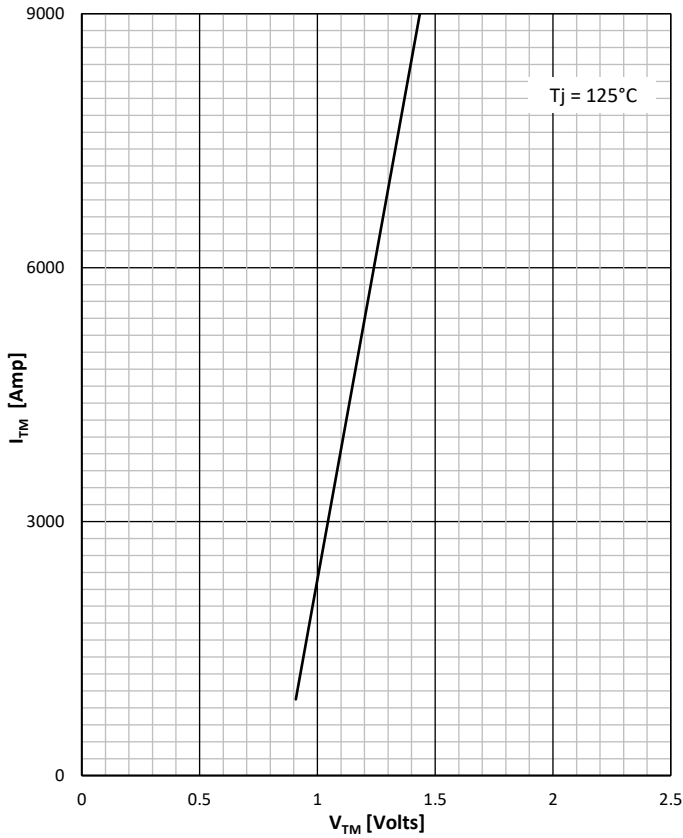


ON STATE CURRENT DERATING CURVE

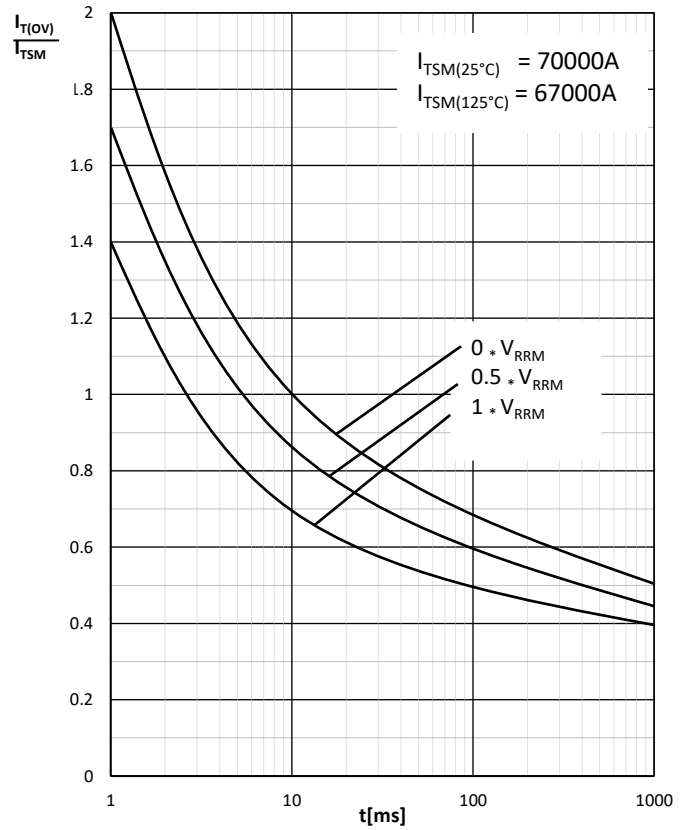
SQUARE WAVE



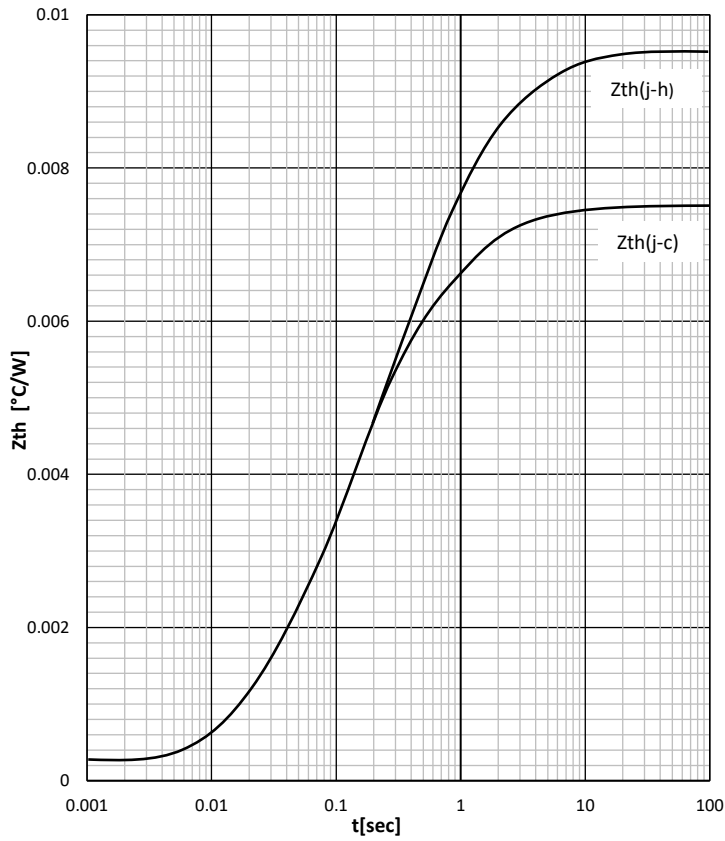
ON STATE CHARACTERISTIC



SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS

