

Features

- Full blocking capability over wide temperature range
- Electrically insulated base plate
- Pressure contacts technology for high reliability

Applications

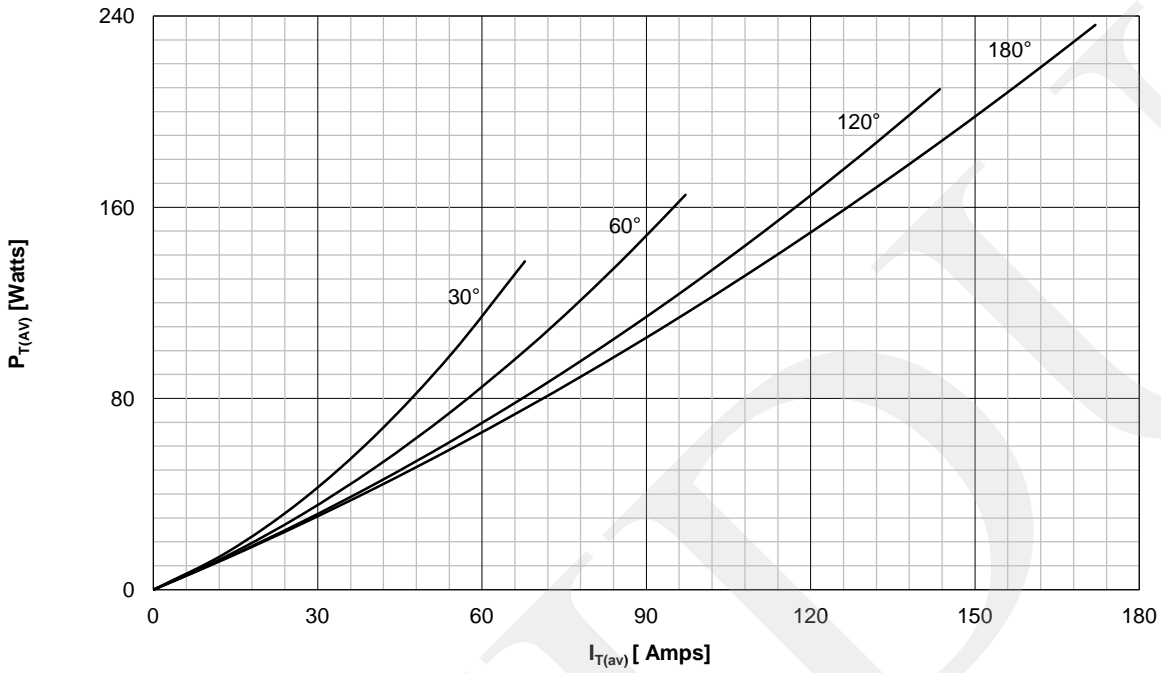
- Power Supplies
- DC motor control
- Controlled Rectifiers

Key Parameters

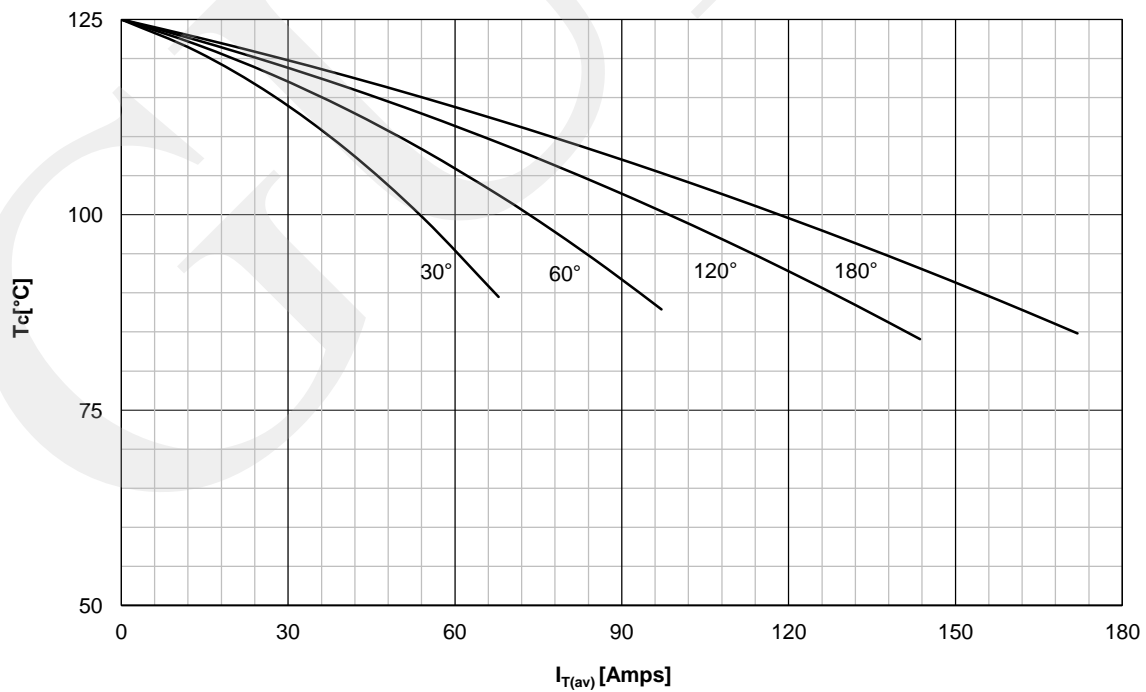
V_{DRM} / V_{RRM}	= 1800V
$I_{T(AV)}$	= 170A
I_{TSM}	= 6.0kA
$V_{T(TO)}$	= 0.95V
r_T	= 1.0mΩ

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	800 - 1800	V
V _{DRM}	Repetitive peak off-state voltage		125	800 - 1800	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	125	50	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	125	50	mA
CONDUCTING					
I _{T(AV)}	Mean on-state current	180° sin, 50 Hz, T _{CASE} =85°C		170	A
I _{RMS}	RMS on-state current			2703	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	6000	A
			125	5000	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	180 X 10 ³	A ² s
			125	125 X 10 ³	A ² s
V _T	On-state voltage	On-state current = 600 A	25	1.65	V
V _{T(TO)}	Threshold voltage		125	0.95	V
r _T	On-state slope resistance		125	1.0	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 =5V	25	200	mA
I _H	Holding current	V _D =5V, gate open circuit	25	600	mA
I _L	Latching current	V _D =5V	25	1000	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, 180°sine	Junction to case, per arm per module		0.17 0.085	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, per arm per module		0.04 0.02	°C/W
T _j	Max. junction temperature			125	°C
T _{stg}	Storage temperature			-40 125	°C
V _{ISOL}	Insulation test voltage,RMS	F=50Hz, 1min		2.5	KV
M1	Mounting torque			6 ± 15%	Nm
M2	Terminal connection torque			12 ± 15%	Nm
	Weight			650	g

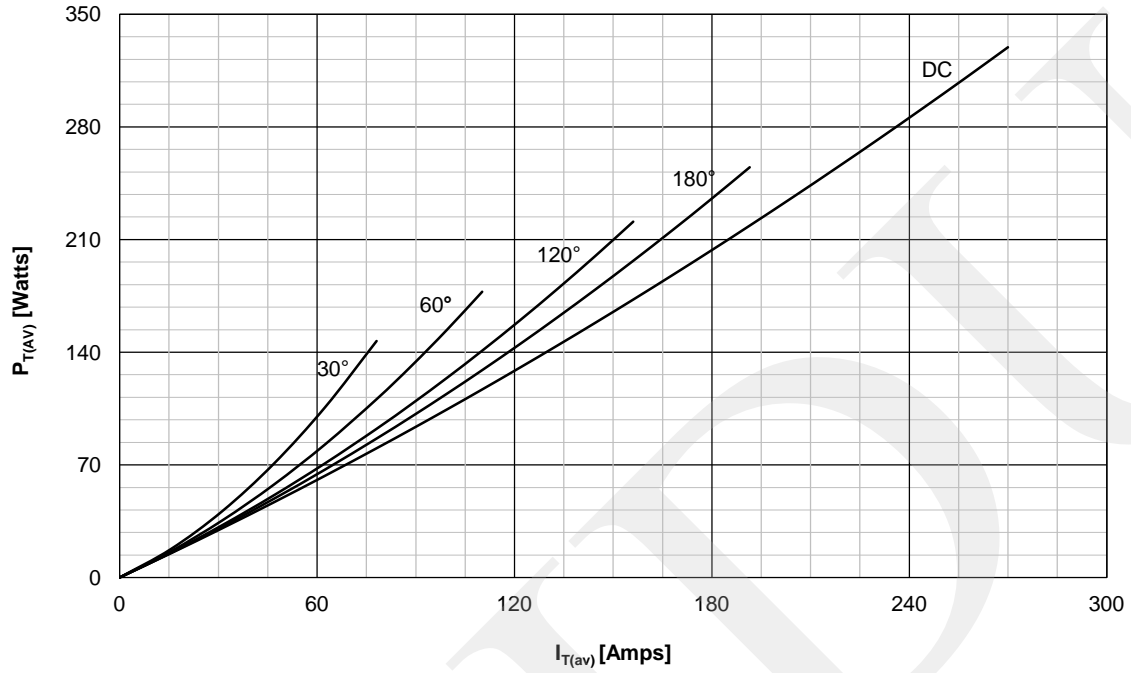
DISSIPATION CHARACTERISTICS PER ARM
SINE WAVE



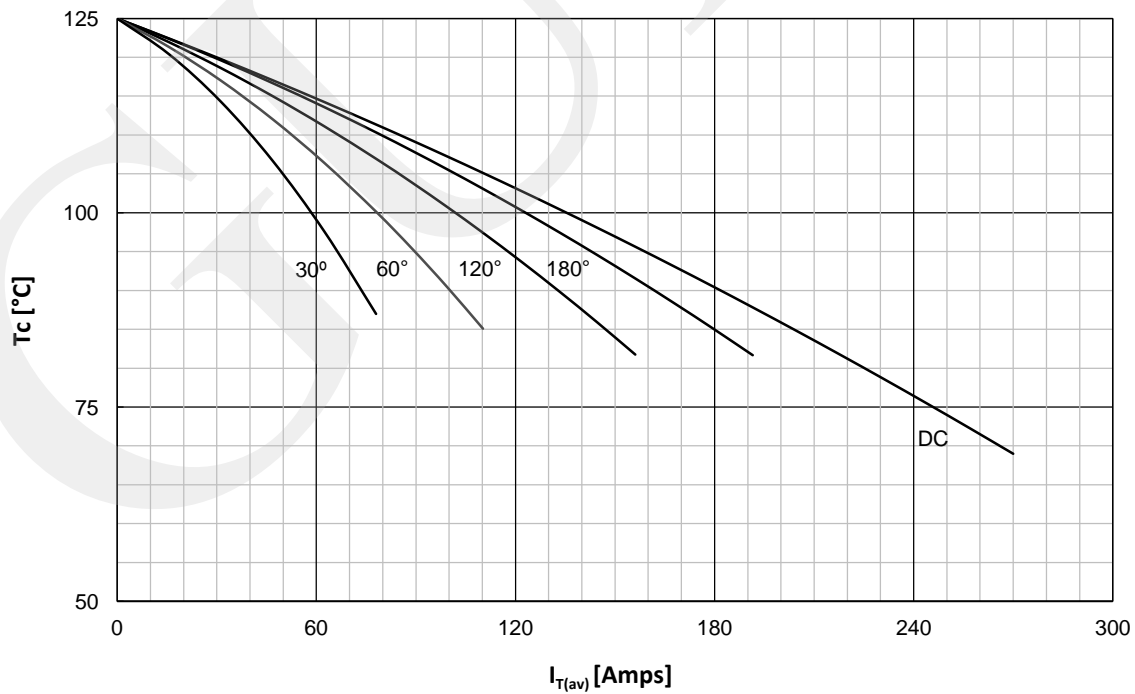
ON STATE CURRENT DERATING CURVE PER ARM
SINE WAVE



DISSIPATION CHARACTERISTICS PER ARM
SQUARE WAVE

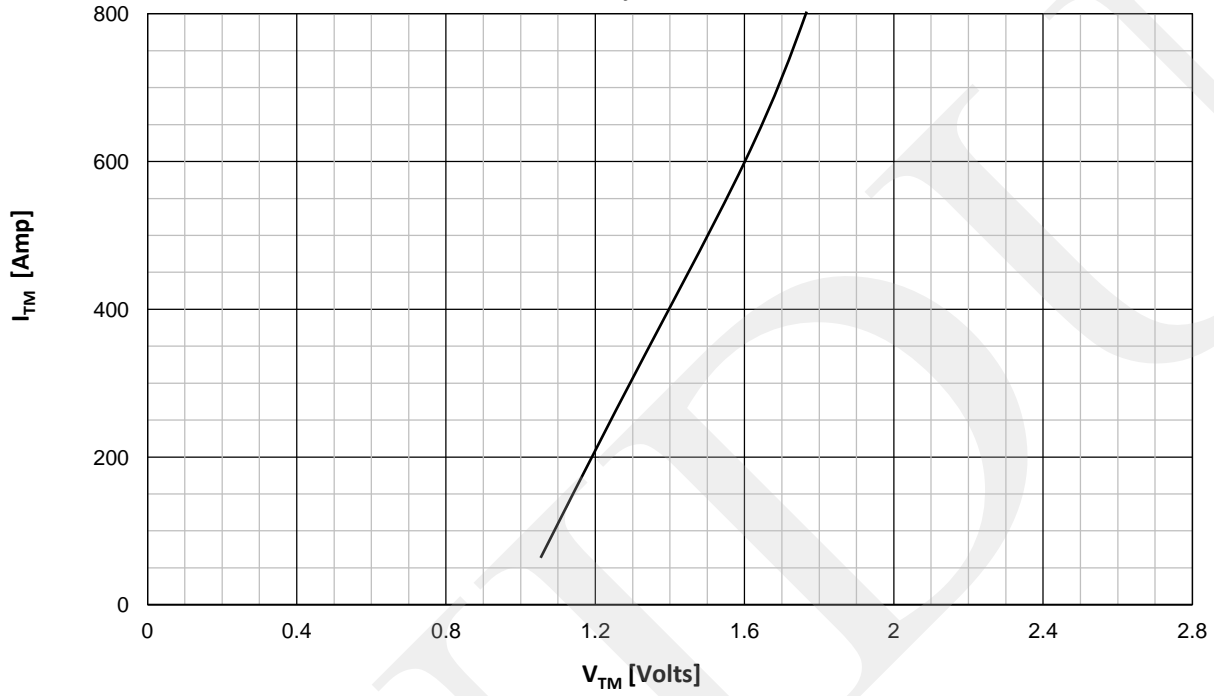


ON STATE CURRENT DERATING CURVE PER ARM
SQUARE WAVE

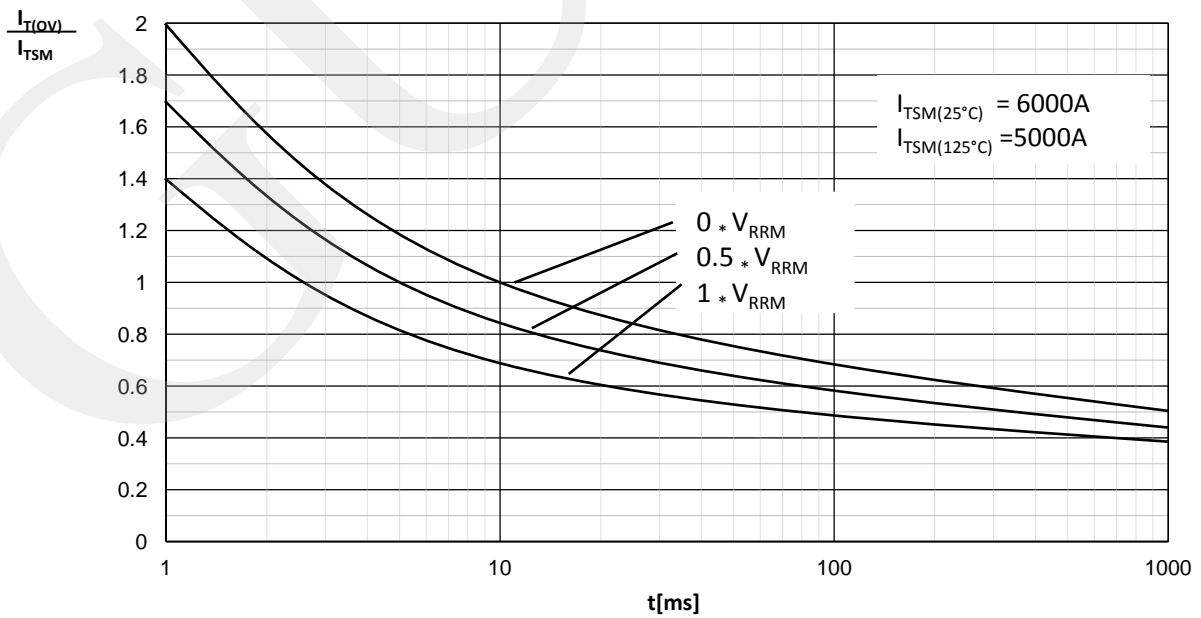


ON STATE CHARACTERISTICS

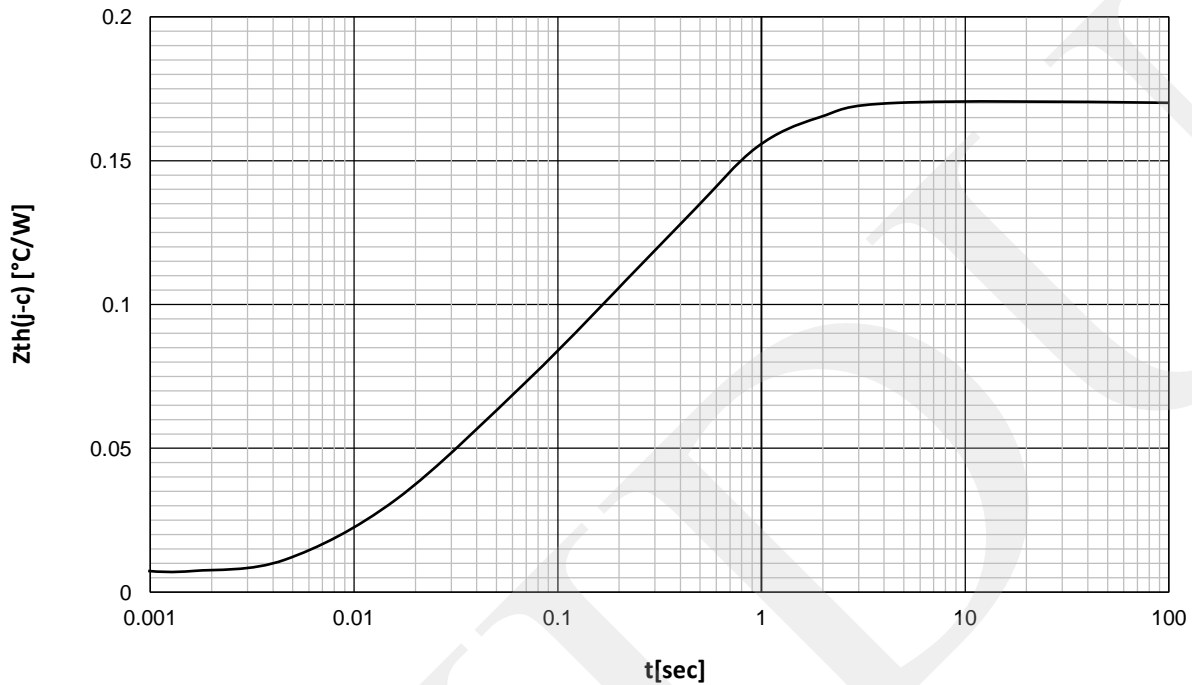
$T_j = 125^\circ\text{C}$



SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



ORDERING INFORMATION

GD	TT	170	X X
Fixed code	TT- Thyristor- Thyristor Module TD- Thyristor- Diode Module	Current Code	Voltage Code Code X 100 = V_{DRM}/V_{RRM}

Order Code GDTT170-18 – 1800V V_{DRM}/V_{RRM} , thyristor module

Outline

