

### Features

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

### Key Parameters

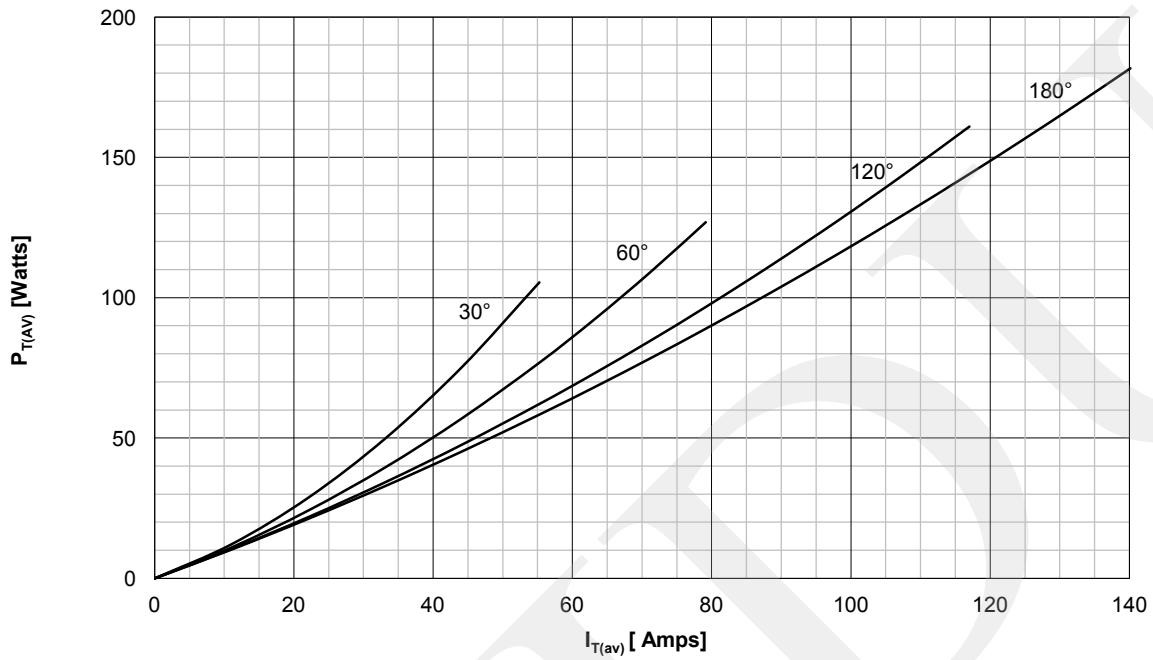
$V_{DRM} / V_{RRM}$	= 1800V
$I_{T(AV)}$	= 140A
$I_{TSM}$	= 4800A
$V_{T(TO)}$	= 0.90V
$r_T$	= 1.15mΩ

### Applications

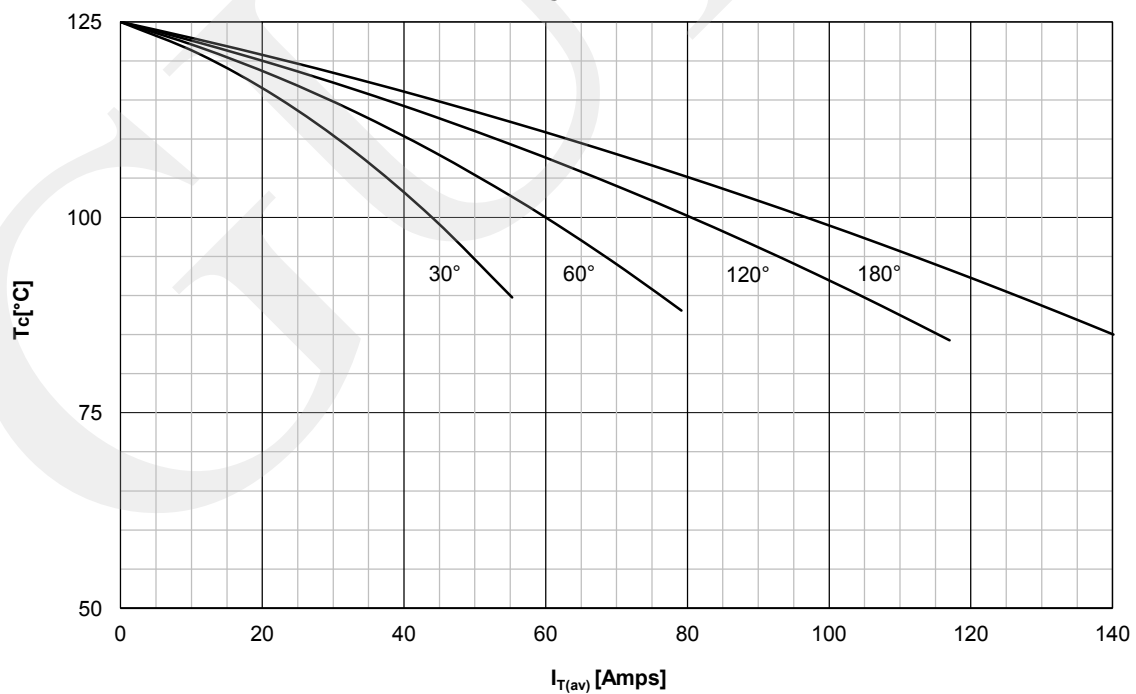
- Power Supplies
- DC motor control
- Controlled Rectifiers

Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	800 - 1800	V
V <sub>DRM</sub>	Repetitive peak off-state voltage		125	800 - 1800	V
I <sub>RRM</sub>	Repetitive peak reverse current	V = V <sub>RRM</sub>	125	40	mA
I <sub>DRM</sub>	Repetitive peak off-state current	V = V <sub>DRM</sub>	125	40	mA
<b>CONDUCTING</b>					
I <sub>T(AV)</sub>	Mean on-state current	180° sin, 50 Hz, T <sub>CASE</sub> =85°C		140	A
I <sub>RMS</sub>	RMS on-state current			220	A
I <sub>TSM</sub>	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	4800	A
			125	4000	A
I <sup>2</sup> t	I <sup>2</sup> t	Sine wave, 10 ms Without reverse voltage	25	115 x 10 <sup>3</sup>	A <sup>2</sup> s
			125	80 x 10 <sup>3</sup>	A <sup>2</sup> s
V <sub>T</sub>	On-state voltage	On-state current = 450A	25	1.47	V
V <sub>T(TO)</sub>	Threshold voltage		125	0.90	V
r <sub>T</sub>	On-state slope resistance		125	1.15	mΩ
<b>SWITCHING</b>					
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 <sub>DR</sub> = 67%V <sub>DRM</sub>	125	1000	V/μs
<b>GATE</b>					
I <sub>gt</sub>	Gate trigger current	V <sub>D</sub> =5V	25	150	mA
I <sub>H</sub>	Holding current	V <sub>D</sub> =5V, gate open circuit	25	200	mA
I <sub>L</sub>	Latching current	V <sub>D</sub> =5V	25	800	mA
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance, 180°sine	Junction to case, per arm per module		0.22 0.11	°C/W
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, per arm per module		0.06 0.03	°C/W
T <sub>j</sub>	Max. junction temperature			125	°C
T <sub>stg</sub>	Storage temperature			-40 .... 125	°C
V <sub>ISOL</sub>	Insulation test voltage,RMS	F=50Hz, 1min		2.5	KV
M1	Mounting torque			6 ± 15%	Nm
M2	Terminal connection torque			6 ± 15%	Nm
	Weight			300	g

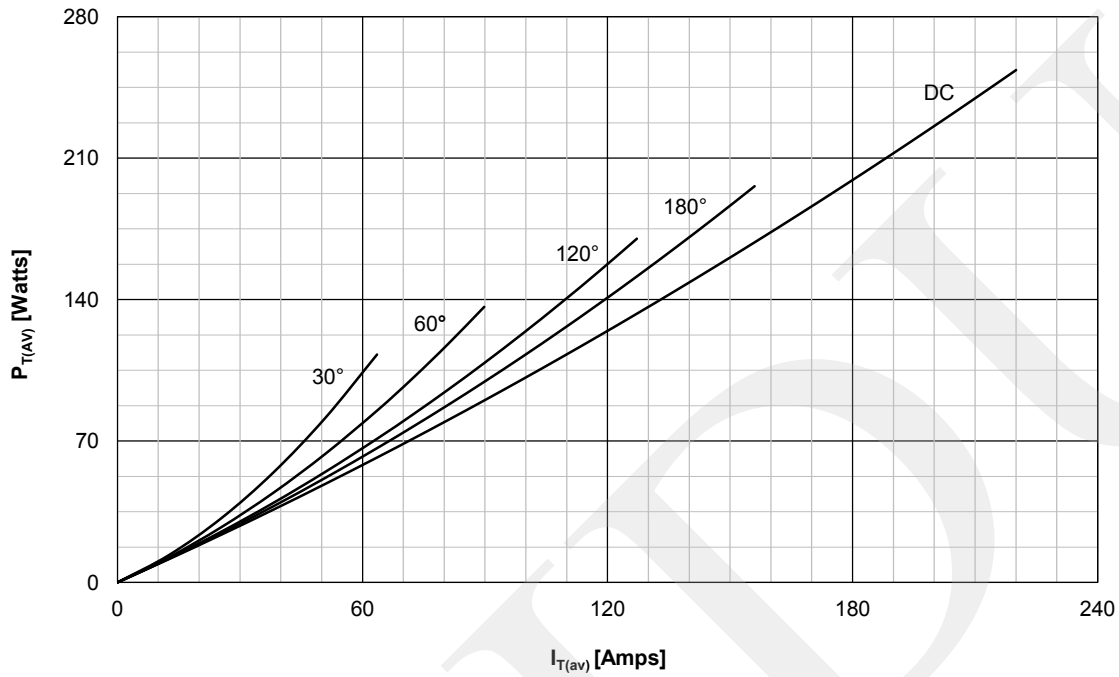
DISSIPATION CHARACTERISTICS PER ARM  
SINE WAVE



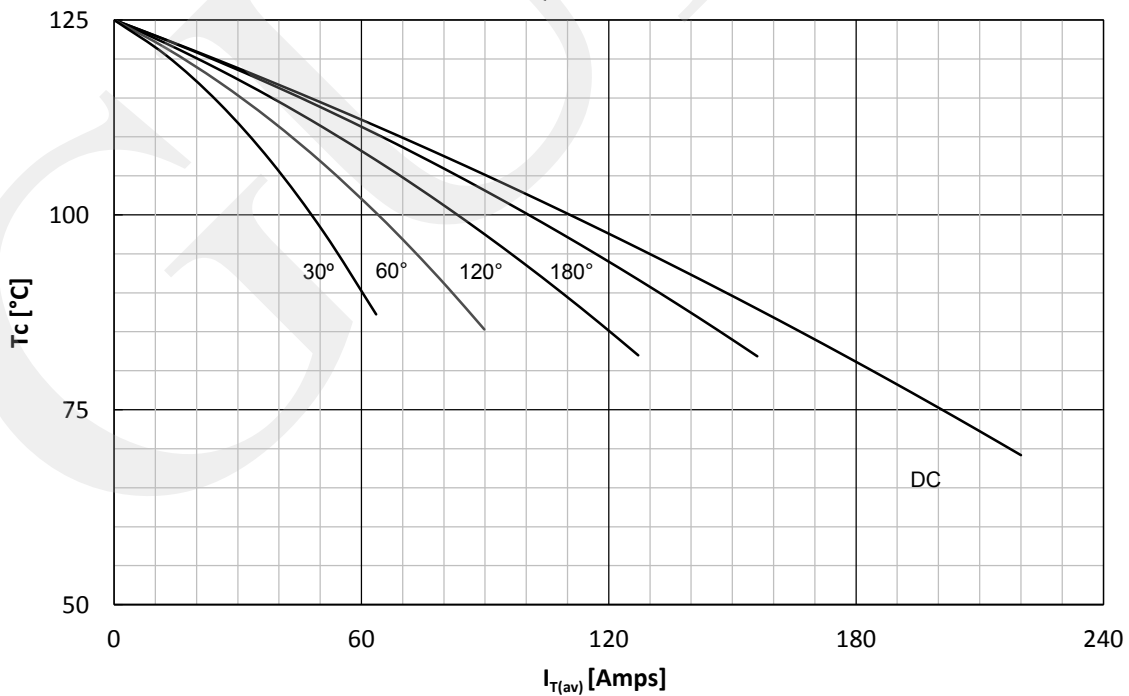
ON STATE CURRENT DERATING CURVE PER ARM  
SINE WAVE



DISSIPATION CHARACTERISTICS PER ARM  
SQUARE WAVE

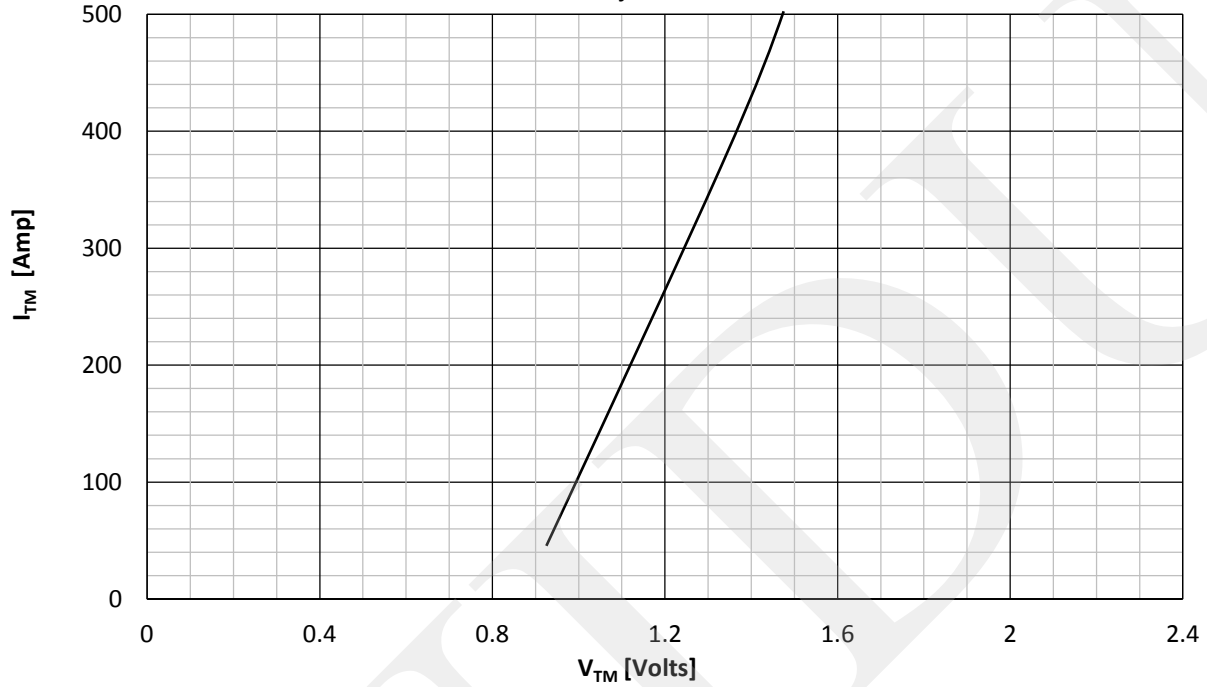


ON STATE CURRENT DERATING CURVE PER ARM  
SQUARE WAVE

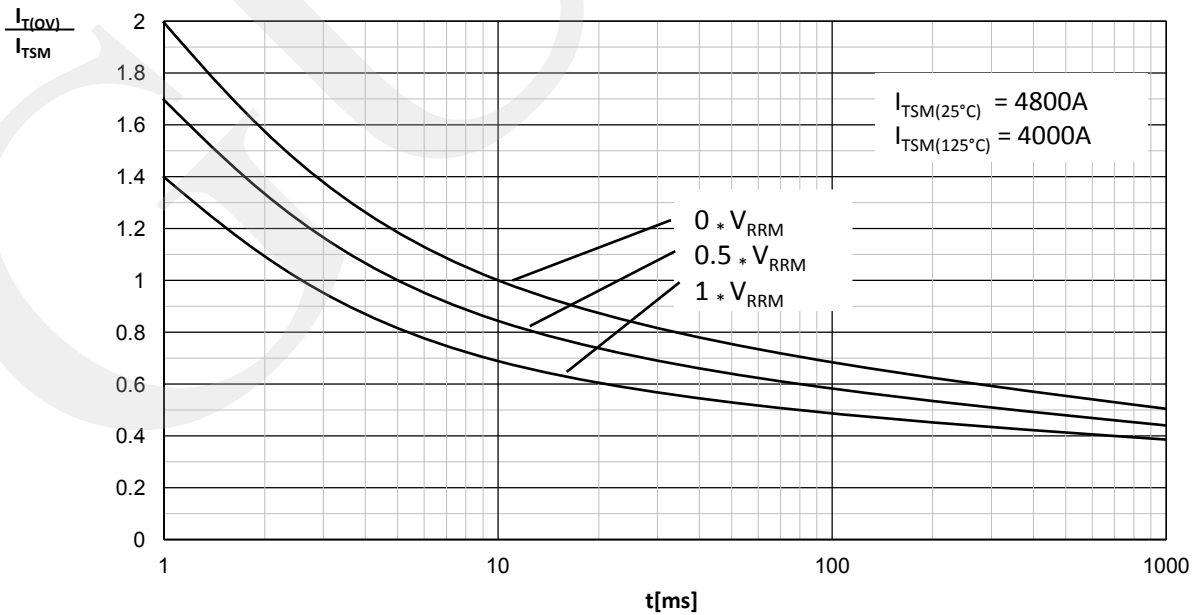


ON STATE CHARACTERISTICS

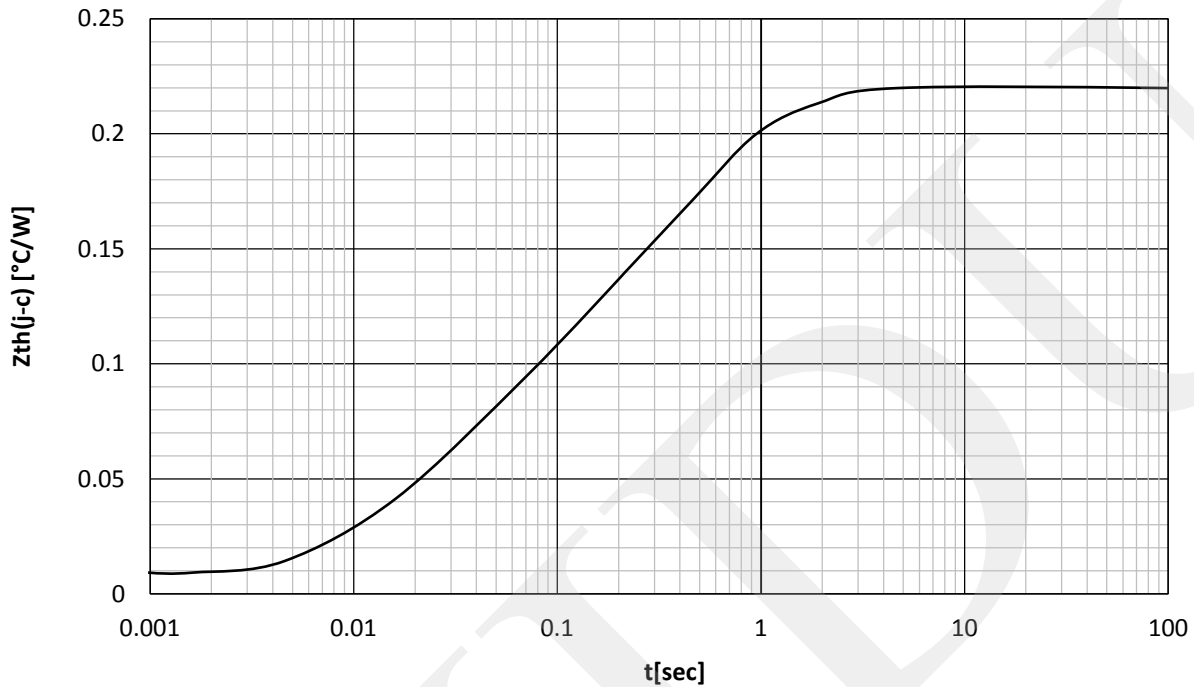
$T_j = 125^\circ\text{C}$



SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



ORDERING INFORMATION

GD	TT	140	XX
Fixed code	TT- Thyristor- Thyristor Module TD- Thyristor- Diode Module	Current Code	Voltage Code Code X 100 = $V_{DRM}/V_{RRM}$

Order Code GDTT140-18 – 1800V  $V_{DRM}/V_{RRM}$ , thyristor module

Outline

