

### Features

- Full blocking capability over wide temperature range
- Electrically insulated base plate
- Hard soldered joints for high reliability

### Key Parameters

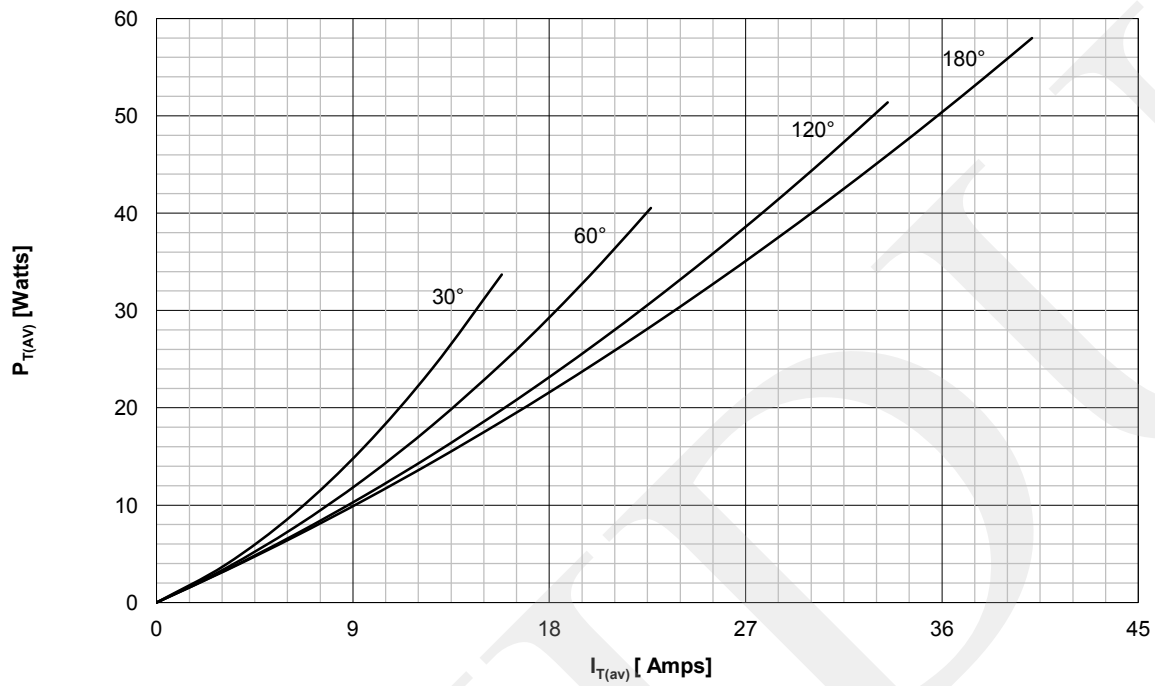
$V_{DRM} / V_{RRM}$	= 1800V
$I_{T(AV)}$	= 40A
$I_{TSM}$	= 1000A
$V_{T(TO)}$	= 1.0V
$r_T$	= 4.5mΩ

### Applications

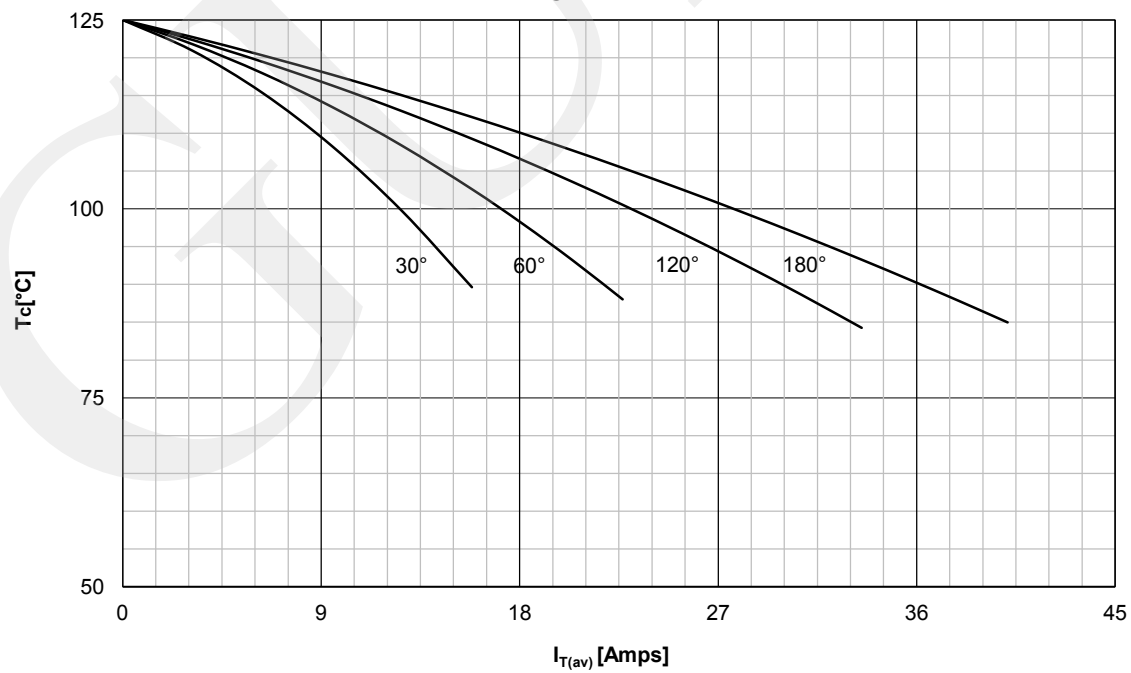
- Power Supplies
- DC motor control
- Controlled Rectifiers

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	15	mA
I <sub>DRM</sub>	Repetitive peak off-state current	V = V <sub>DRM</sub>	125	15	mA
<b>CONDUCTING</b>					
I <sub>T(AV)</sub>	Mean on-state current	180° sin ,50 Hz, T <sub>CASE</sub> =85°C		40	A
I <sub>RMS</sub>	RMS on-state current			63	A
I <sub>TSM</sub>	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	1000	A
			125	850	A
I <sup>2</sup> t	I <sup>2</sup> t	Sine wave, 10 ms Without reverse voltage	25	5000	A <sup>2</sup> s
			125	3612	A <sup>2</sup> s
V <sub>T</sub>	On-state voltage	On-state current = 200A	25	1.95	V
V <sub>T(TO)</sub>	Threshold voltage		125	1.0	V
r <sub>T</sub>	On-state slope resistance		125	4.5	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	250	mA
I <sub>L</sub>	Latching current	V <sub>D</sub> =5V	25	600	mA
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance, 180°sine	Junction to case, per arm per module		0.69 0.35	°C/W
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, per arm per module		0.2 0.1	°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			5 ± 15%	Nm
M2	Terminal connection torque			3 ± 15%	Nm
	Weight			105	g

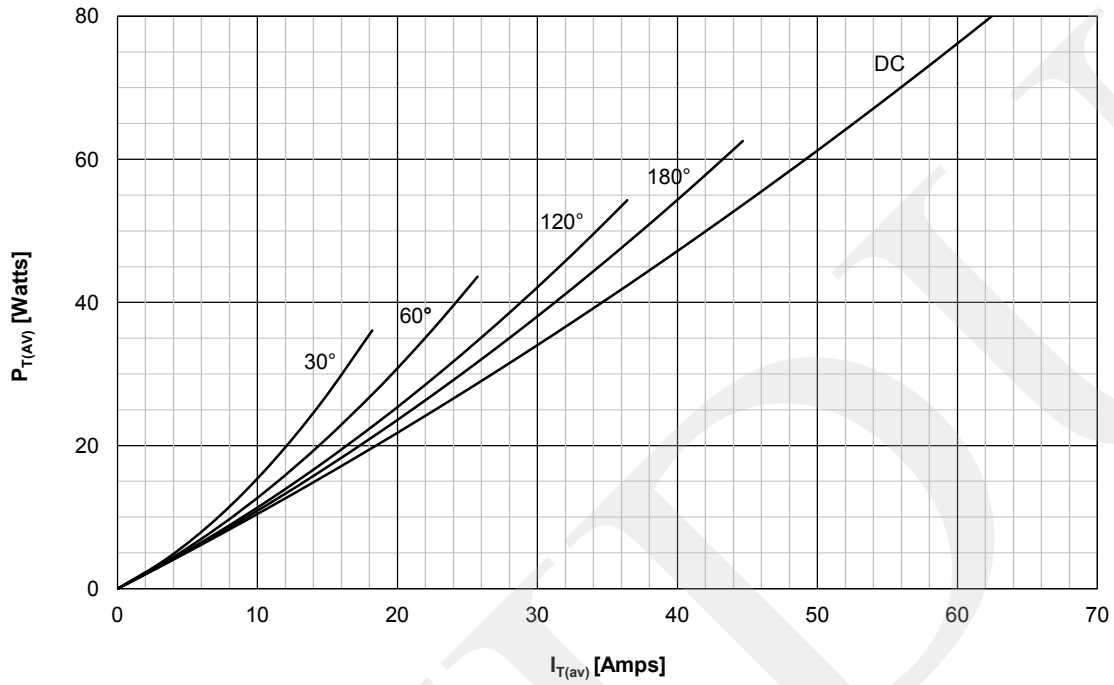
DISSIPATION CHARACTERISTICS PER ARM  
SINE WAVE



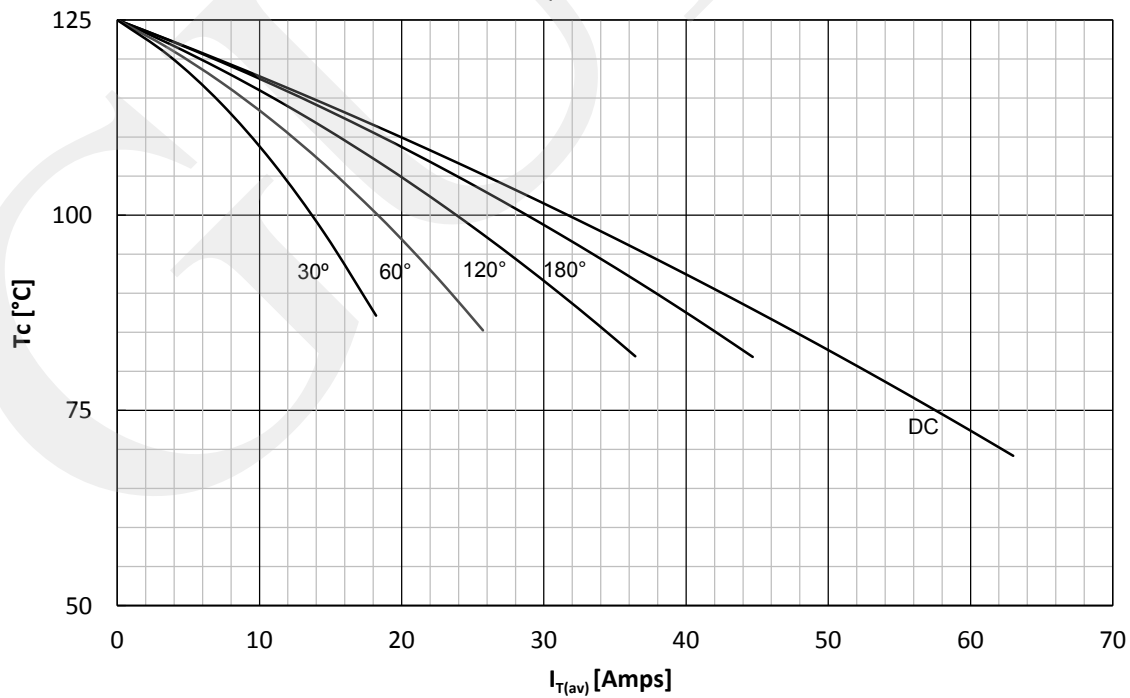
ON STATE CURRENT DERATING CURVE PER ARM  
SINE WAVE



DISSIPATION CHARACTERISTICS PER ARM  
SQUARE WAVE

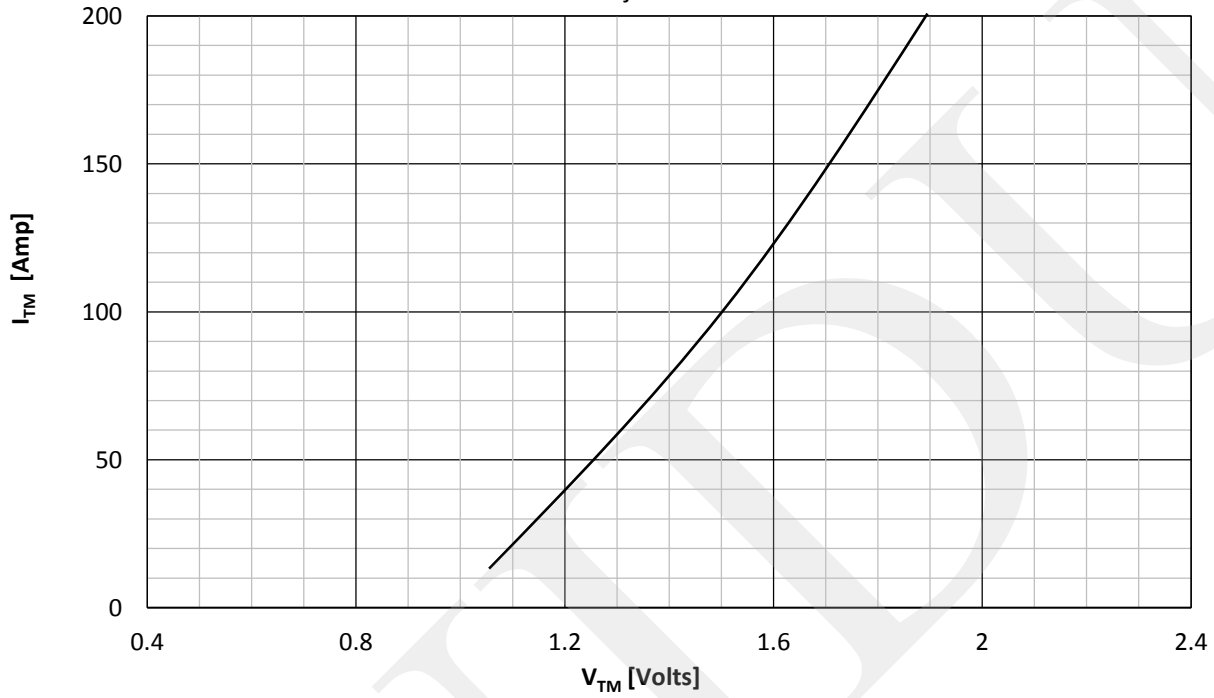


ON STATE CURRENT DERATING CURVE PER ARM  
SQUARE WAVE

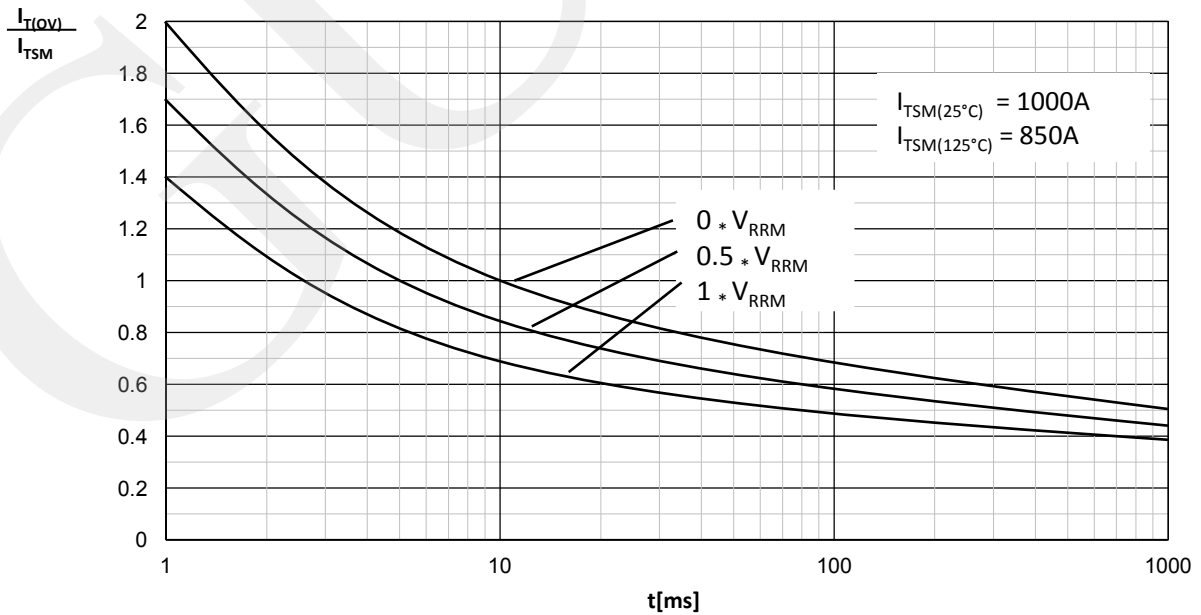


ON STATE CHARACTERISTICS

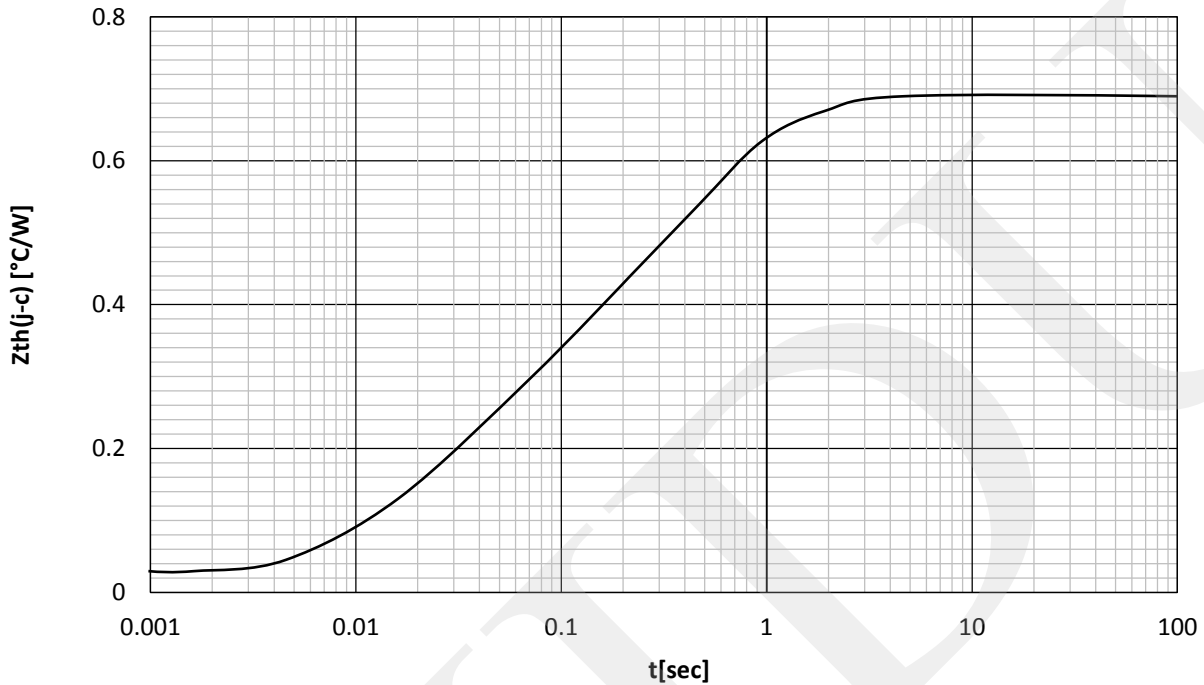
$T_j = 125^\circ\text{C}$



SURGE CHARACTERISTICS



**TRANSIENT THERMAL IMPEDANCE, PER ARM**



**ORDERING INFORMATION**

<b>GD</b>	<b>TT</b>	<b>40</b>	<b>X X</b>
Fixed code	TT- Thyristor- Thyristor Module TD- Thyristor- Diode Module	Current Code	Voltage Code Code X 100 = $V_{DRM}/V_{RRM}$

Order Code GDTT40-18 – 1800V  $V_{DRM}/V_{RRM}$ , thyristor module

Outline

