

Features

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

Applications

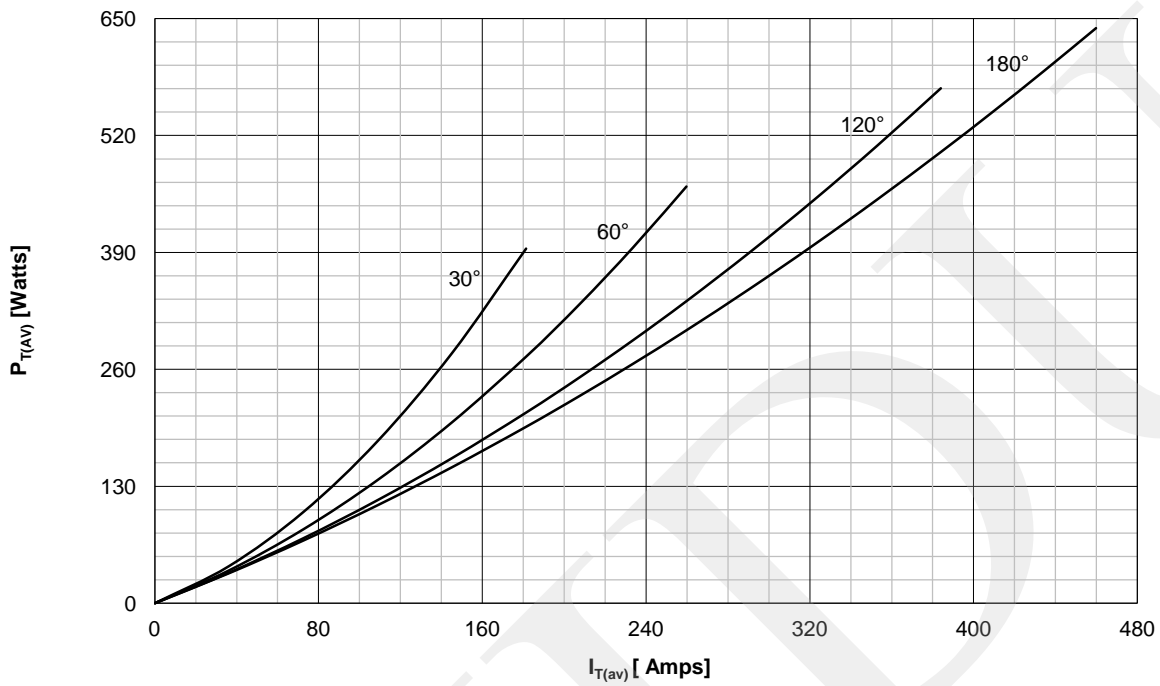
- Power Supplies
- DC motor control
- Controlled Rectifiers

Key Parameters

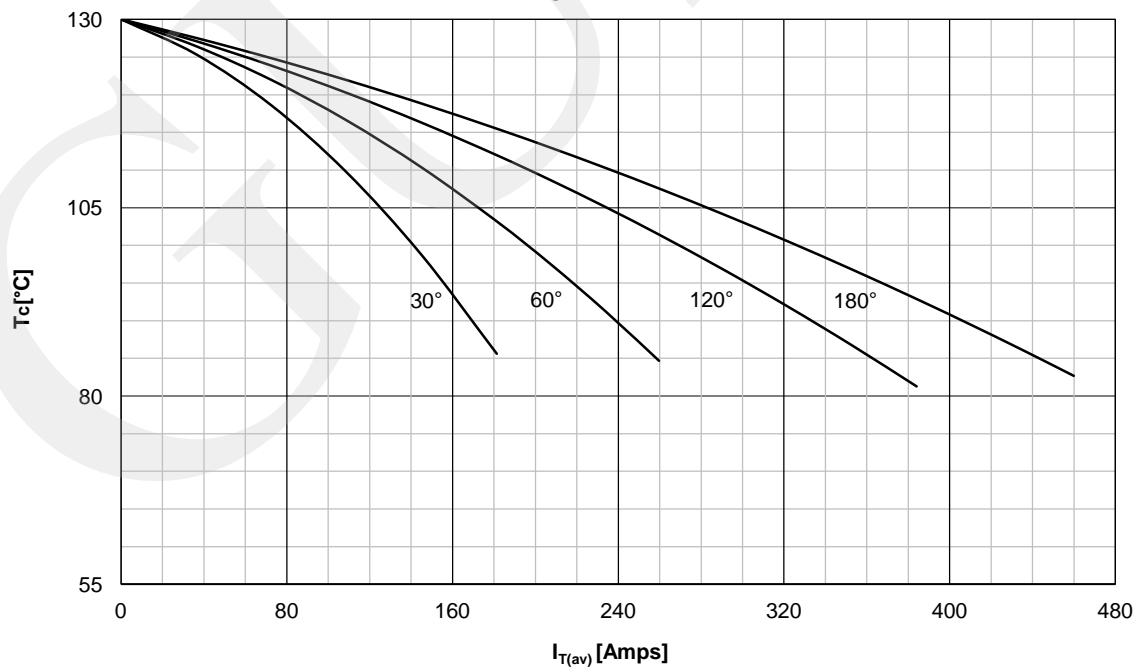
V_{DRM} / V_{RRM}	= 1800V
$I_{T(AV)}$	= 460A
I_{TSM}	= 18kA
$V_{T(TO)}$	= 0.88V
r_T	= 0.45mΩ

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		130	800 - 1800	V
V _{DRM}	Repetitive peak off-state voltage		130	800 - 1800	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	130	200	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	130	200	mA
CONDUCTING					
I _{T(AV)}	Mean on-state current	180° sin, 50 Hz, T _{CASE} =83°C		460	A
I _{RMS}	RMS on-state current			722	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	18000	A
			130	15500	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	1620 X 10 ³	A ² s
			130	1201 X 10 ³	A ² s
V _T	On-state voltage	On-state current = 1400 A	25	1.60	V
V _{T(TO)}	Threshold voltage		130	0.88	V
r _T	On-state slope resistance		130	0.45	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current		130	150	A/μs
dv/dt	Critical rate of rise of off-state voltage	V _{DR} = 67%V _{DRM}	130	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	500	mA
I _L	Latching current	V _D =5V	25	2000	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, 180°sine	Junction to case, per arm per module		0.074 0.037	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, per arm per module		0.02 0.01	°C/W
T _j	Max. junction temperature			130	°C
T _{stg}	Storage temperature			-40 130	°C
V _{ISOL}	Insulation test voltage,RMS	F=50Hz, 1min		3.0	KV
M1	Mounting torque			6 ± 15%	Nm
M2	Terminal connection torque			12 ± 15%	Nm
	Weight (Approx.)			1400	g

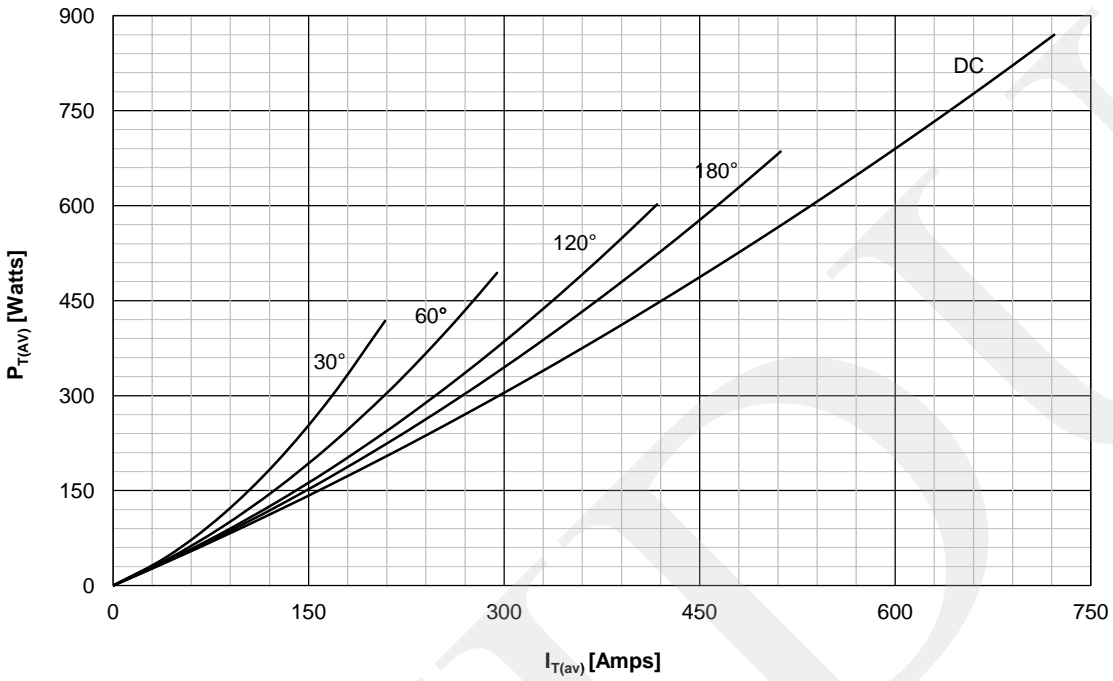
DISSIPATION CHARACTERISTICS PER ARM
SINE WAVE



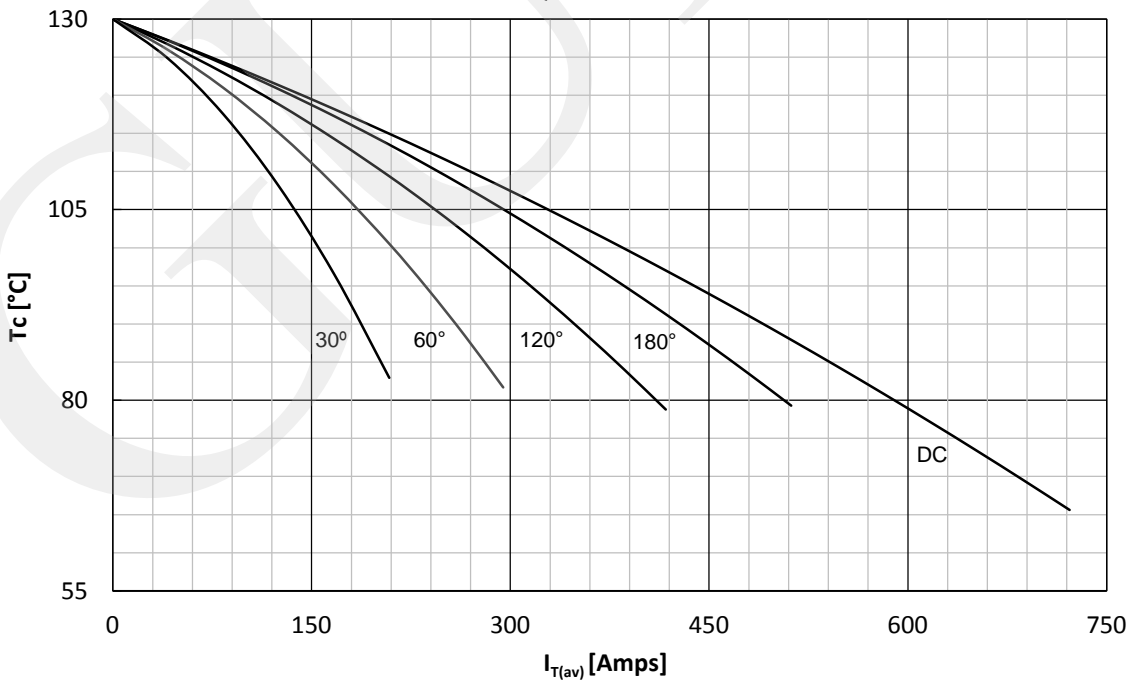
ON STATE CURRENT DERATING CURVE PER ARM
SINE WAVE



DISSIPATION CHARACTERISTICS PER ARM
SQUARE WAVE

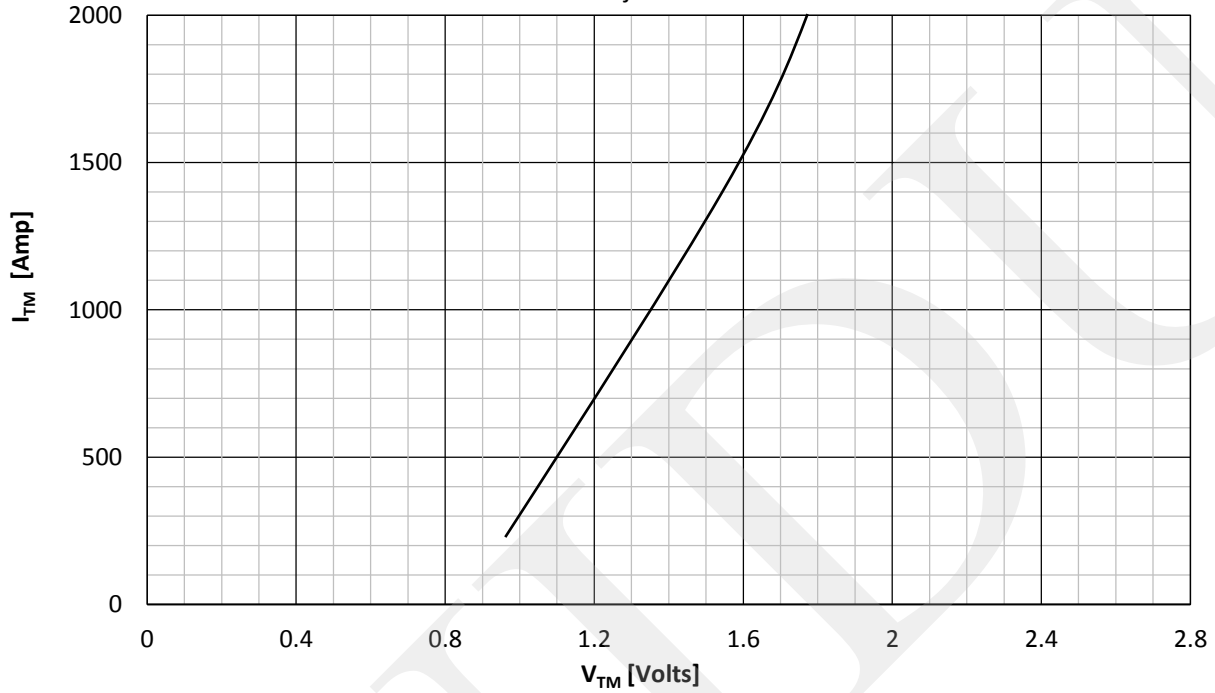


ON STATE CURRENT DERATING CURVE PER ARM
SQUARE WAVE

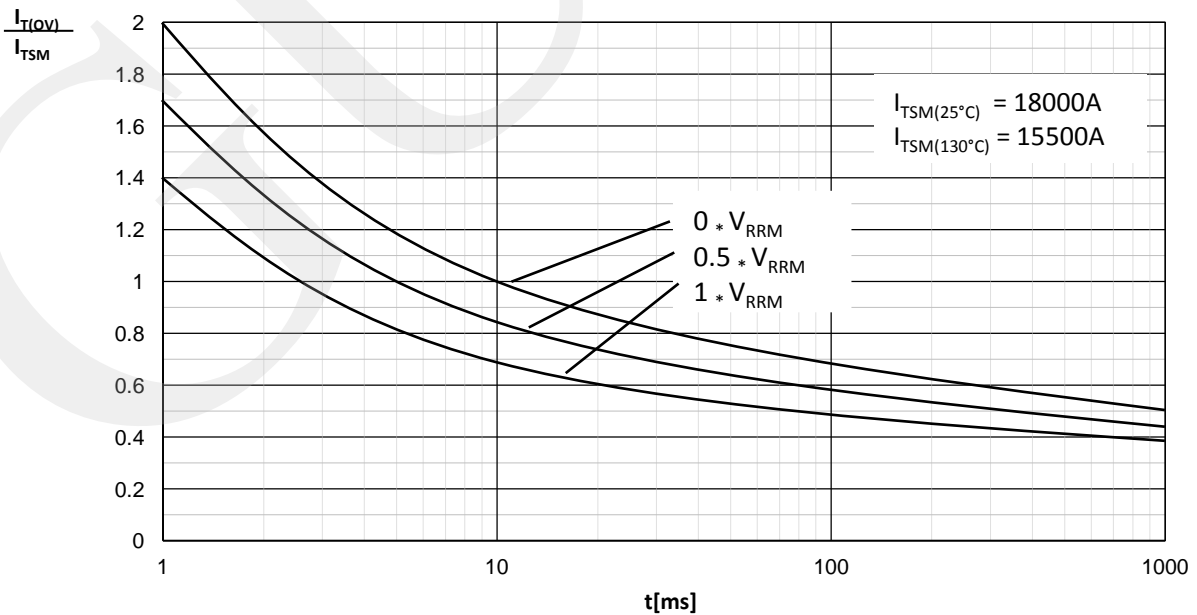


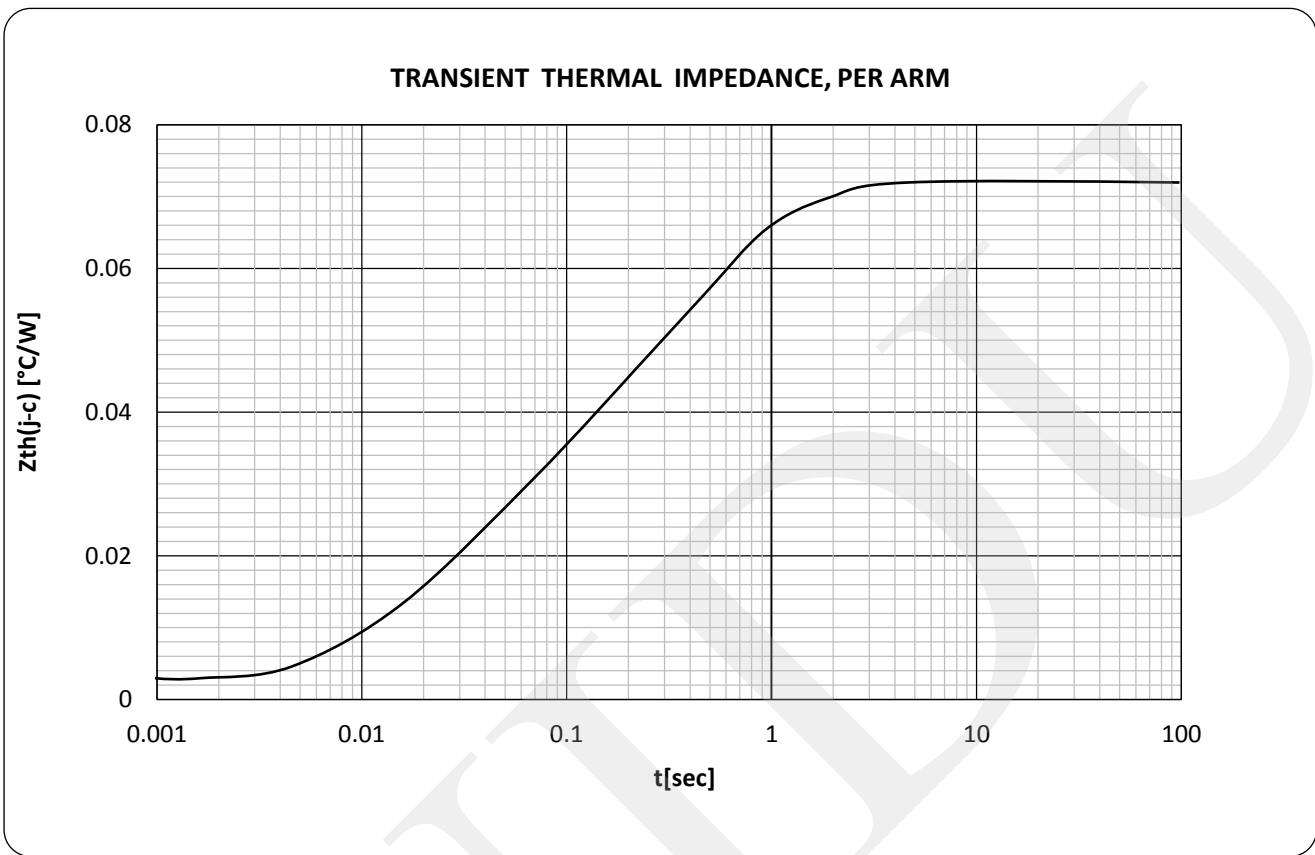
ON STATE CHARACTERISTICS

$T_j = 130^\circ\text{C}$



SURGE CHARACTERISTICS





ORDERING INFORMATION

GD	TT	460	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 GDTT460-18 – 1800V V_{DRM}/V_{RRM} , Thyristor module

Outline

