THYRISTOR MODULE
(Non isolated type)
MTG80

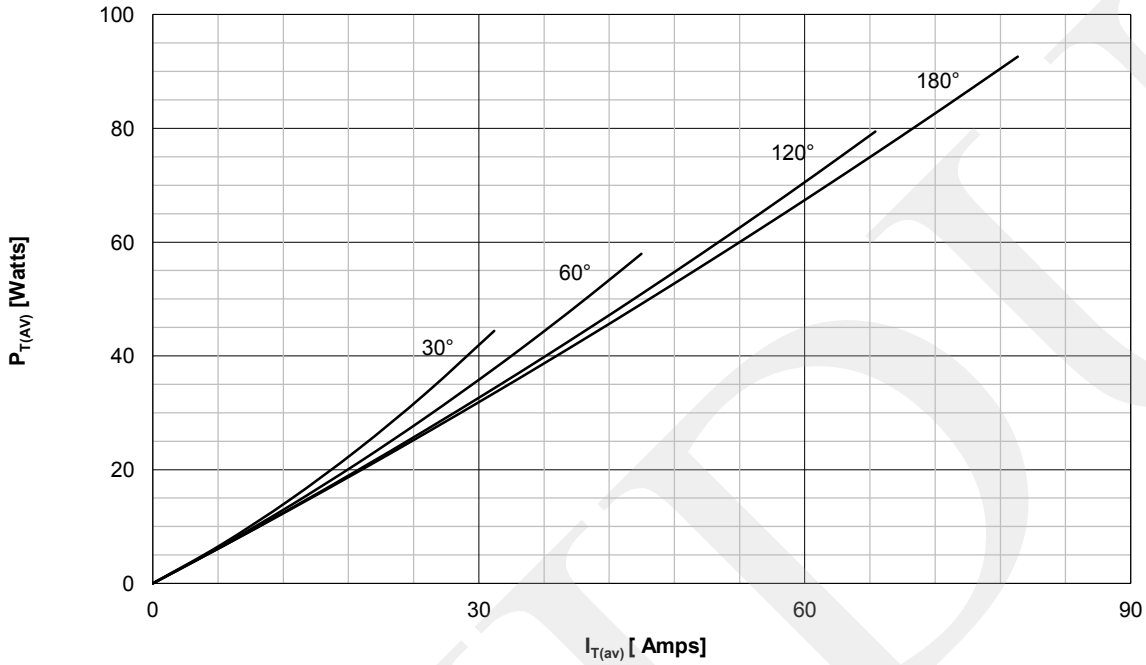
Features
- Full blocking capability over wide temperature range
- Hard soldered joints for high reliability

Key Parameters
V_{DRM} /V_{RRM} = 400V
$I_{T(AV)}$ = 80A
I_{TSM} = 2400A
$V_{T(TO)}$ = 1.0V
r_T = 0.83mΩ

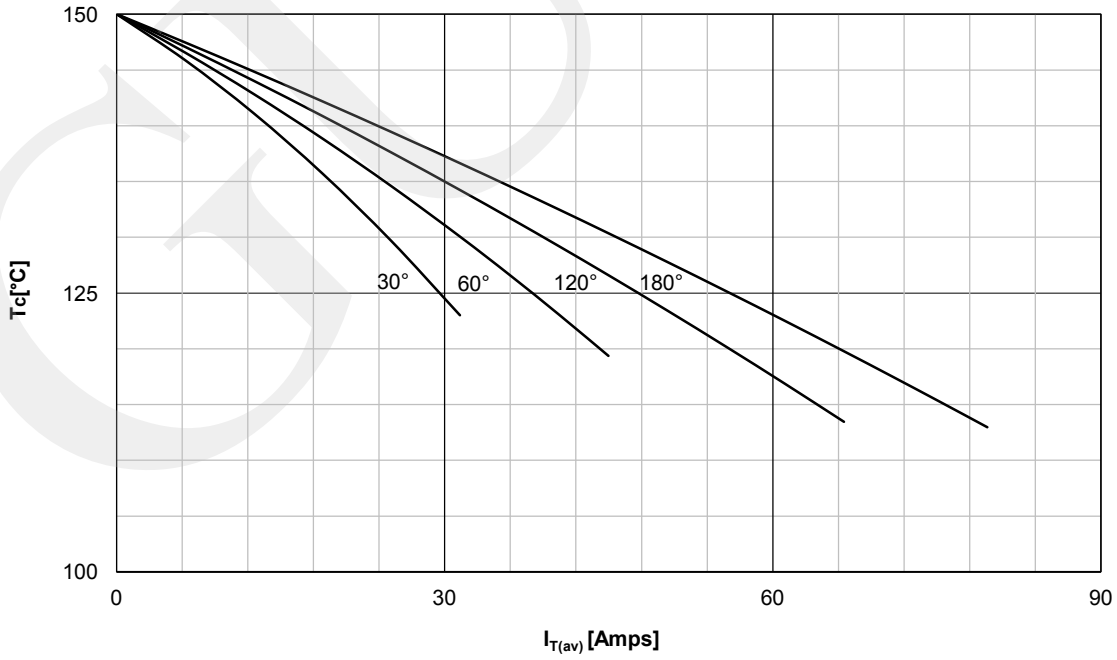
Applications
- Power Supplies
- DC motor control
- Controlled Rectifiers

Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		150	200 - 400	V
V_{DRM}	Repetitive peak off-state voltage		150	200 - 400	V
I_{RRM}	Repetitive peak reverse current	V= V_{RRM}	150	12	mA
I_{DRM}	Repetitive peak off-state current	V= V_{DRM}	150	12	mA
CONDUCTING					
$I_{T(AV)}$	Mean on-state current	180° sin ,50 Hz, T_{CASE}=116°C		80	A
I_{RMS}	RMS on-state current			125	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	2400	A
			150	2300	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	28800	A^2s
			150	26450	A^2s
V_T	On-state voltage	On-state current = 240A	25	1.20	V
$V_{T(TO)}$	Threshold voltage		150	1.0	V
r_T	On-state slope resistance		150	0.83	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current		150	50	A/μs
dv/dt	Critical rate of rise of off-state voltage	V_{DR} = 67%V_{DRM}	150	50	V/μs
GATE					
I_{gt}	Gate trigger current	V_D=5V	25	150	mA
I_H	Holding current	V_D=5V, gate open circuit	25	100	mA
I_L	Latching current	V_D=5V	25	400	mA
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, 180°sine	Junction to case, per chip		0.35	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, per module		0.03	°C/W
T_j	Max. junction temperature			150	°C
T_{stg}	Storage temperature			-40 125	°C
M1	Mounting torque			3 - 5	Nm
M2	Terminal connection torque			2.5	Nm
	Weight			170	g

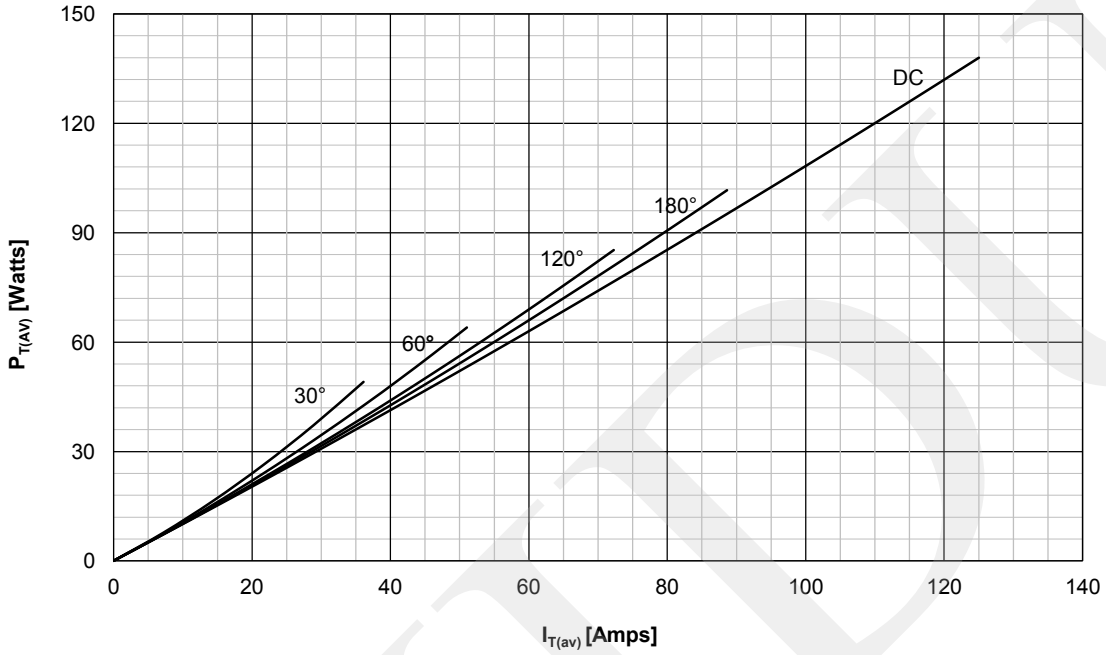
DISSIPATION CHARACTERISTICS PER ARM
SINE WAVE



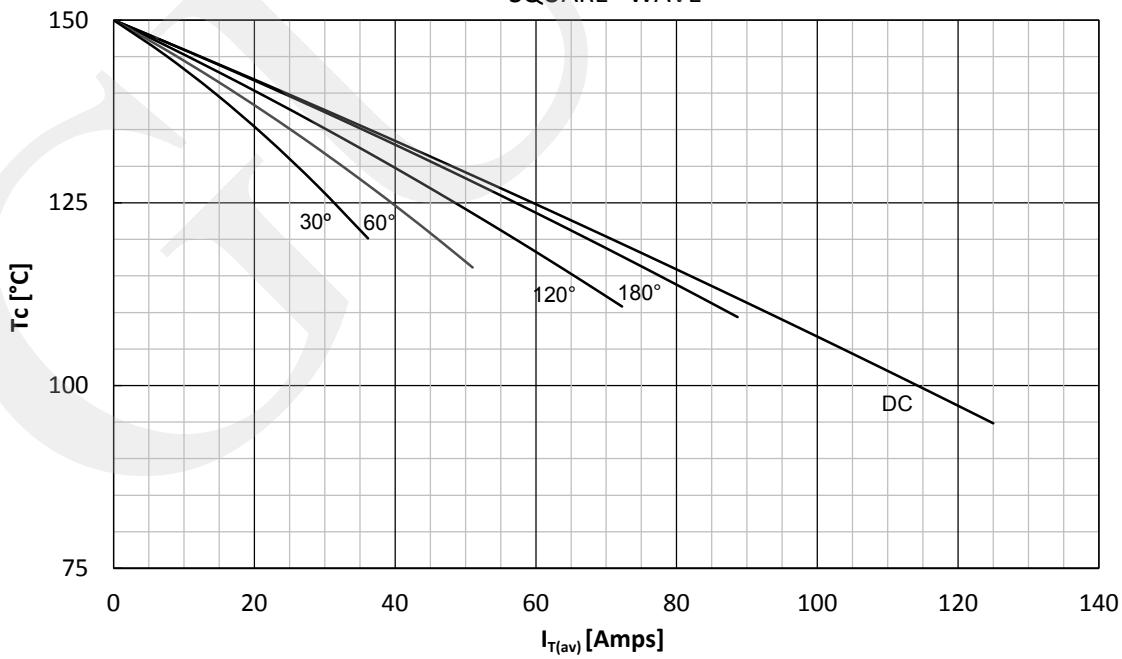
ON STATE CURRENT DERATING CURVE PER ARM
SINE WAVE

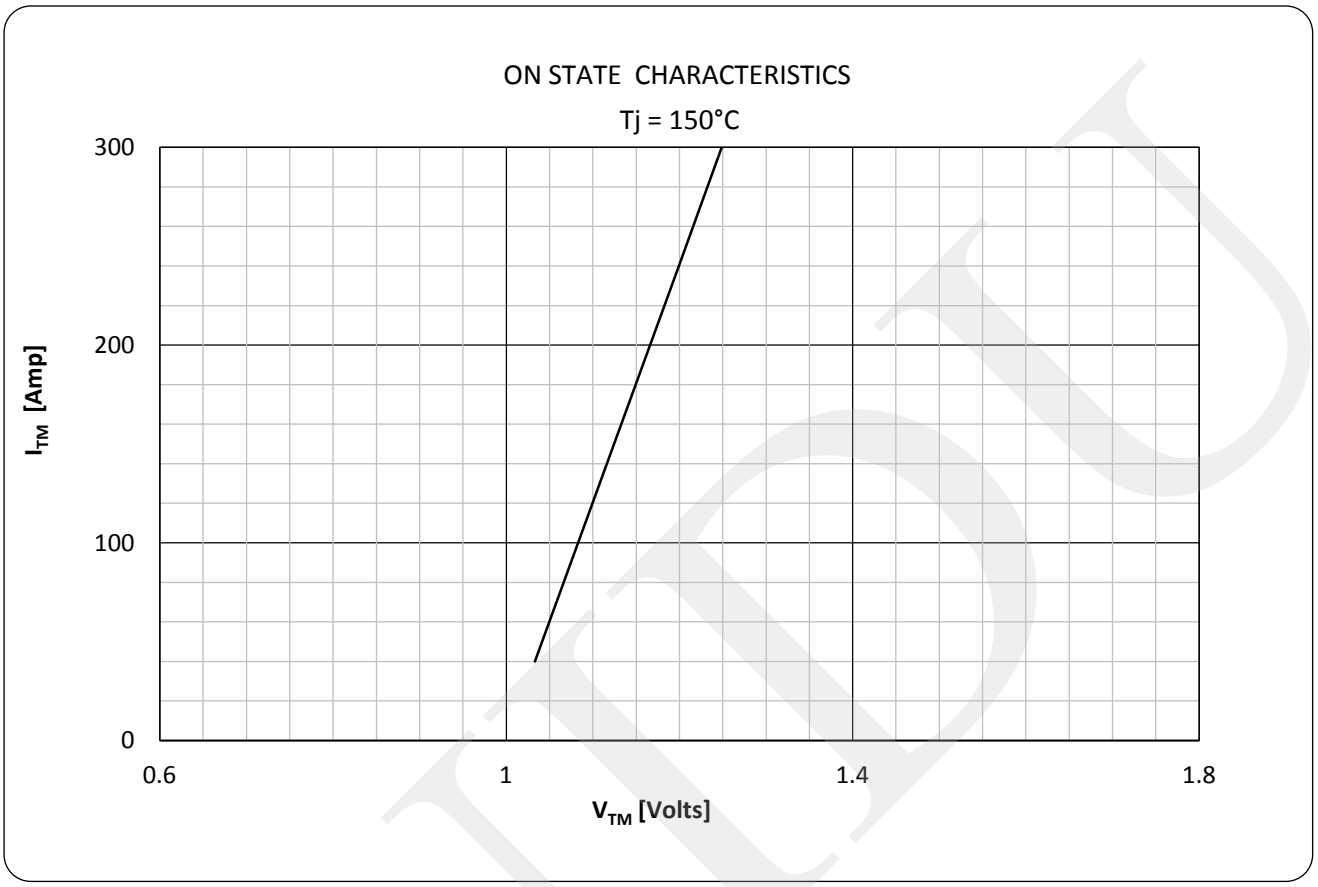


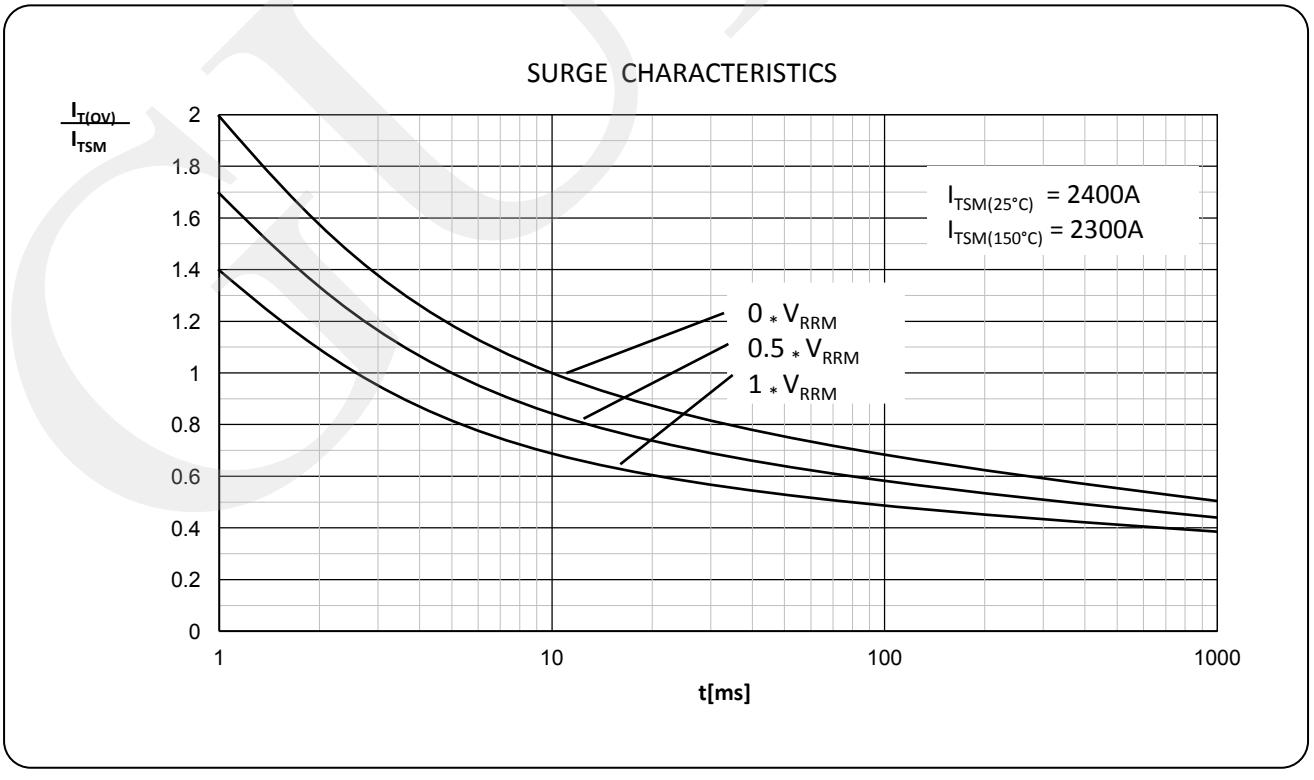
DISSIPATION CHARACTERISTICS PER ARM
SQUARE WAVE

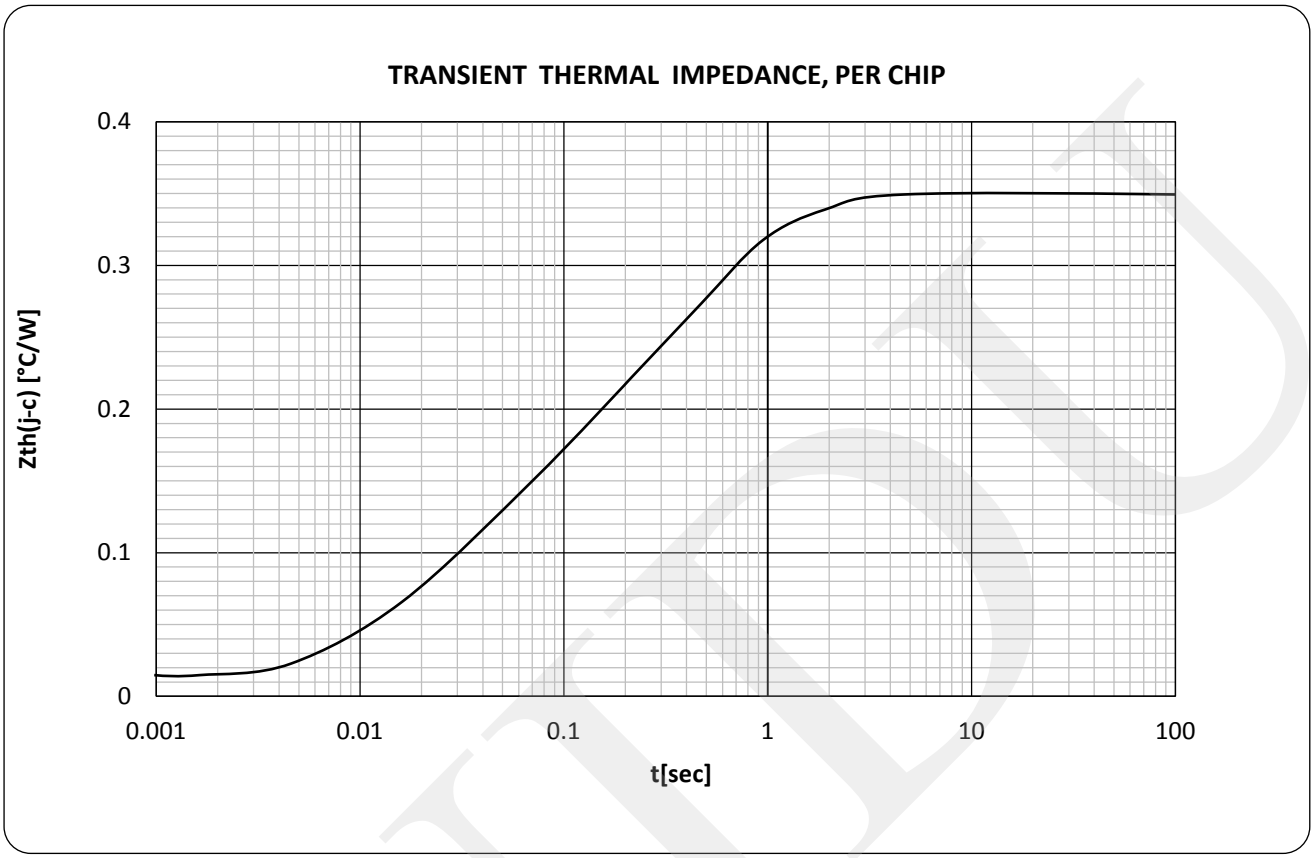


ON STATE CURRENT DERATING CURVE PER ARM
SQUARE WAVE




ON STATE CHARACTERISTICS
Tj = 150°C
300
200
100
0
0.6
1
1.4
1.8
I_{TM} [Amp]
V_{TM} [Volts]


SURGE CHARACTERISTICS
$\frac{I_{T(OV)}}{I_{TSM}}$
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1
10
100
1000
t[ms]
$I_{TSM(25°C)}$ = 2400A
$I_{TSM(150°C)}$ = 2300A
0 * V_{RRM}
0.5 * V_{RRM}
1 * V_{RRM}

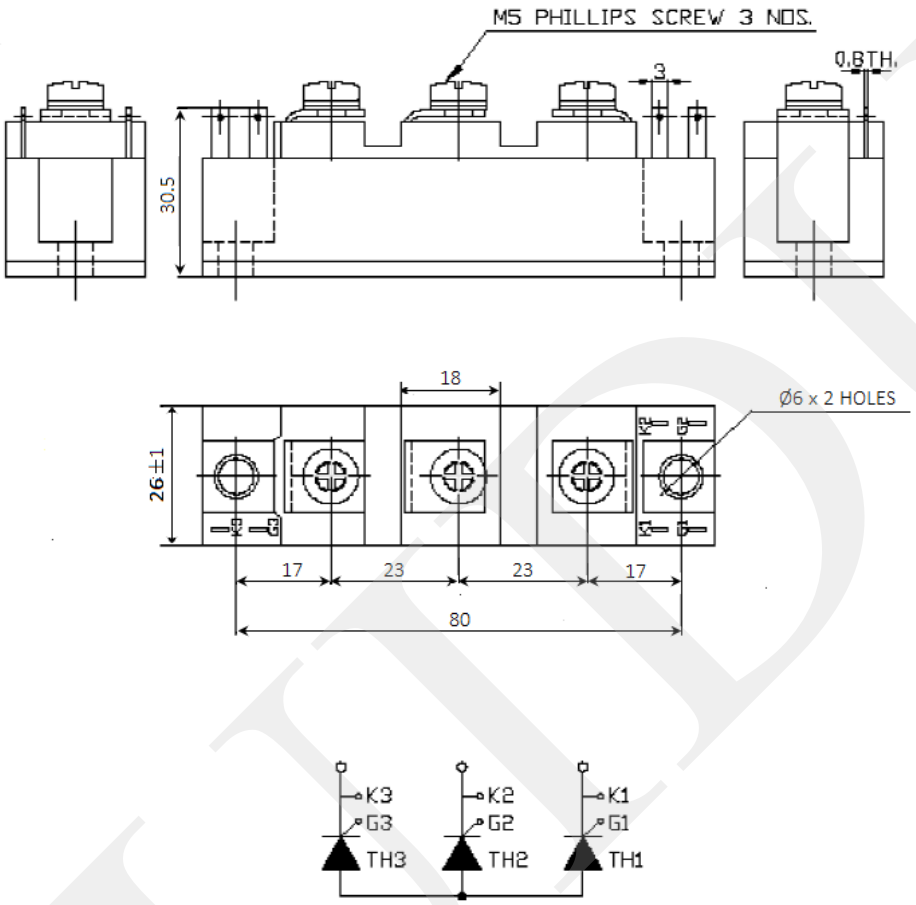


ORDERING INFORMATION

MT	G	- AA	- 80	X X
Three Thyristor Module	Circuit Configuration G - Common Anode Y - Common Cathode	Welder class	Current Code	Voltage Code Code X 100 = V_{DRM}/V_{RRM}

Order Code MTG-AA-80-04 – 400V V_{DRM}/V_{RRM}, Three thyristor module with common Anode configuration.

Outline



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