MS TT170

Key Parameters

V_{DRM} / V_{RRM}	= 1800V
$I_{T(AV)}$	= 170A
I_{TSM}	= 6000A
$V_{T(TO)}$	= 0.95V
r_T	= 1.0mΩ

Features

- Full blocking capability over wide temperature range
- Electrically insulated baseplate
- Pressure contacts technology for high reliability
- Highest robustness and reliability
- UL Recognized, file no. E505556

Applications

- Power Supplies
- DC motor control
- Controlled Rectifiers
- AC switch

Ordering Information

MS	TT	170	K	18
Fixed code	TT- Thyristor- Thyristor Module	Current Code	Technology K = Pressure Contact Technology	Voltage Code Code X 100 = V_{DRM}/V_{RRM}
Order Code MS TT170K18 : 1800V V_{DRM},V_{RRM}, Thyristor-Thyristor Module				

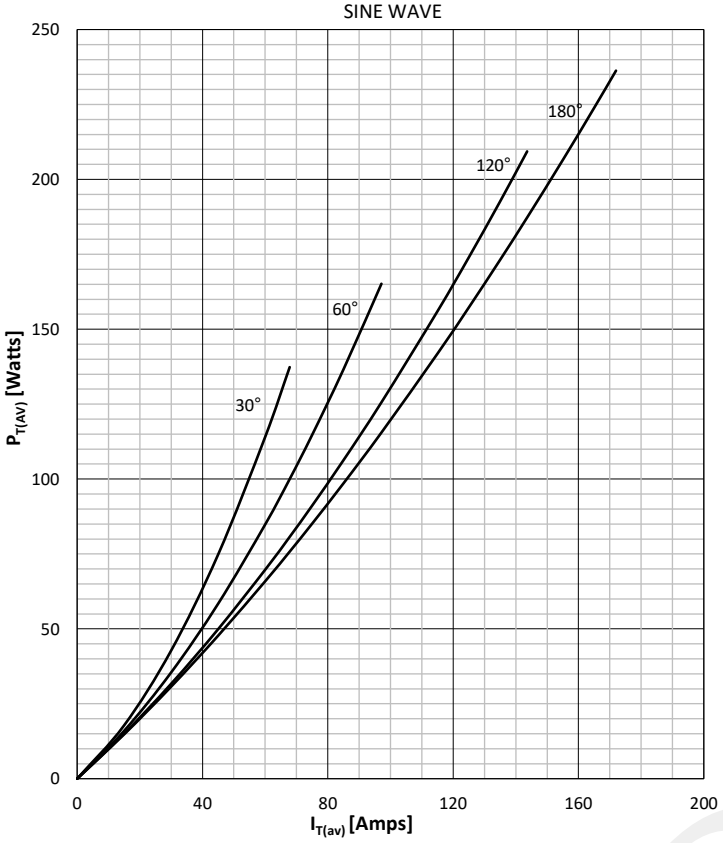
Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 1

Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	200 -1800	V
V_{RSM}	Non-repetitive peak reverse voltage		125	300 - 1900	V
V_{DRM}	Repetitive peak off-state voltage		125	200 - 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_c=85°C		170	A
I_{RMS}	RMS on-state current			270	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	6000	A
			125	5000	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	180000	A^2s
			125	125000	A^2s
V_T	On-state voltage	On-state current = 600A	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=6V	25	200	mA
V_{gt}	Gate trigger voltage	V_D=6V	25	3.0	V
I_H	Holding current	V_D=6V, gate open circuit	25	600	mA
I_L	Latching current	V_D=6V	25	1000	mA
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, per arm per module		0.17 0.085	°C/W
$R_{th(j-c)}$	Thermal impedance, rec120°	Junction to case, per arm per module		0.19 0.095	°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			-40 150	°C
V_{ISOL}	Insulation test voltage,RMS	F=50Hz, 1min		3.0	KV
M1	Mounting torque			5 ± 15%	Nm
M2	Terminal connection torque			12 ± 15%	Nm
W	Weight (Approx.)			650	gm
	File No.			E505556	

Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision :1

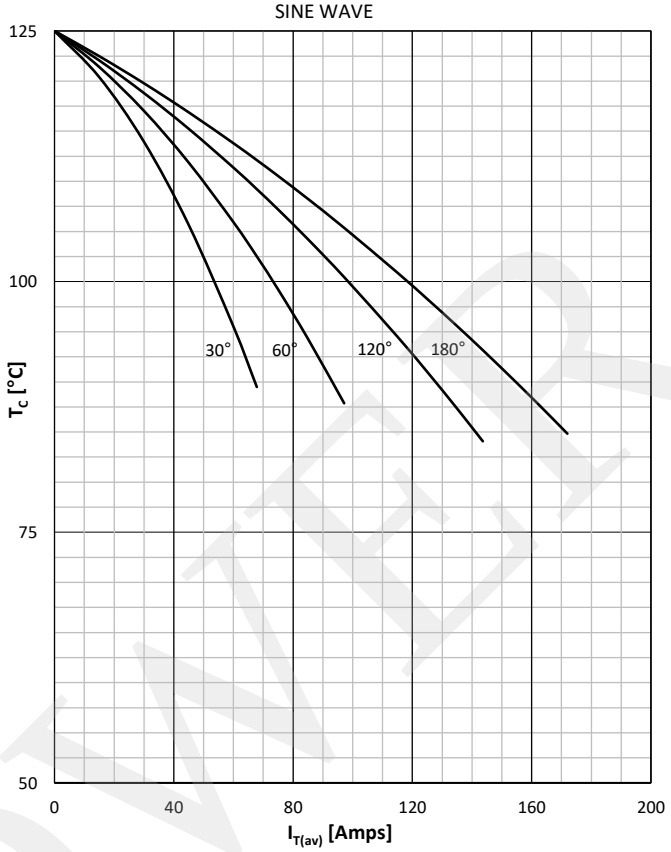
DISSIPATION CHARACTERISTICS

SINE WAVE



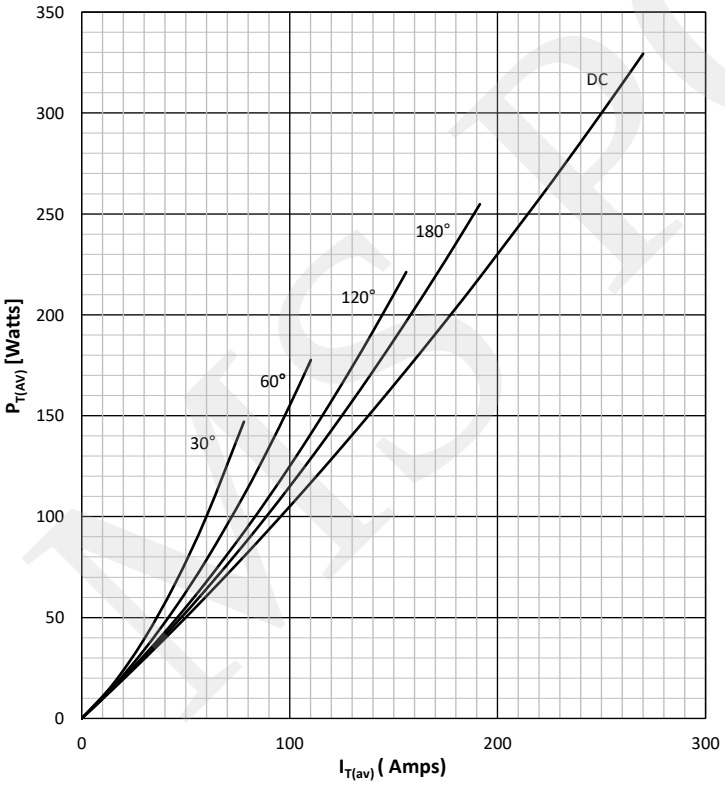
ON STATE CURRENT DERATING CURVE

SINE WAVE



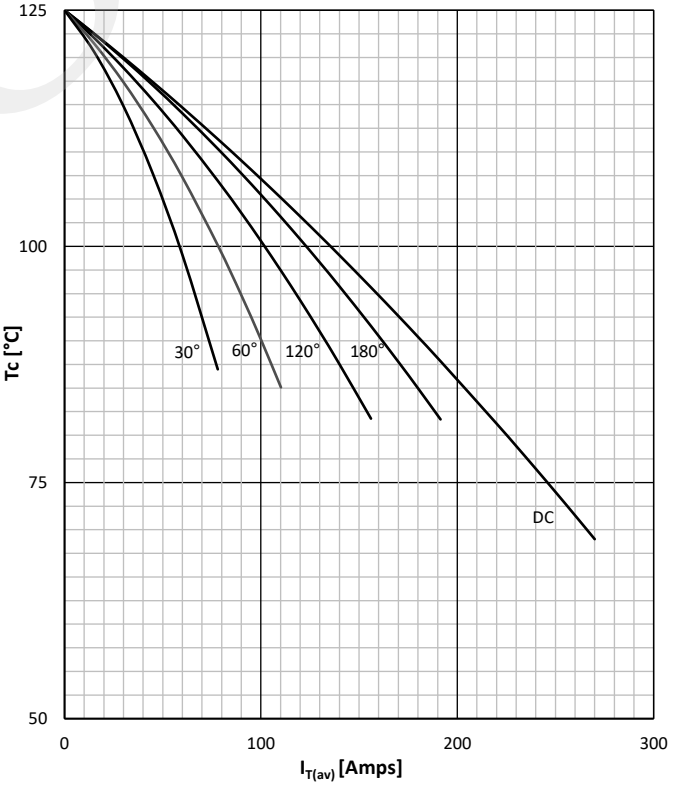
DISSIPATION CHARACTERISTICS

SQUARE WAVE



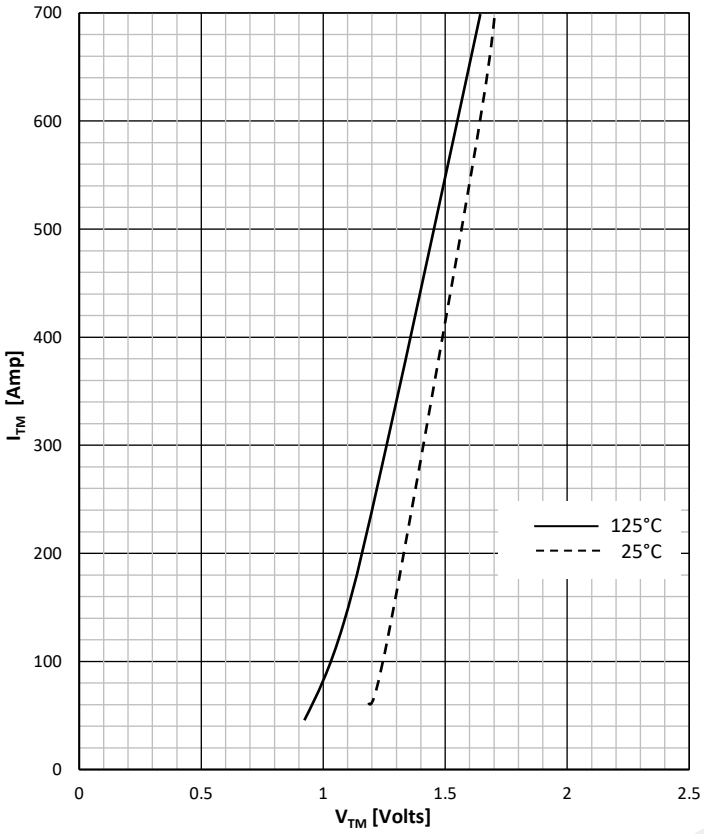
ON STATE CURRENT DERATING CURVE

SQUARE WAVE

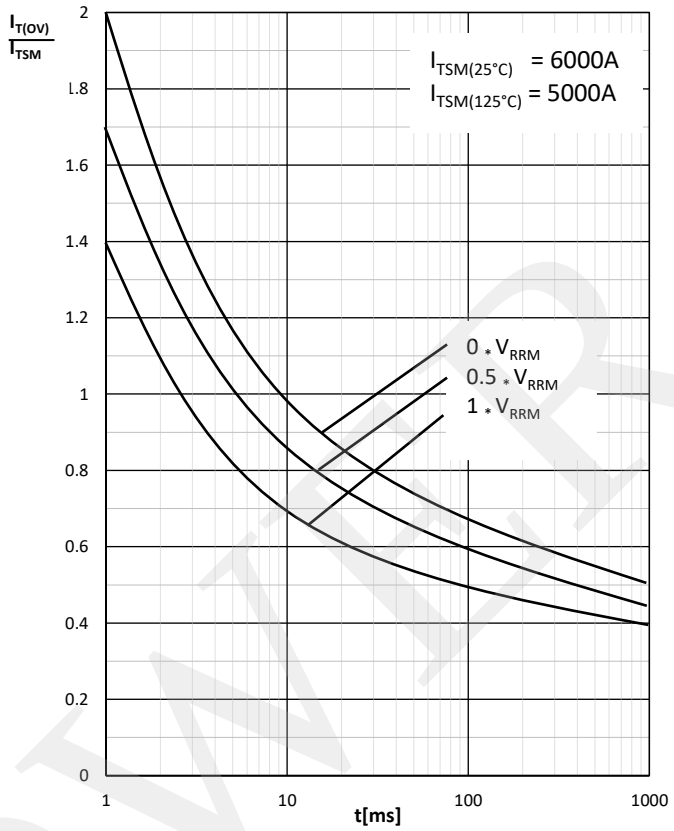


Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 1

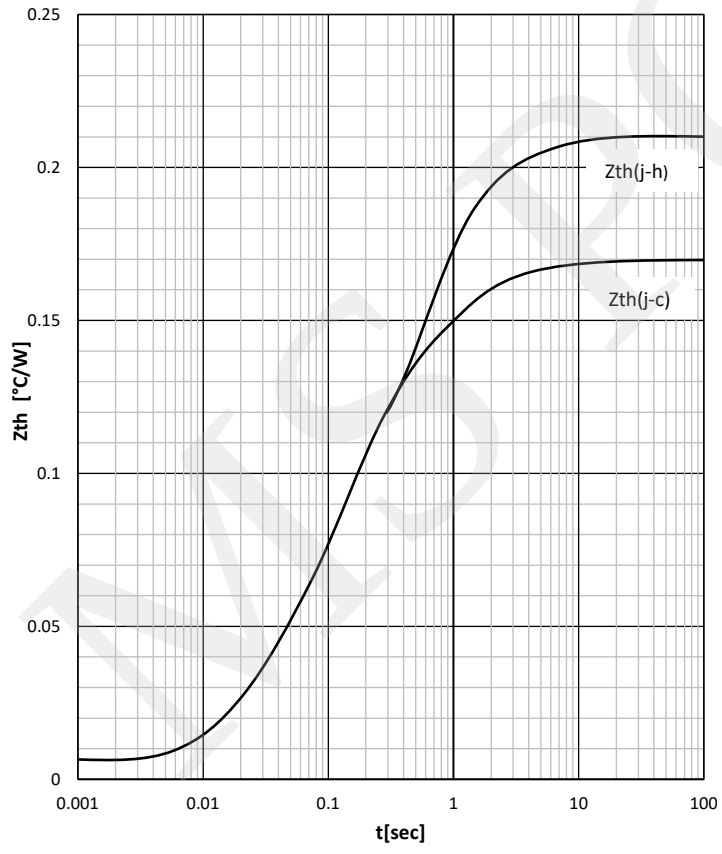
ON -STATE CHARACTERISTIC



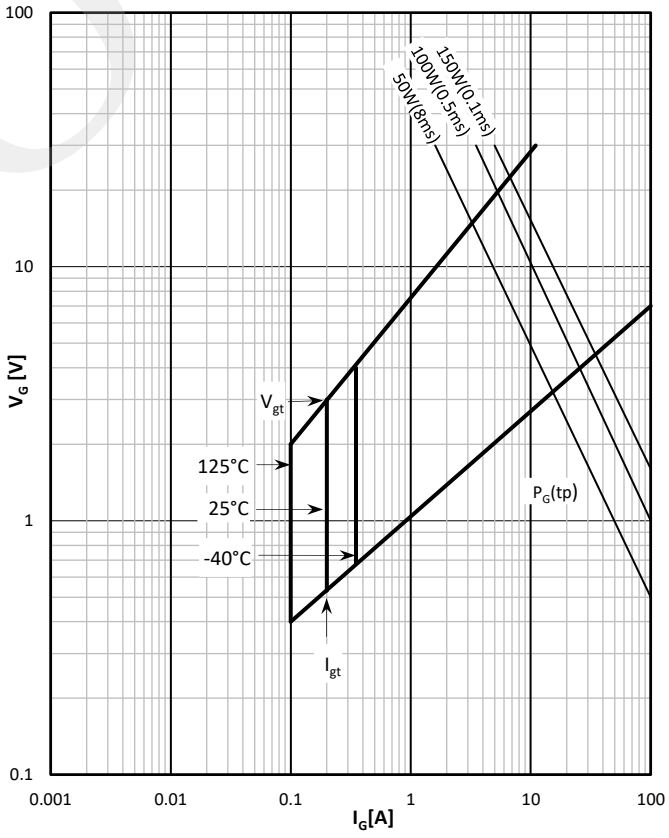
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM

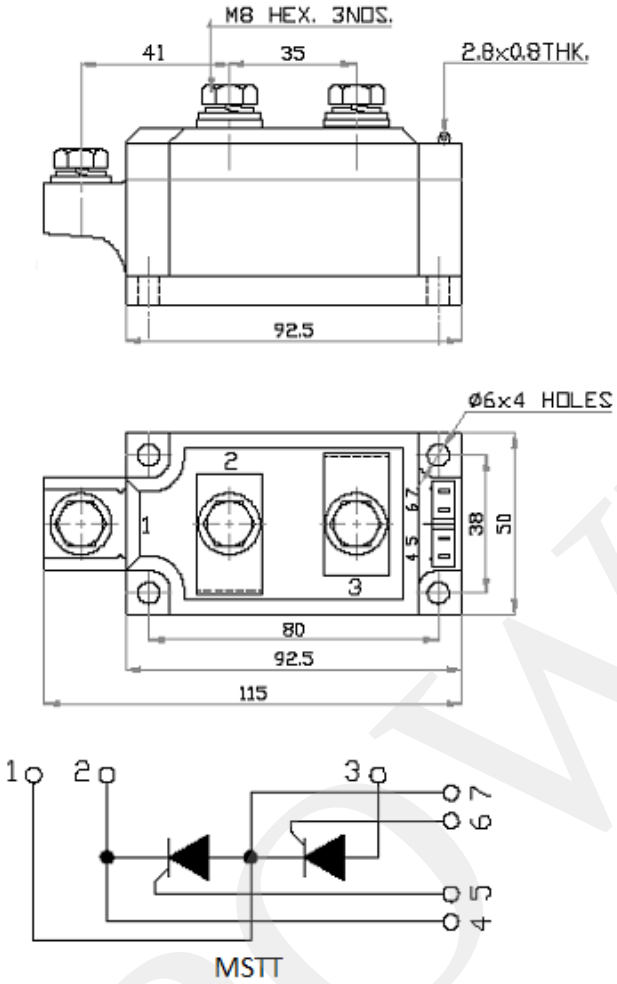


GATE TRIGGER CHARACTERISTICS



Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 1

Outline



MS Power GmbH
Mergenthalerallee 79-81
65760 Eschborn, Germany
Web: www.mspowergroup.com
Mail: info@mspowergroup.de

Sales & Enquiry:
sales@mspowergroup.de
Technical Support:
solution@mspowergroup.de
After sales Service:
service@mspowergroup.de

Phone: +49 (0) 6196/7768 666
Fax: +49 (0) 6196/7757 888

Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 1

Terms & Conditions of usage :

The data contained in this product datasheet is exclusively Intended for technically trained staff. You and your technical departments will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to such application. This product datasheet is describing the characteristics of this product for which a warranty is granted. Any such warranty is granted exclusively pursuant the terms and conditions of the supply agreement. There will be no guarantee of any kind for the product and its characteristics. The information in the valid application-and assembly notes of the device must be considered.

Should you require product information in excess of the data given in this product datasheet or which concerns the specific application of our product, please contact the sales office, which is responsible for you (see www.mspowergroup.com). For those that are specifically interested we may provide application notes.

Due to technical requirements our product may contain dangerous substances. For information on the types in question please contact the sales office, which is responsible for you.

Should you intend to use the Product in aviation applications, in health or live endangering or life support applications, please notify. Please note, that for any such applications we urgently recommend
-to perform joint Risk and Quality Assessments;
-the conclusion of Quality Agreements;
-to establish joint measures of an ongoing product survey, and that we may make delivery depended on the realization of any such measures.

If and to the extent necessary, please forward equivalent notices to your customers.

Changes of this product datasheet are reserved.

Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 1