



**Key Parameters**

$V_{DRM} / V_{RRM}$	= 2200V
$I_{T(AV)}$	= 819A
$I_{TSM}$	= 30000A
$V_{T(TO)}$	= 0.82V
$r_T$	= 0.17mΩ

**Features**

- Full blocking capability over wide temperature range
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Pressure contacts technology for high reliability

**Applications**

- Power Supplies
- DC motor control
- Controlled Rectifiers

**Ordering Information**

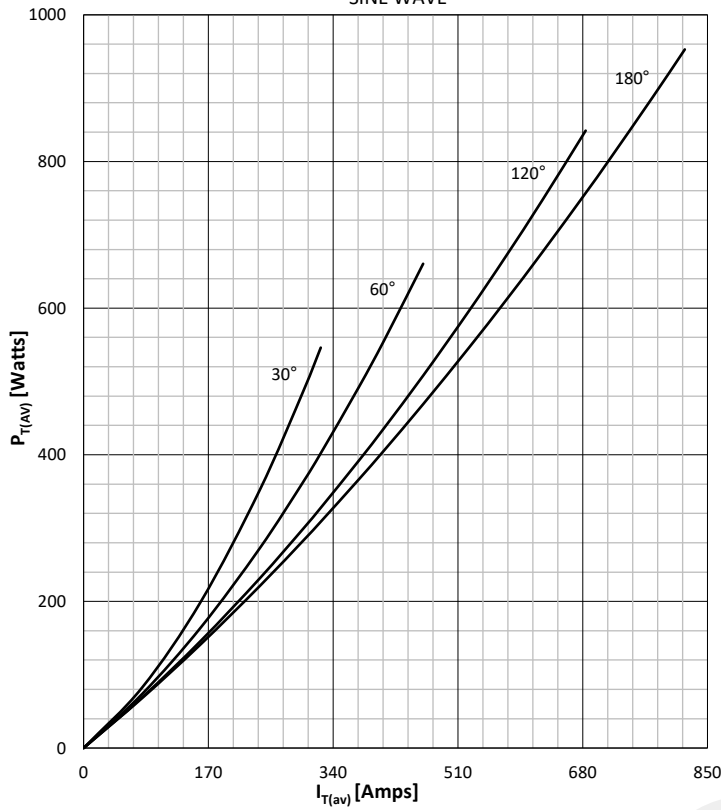
<b>MS</b>	<b>TZ</b>	<b>740</b>	<b>K</b>	<b>XX</b>
Fixed code	TZ - Thyristor Module	Current Code	Technology K = Pressure Contact Technology	Voltage Code Code X 100 = $V_{DRM}/V_{RRM}$
Order Code MS TZ740K22 : 2200V $V_{DRM}, V_{RRM}$ , Thyristor Module				

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

Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	2000 - 2200	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		125	2100 - 2300	V
V <sub>DRM</sub>	Repetitive peak off-state voltage		125	2000 - 2200	V
I <sub>RRM</sub>	Repetitive peak reverse current	V = V <sub>RRM</sub>	125	170	mA
I <sub>DRM</sub>	Repetitive peak off-state current	V = V <sub>DRM</sub>	125	170	mA
<b>CONDUCTING</b>					
I <sub>T(AV)</sub>	Mean on state current	180° sin ,50 Hz, T <sub>c</sub> =85°C		819	A
I <sub>RMS</sub>	RMS on-state current			1286	A
I <sub>TSM</sub>	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	30000	A
			125	26500	A
I <sup>2</sup> t	I <sup>2</sup> t	Sine wave, 10 ms Without reverse voltage	25	4500 x 10 <sup>3</sup>	A <sup>2</sup> s
			125	3511 x 10 <sup>3</sup>	A <sup>2</sup> s
V <sub>T</sub>	On-state voltage	On-state current = 3000A	125	1.51	V
V <sub>T(TO)</sub>	Threshold voltage		125	0.82	V
r <sub>T</sub>	On-state slope resistance		125	0.17	mΩ
<b>SWITCHING</b>					
di/dt	Critical rate of rise of on-state current	i <sub>GM</sub> =1A, d <sub>iG</sub> /dt=1A/μs, f=50Hz	125	200	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> =6V	25	200	mA
V <sub>gt</sub>	Gate trigger voltage	V <sub>D</sub> =6V	25	3.0	V
I <sub>H</sub>	Holding current	V <sub>D</sub> =6V, gate open circuit	25	500	mA
I <sub>L</sub>	Latching current	V <sub>D</sub> =6V	25	2000	mA
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance, sin 180°	Junction to case, per module		0.042	°C/W
R <sub>th(j-c)</sub>	Thermal impedance, rec120°	Junction to case, per module		0.043	°C/W
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, per module		0.015	°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		3.0	KV
M1	Mounting torque			6 ± 15%	Nm
M2	Terminal connection torque			18 ± 15%	Nm
W	Weight (Approx.)			2600	gm
			Prepared by : ABA	Date of Publication : 25.03.2015	
			Approved by : RBS	Revision : 1	

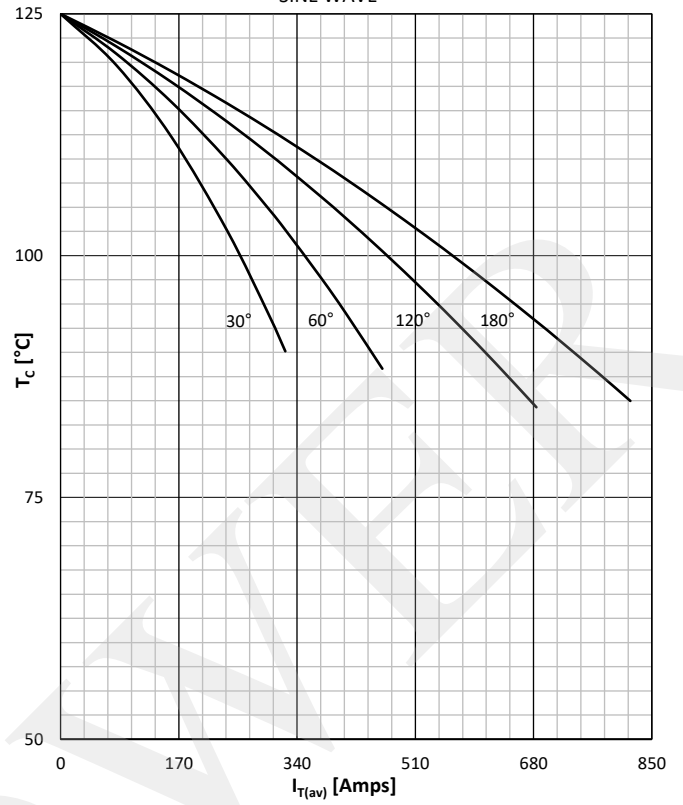
DISSIPATION CHARACTERISTICS

SINE WAVE



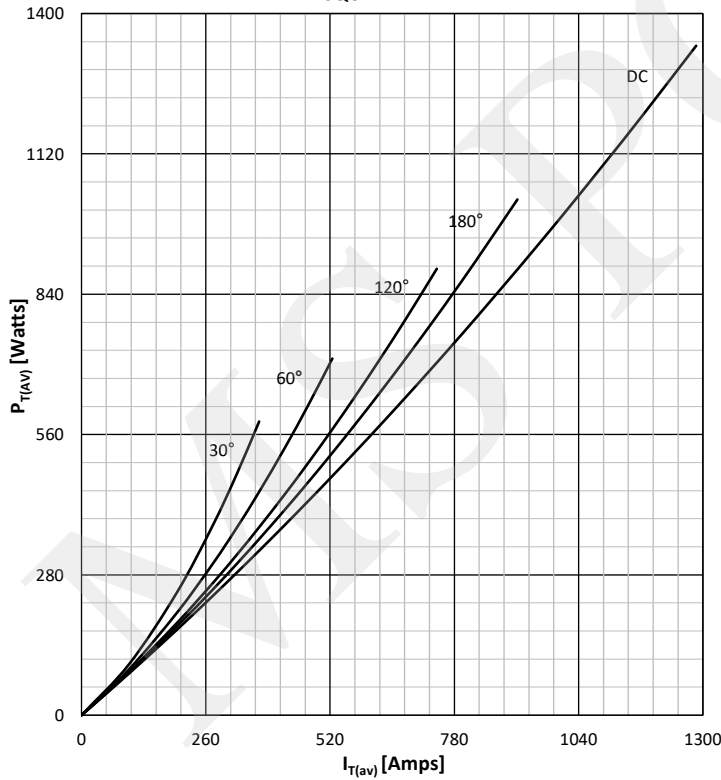
ON STATE CURRENT DERATING CURVE

SINE WAVE



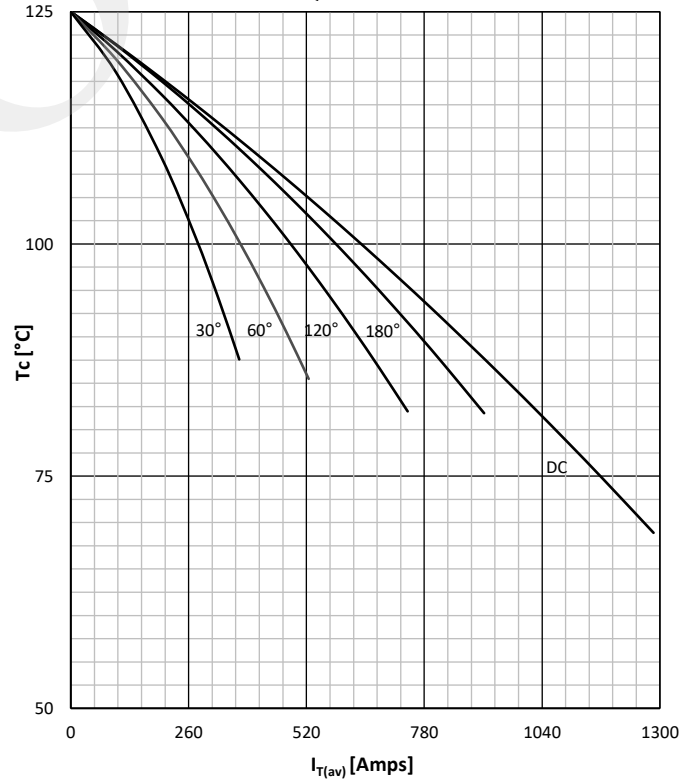
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



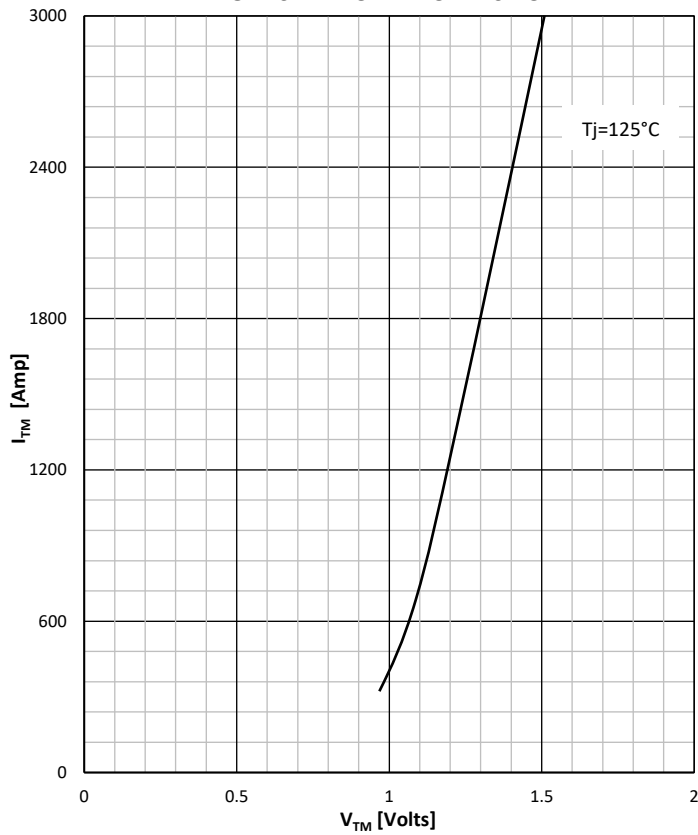
Prepared by : ABA

Date of Publication : 25.03.2015

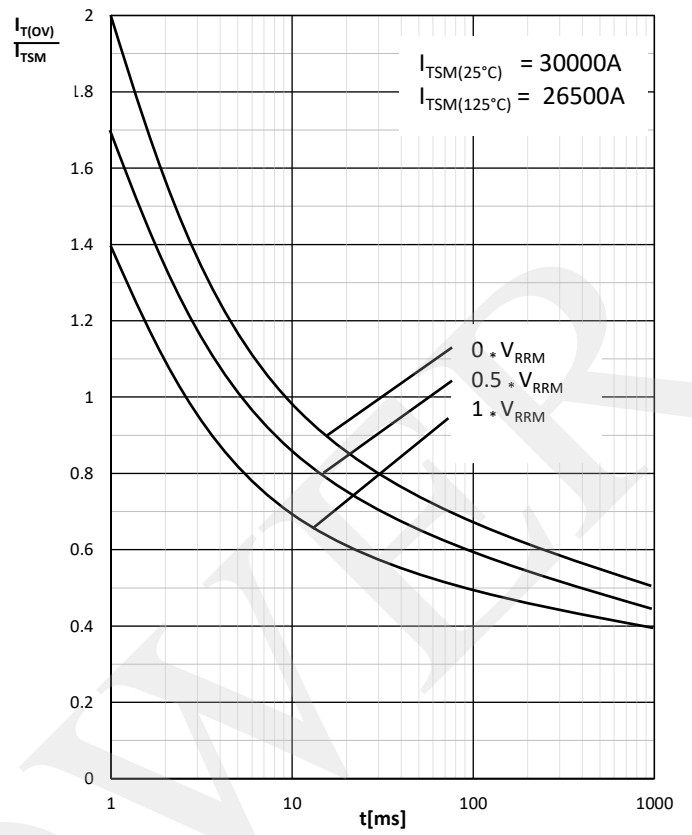
Approved by : RBS

Revision : 1

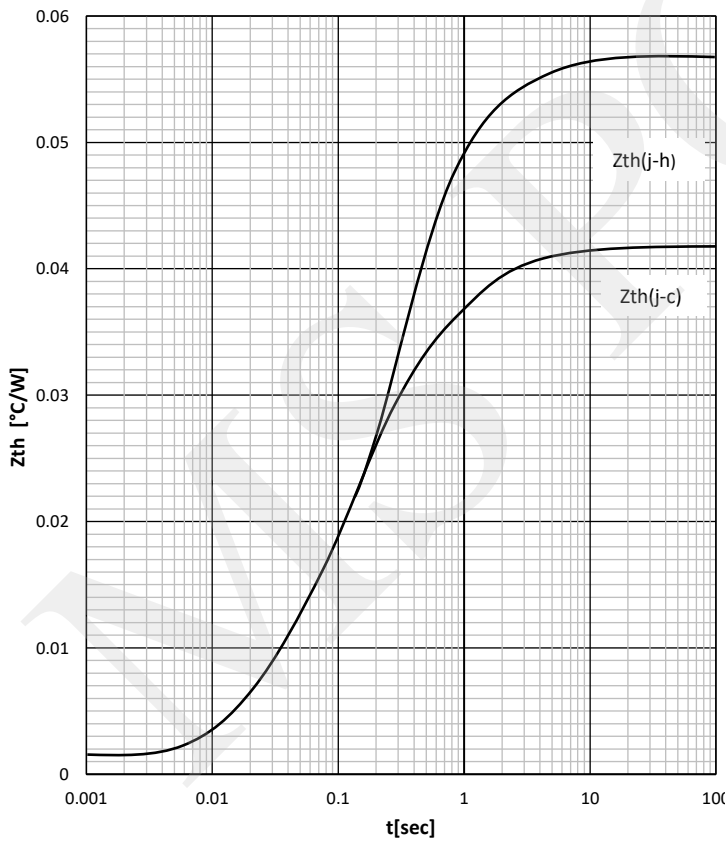
ON -STATE CHARACTERISTIC



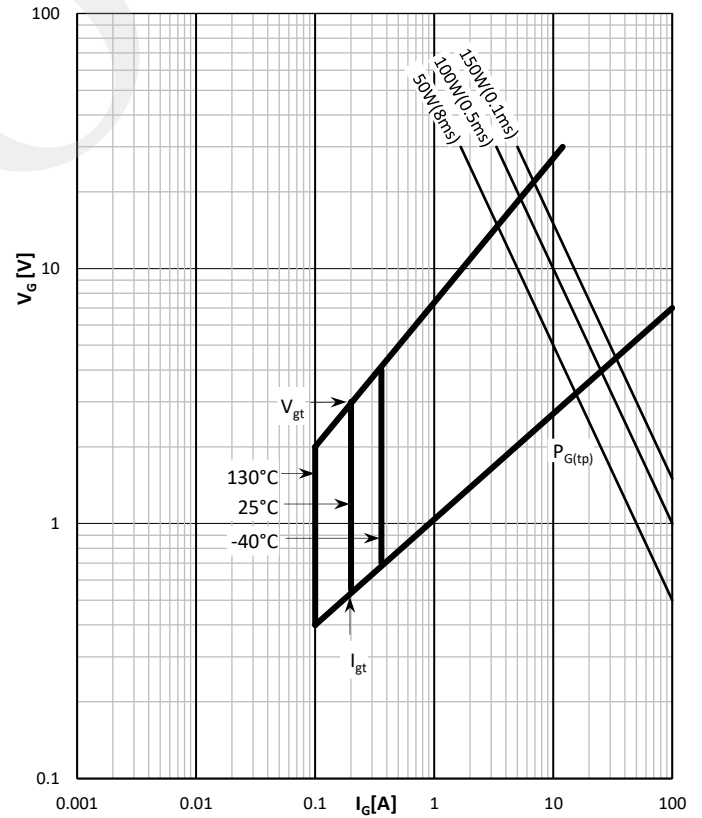
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM

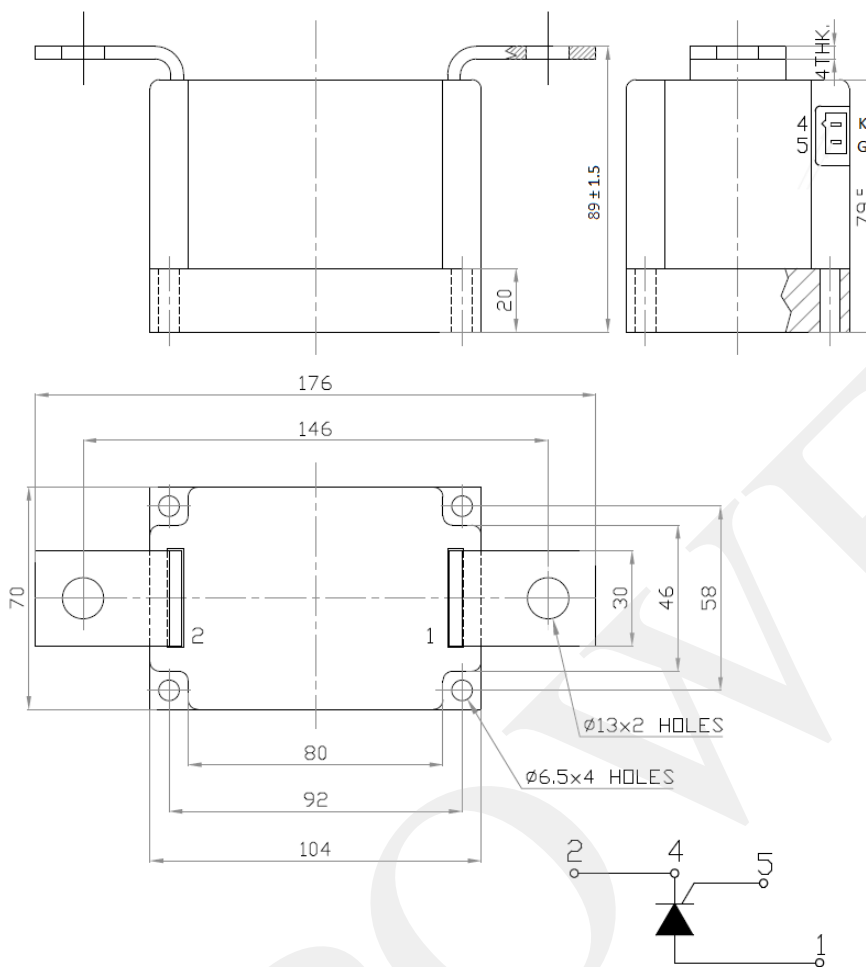


GATE TRIGGER CHARACTERISTICS



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

Outline



Note : All dimensions are in mm  
Tolerance: ±0.3mm

**MS Power GmbH**

Mergenthalerallee 79-81  
65760 Eschborn, Germany  
Web: [www.mspowergroup.com](http://www.mspowergroup.com)  
Mail: [info@mspowergroup.de](mailto:info@mspowergroup.de)

**Sales & Enquiry:**

[sales@mspowergroup.de](mailto:sales@mspowergroup.de)

**Technical Support:**

[solution@mspowergroup.de](mailto:solution@mspowergroup.de)

**After sales Service:**

[service@mspowergroup.de](mailto: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](http://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