Key Parameters

V_{DRM} / V_{RRM} = 1800V
$I_{T(AV)}$ = 210A
I_{TSM} = 6600A
$V_{T(TO)}$ = 1.0V
r_T = 0.85mΩ

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	210	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 TT210K18 : 1800V V_{DRM},V_{RRM}, Thyristor-Thyristor Module				

Technical Information
Thyristor Modules

MS TT210

MS power

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		210	A
I RMS	RMS on-state current			330	A
I TSM	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	6600	A
			125	5800	A
I² t	I² t	Sine wave, 10 ms Without reverse voltage	25	217800	A²s
			125	168000	A²s
V T	On-state voltage	On-state current = 700A	25	1.65	V
V T(TO)	Threshold voltage		125	1.0	V
r T	On-state slope resistance		125	0.85	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		0.13 0.065	°C/W
R th(j-c)	Thermal impedance, rec120°	Junction to case, per arm per module		0.15 0.075	°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	

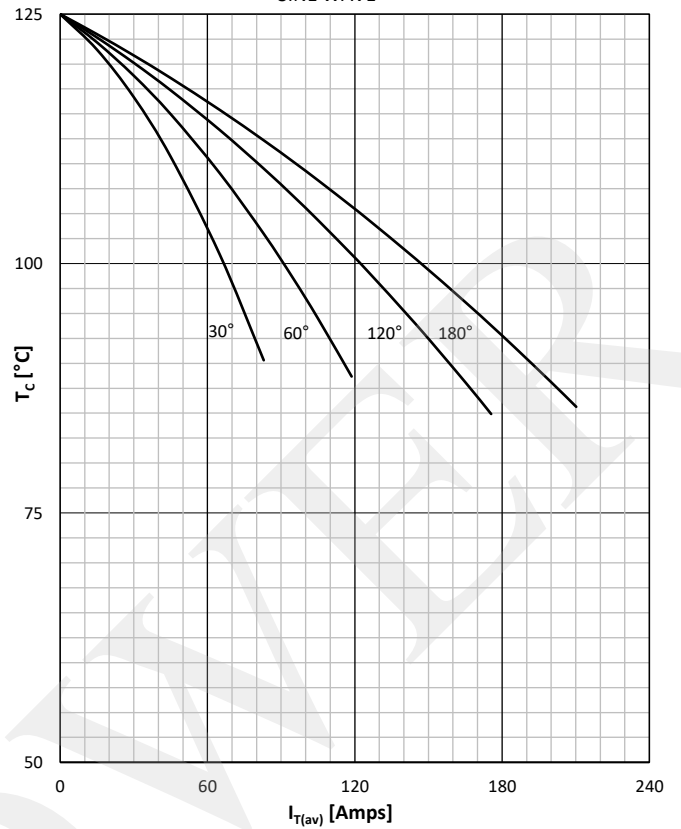|	
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MS TT210

MS power
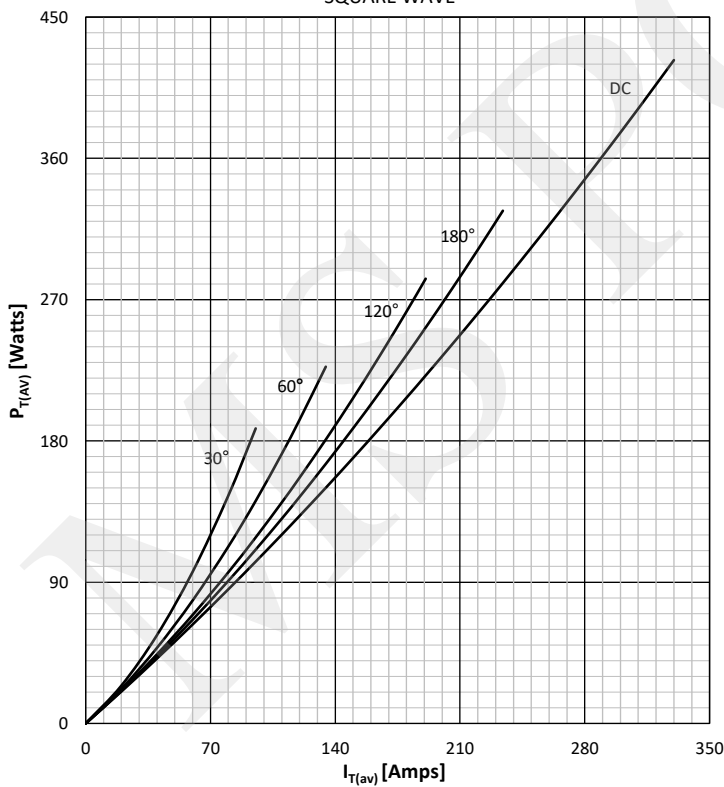
DISSIPATION CHARACTERISTICS
SINE WAVE
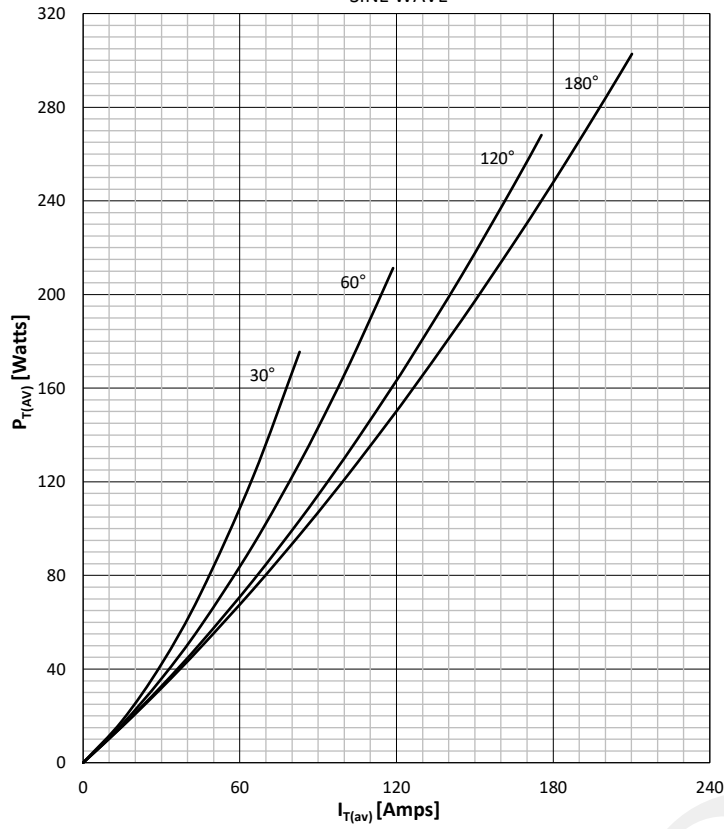
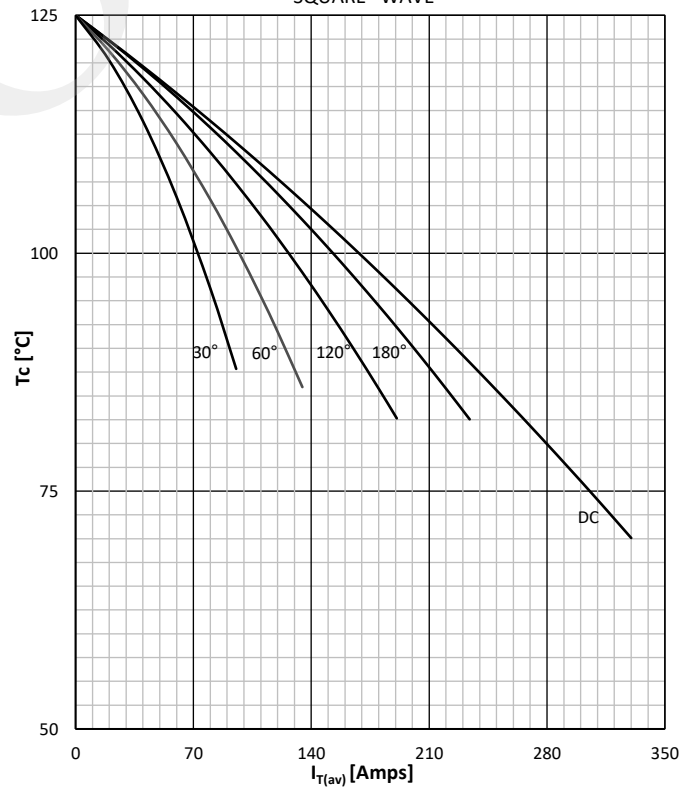## ON STATE CURRENT DERATING CURVE
SINE WAVE

DISSIPATION CHARACTERISTICS
SQUARE WAVE
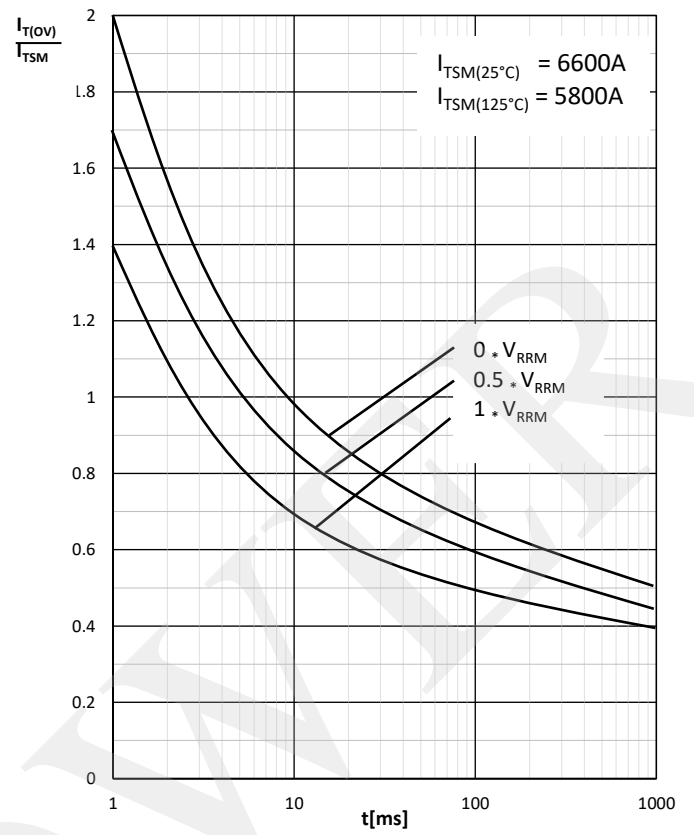

ON STATE CURRENT DERATING CURVE
SQUARE WAVE

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ON -STATE CHARACTERISTIC

Y-axis: I_{TM} [Amp] (0 to 700)
X-axis: V_{TM} [Volts] (0 to 2.5)

Legend:
— 125°C
- - - 25°C

SURGE CHARACTERISTICS

Y-axis: $\frac{I_{T(OV)}}{I_{TSM}}$ (0 to 2)
X-axis: t[ms] (1 to 1000)

$I_{TSM(25°C)} = 6600A$
$I_{TSM(125°C)} = 5800A$

$0 * V_{RRM}$
$0.5 * V_{RRM}$
$1 * V_{RRM}$
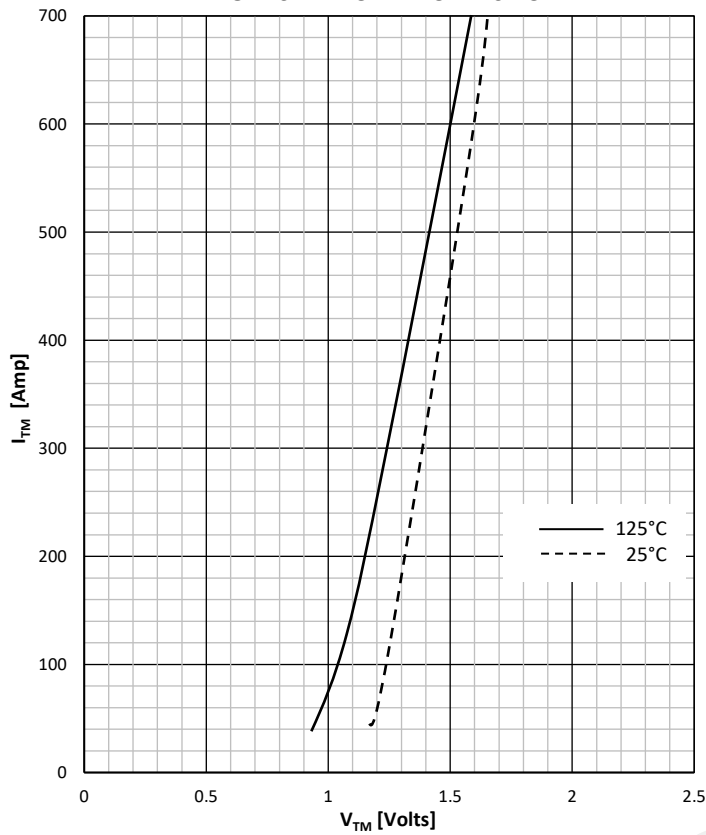
TRANSIENT THERMAL IMPEDANCE, PER ARM

Y-axis: Zth [°C/W] (0 to 0.2)
X-axis: t[sec] (0.001 to 100)

Zth(j-h)
Zth(j-c)
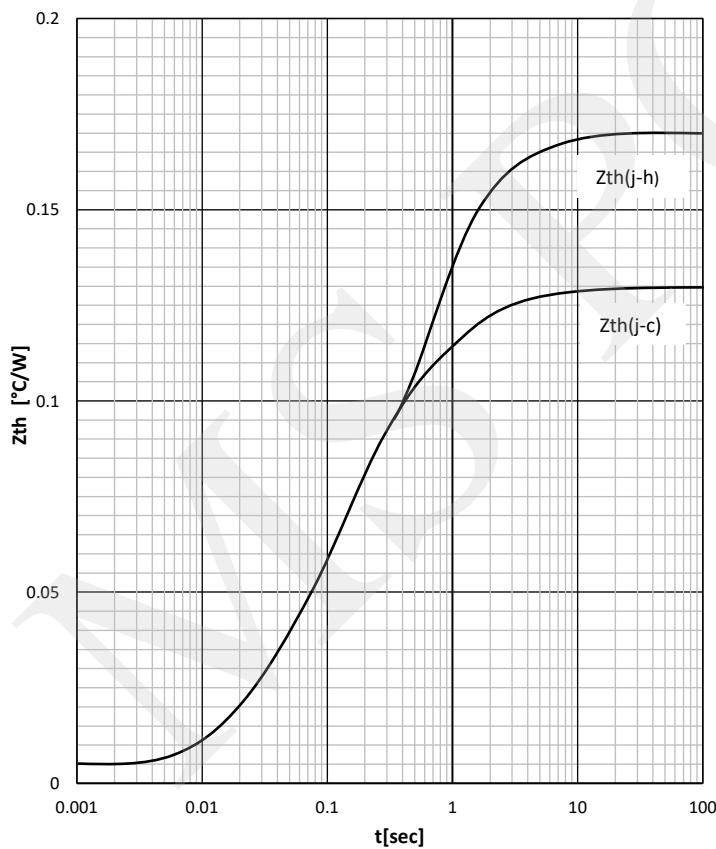
GATE TRIGGER CHARACTERISTICS

Y-axis: V_G [V] (0.1 to 100)
X-axis: I_G[A] (0.001 to 100)

150W(0.1ms)
100W(0.5ms)
50W(8ms)

V_{gt}
125°C
25°C
-40°C
I_{gt}
$P_G(tp)$
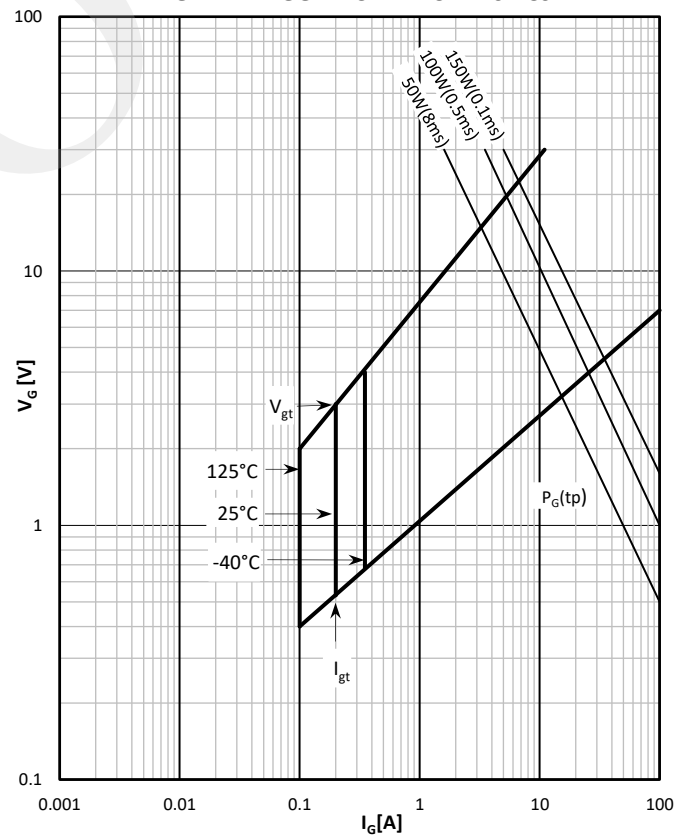
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Outline

M8 HEX. 3NOS.

41   35   2.8×0.8THK.

92.5

Ø6×4 HOLES

2   1   3

67   45   38   50

80

92.5

115

1   2   3   7   6   5   4

MSTT
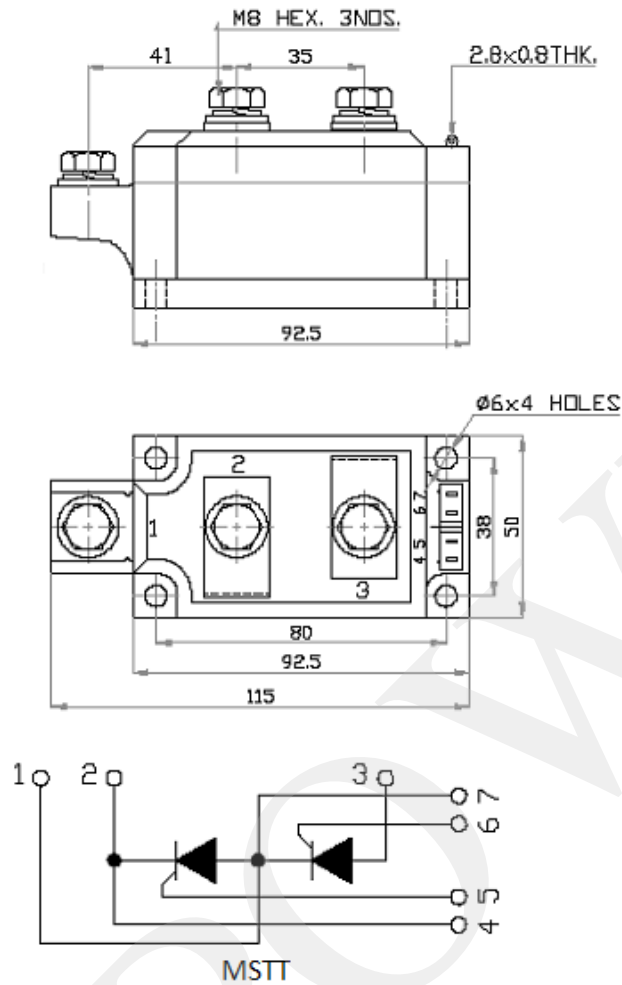
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-the conclusion of Quality Agreements;
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