MS TD252

Key Parameters

V_{DRM} / V_{RRM}	= 2400V
$I_{T(AV)}$	= 252A
I_{TSM}	= 8700A
$V_{T(TO)}$	= 0.80V
r_T	= 0.70mΩ

Features

- Full blocking capability over wide temperature range
- Heat transfer through aluminium oxide ceramic isolated metal baseplate
- Pressure contacts technology for high reliability
- UL Recognized, file no. E505556

Applications

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

Ordering Information

MS	TD	252	K	24
Fixed code	TD- Thyristor- Diode Module	Current Code	Technology K = Pressure Contact Technology	Voltage Code Code X 100 = V_{DRM}/V_{RRM}
Order Code MS TD252K24 : 2400V V_{DRM},V_{RRM}, Thyristor-Diode Module				

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

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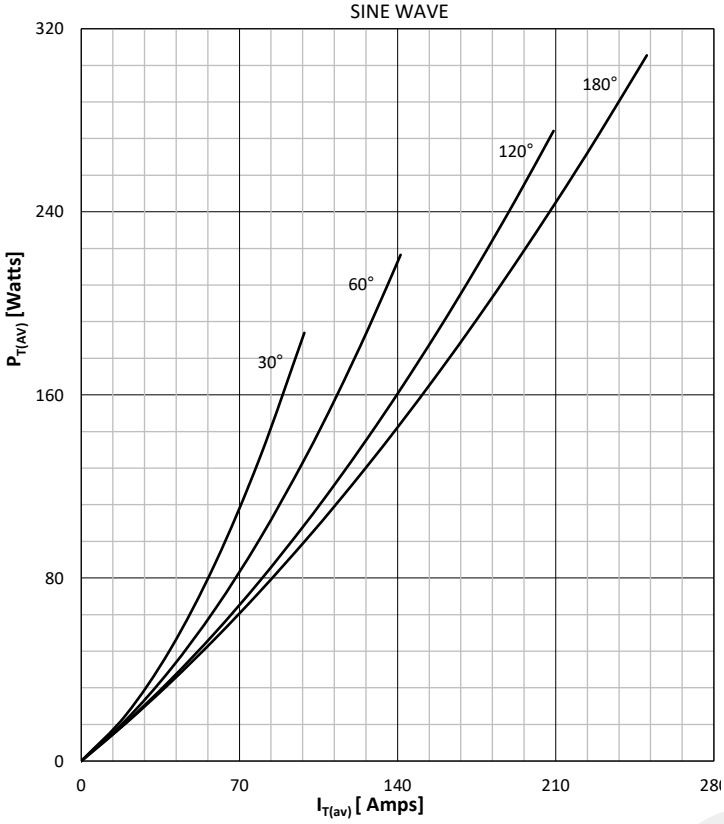
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	2000 - 2400	V
V_{RSM}	Non-repetitive peak reverse voltage		125	2100 - 2500	V
V_{DRM}	Repetitive peak off-state voltage		125	2000 - 2400	V
I_{RRM}	Repetitive peak reverse current	V= V_{RRM}	125	40	mA
I_{DRM}	Repetitive peak off-state current	V= V_{DRM}	125	40	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T_c=91°C 180° sin ,50 Hz, T_c=85°C		252 283	A
I_{RMS}	RMS on-state current	T_c=91°C		393	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	8700	A
			125	7600	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	378450	A^2s
			125	288800	A^2s
V_T	On-state voltage	On-state current = 785A	25	1.50	V
$V_{T(TO)}$	Threshold voltage		125	0.80	V
r_T	On-state slope resistance		125	0.70	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current	Non-repetitive f=1Hz, I_{GM}=2.0A, di_G/dt>1.0A/µs, $I_{TM}=2I_{TAV}$, V_D=67%V_{DRM}	125	500	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		0.11 0.055	°C/W
$R_{th(j-c)}$	Thermal impedance, rec120°	Junction to case, per arm per module		0.13 0.065	°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

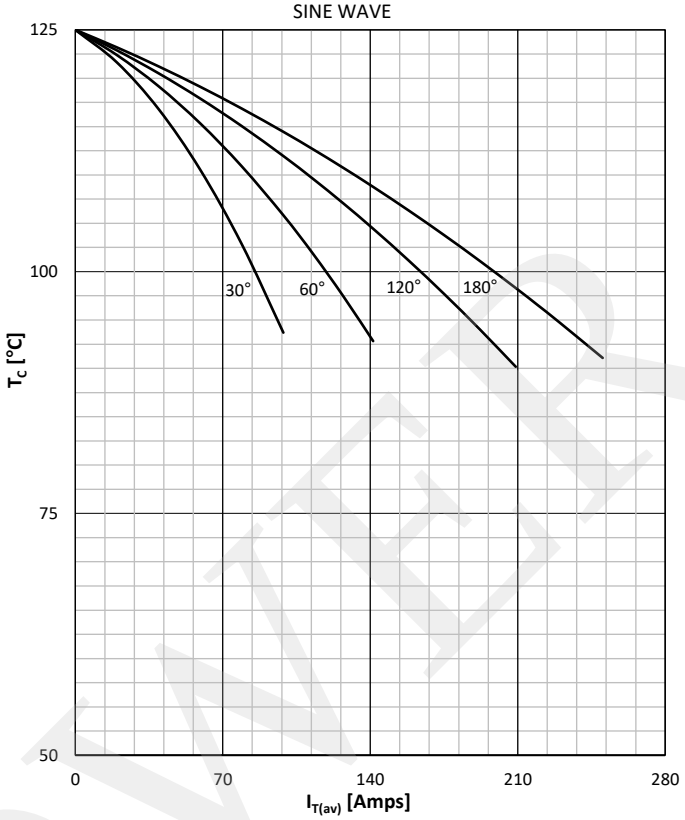
DISSIPATION CHARACTERISTICS

SINE WAVE



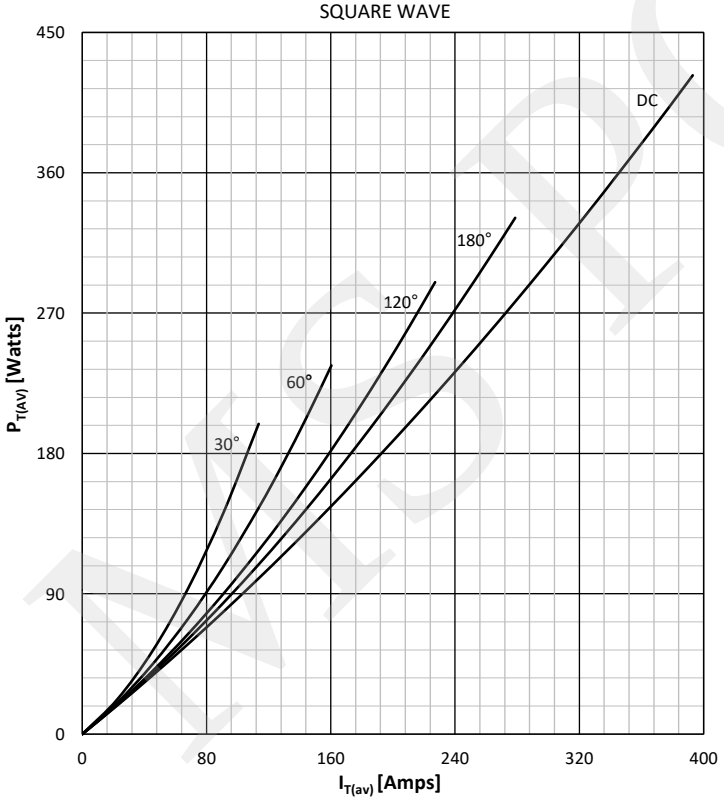
ON STATE CURRENT DERATING CURVE

SINE WAVE



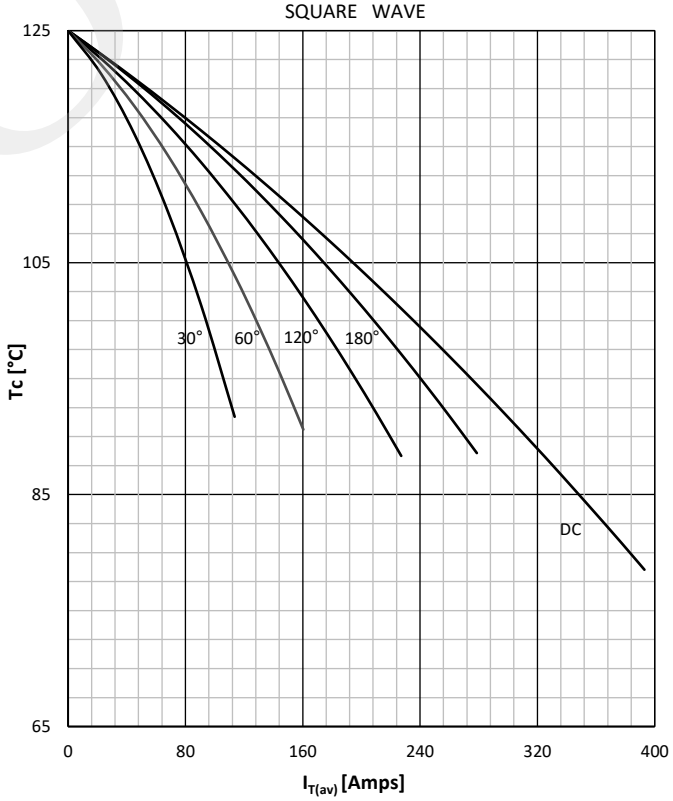
DISSIPATION CHARACTERISTICS

SQUARE WAVE



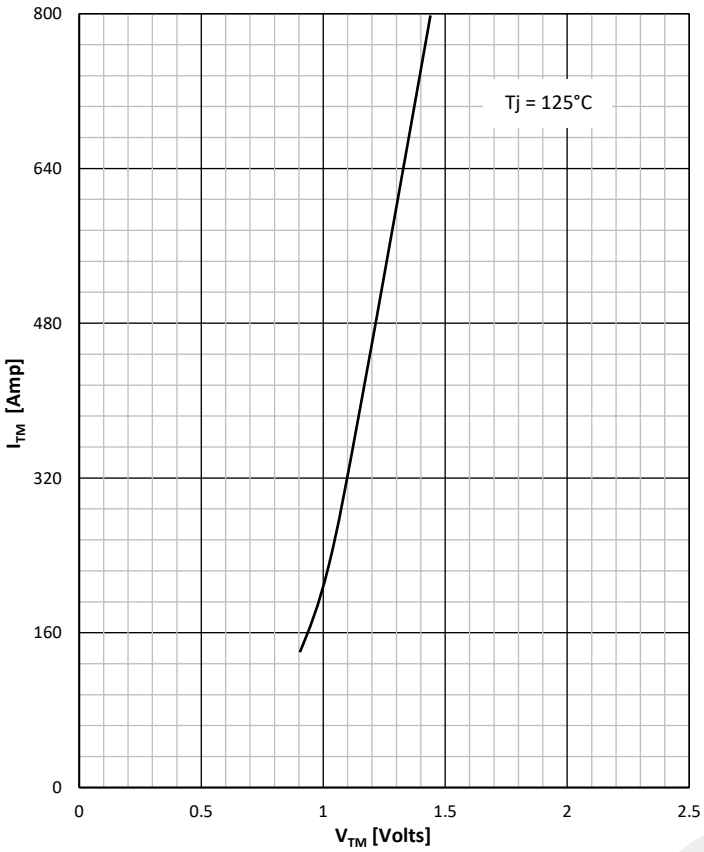
ON STATE CURRENT DERATING CURVE

SQUARE WAVE

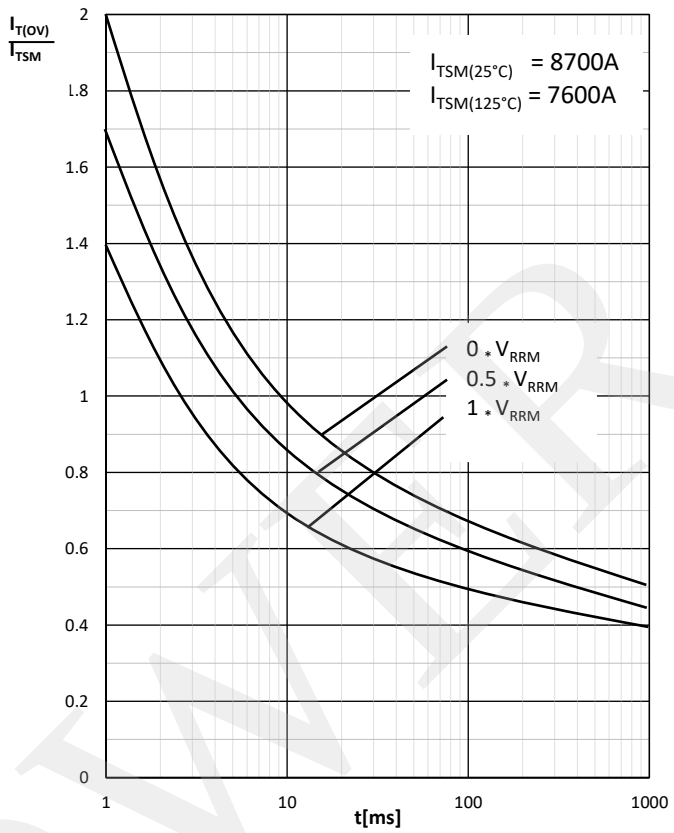


Prepared by : ABA	Date of Publication : 25.03.2015
Approved by : RBS	Revision : 1

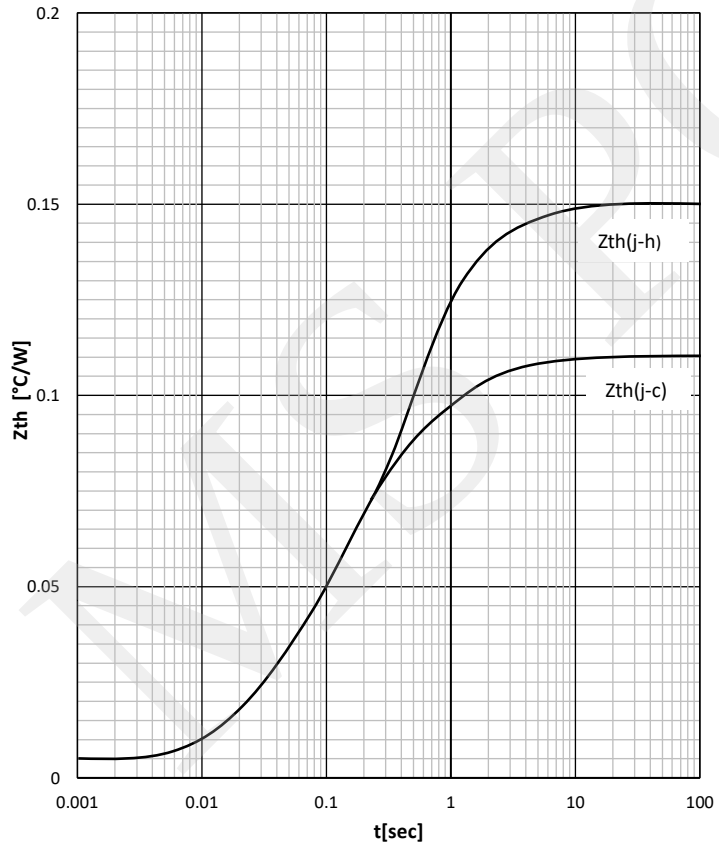
ON -STATE CHARACTERISTIC



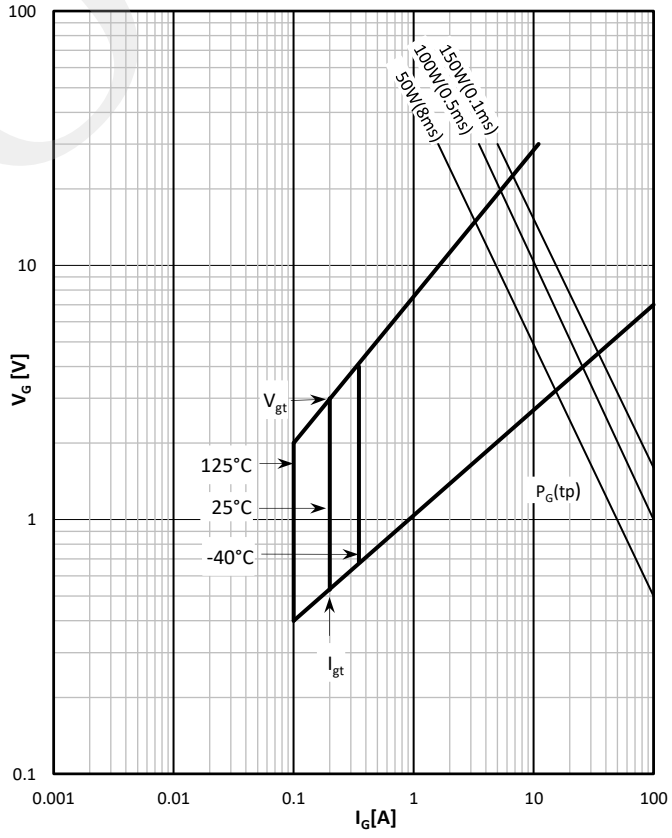
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



GATE TRIGGER CHARACTERISTICS



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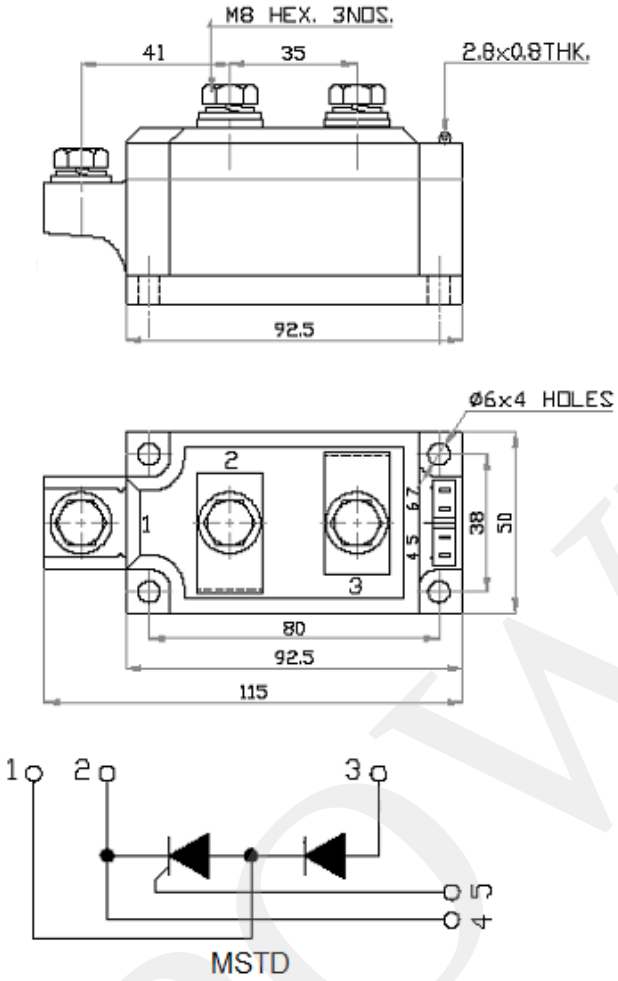
Outline



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