



Key Parameters

V_{DRM} / V_{RRM}	= 1800V
$I_{T(AV)}$	= 460A
I_{TSM}	= 18000A
$V_{T(TO)}$	= 0.88V
r_T	= 0.45m Ω

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	460	K	18
Fixed code	TD- Thyristor- Diode Module	Current Code	Technology K = Pressure Contact Technology	Voltage Code Code X 100 = V_{DRM}/V_{RRM}

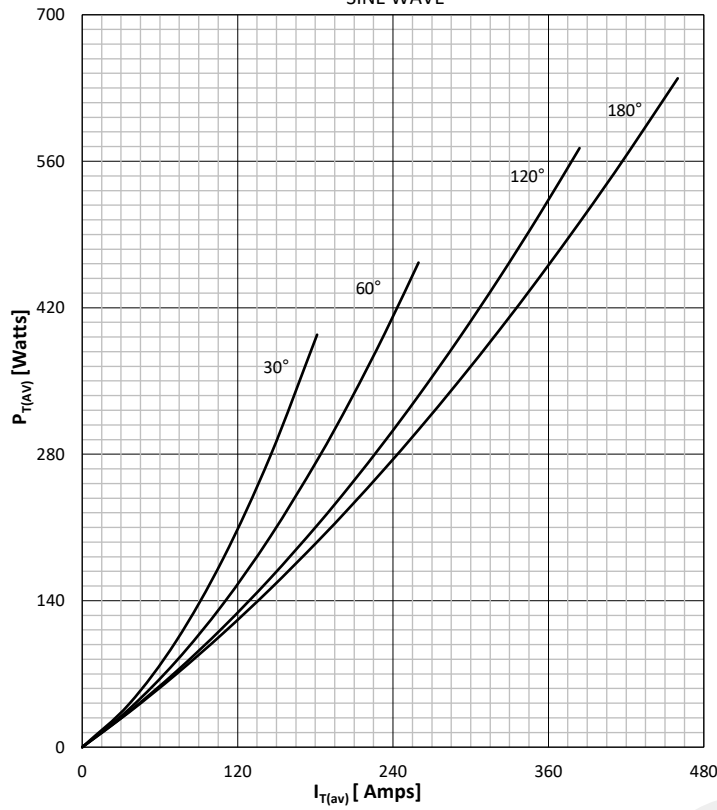
Order Code MS TD460K18 : 1800V V_{DRM}, V_{RRM} , Thyristor-Diode Module

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Symbol	Characteristic	Conditions	T _j [°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	200	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	125	200	mA
CONDUCTING					
I _{T(AV)}	Mean on state current	180° sin ,50 Hz, T _c =83°C 180° sin ,50 Hz, T _c =85°C		460 442	A
I _{RMS}	RMS on-state current	T _c =83°C		722	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	18000	A
			125	15500	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	1620 x 10 ³	A ² s
			125	1201 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 1400A	25	1.60	V
V _{T(TO)}	Threshold voltage		125	0.88	V
r _T	On-state slope resistance		125	0.45	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	500	mA
I _L	Latching current	V _D =6V	25	2000	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case, per arm per module		0.066 0.033	°C/W
R _{th(j-c)}	Thermal impedance, rec120°	Junction to case, per arm per module		0.076 0.038	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, per arm per module		0.02 0.01	°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.)			1400	gm
	File No.			E505556	
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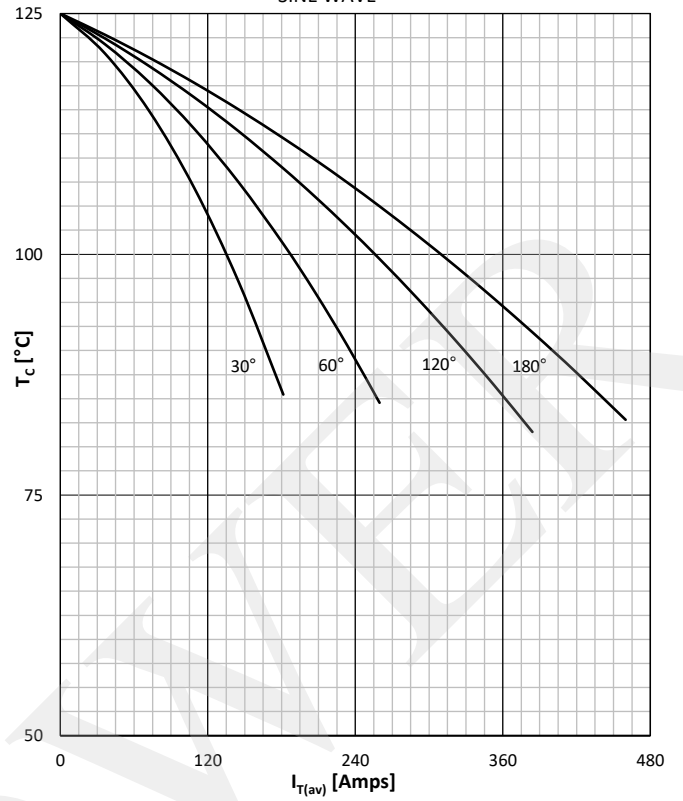
DISSIPATION CHARACTERISTICS

SINE WAVE



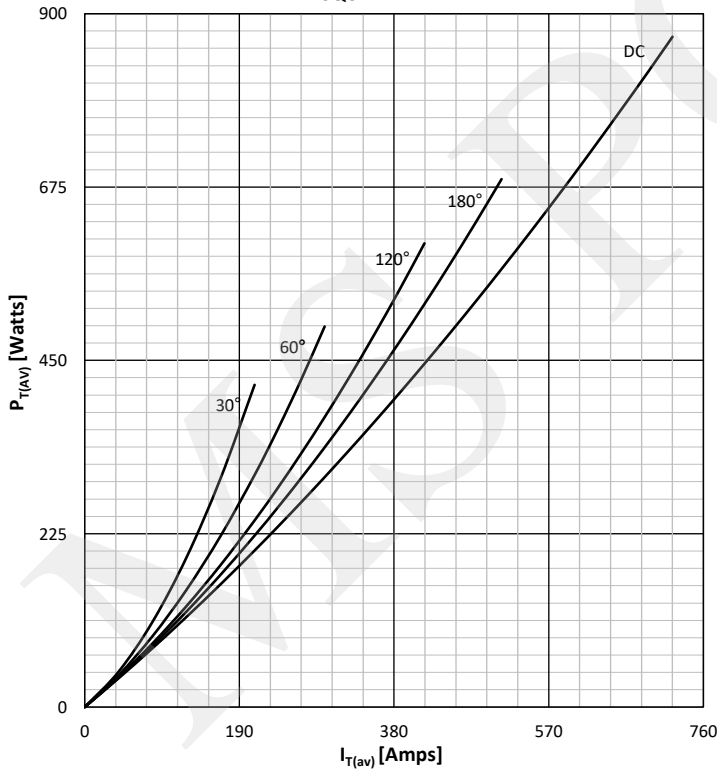
ON STATE CURRENT DERATING CURVE

SINE WAVE



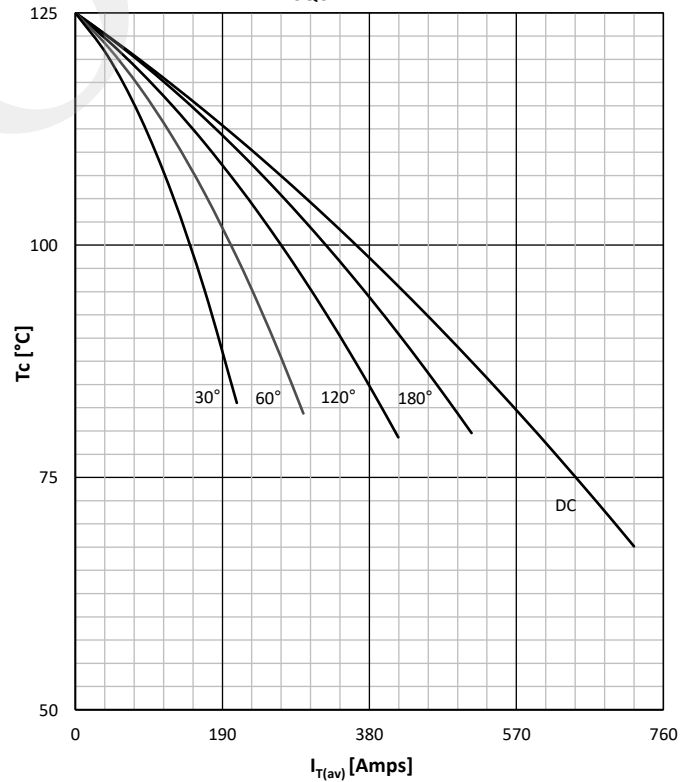
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



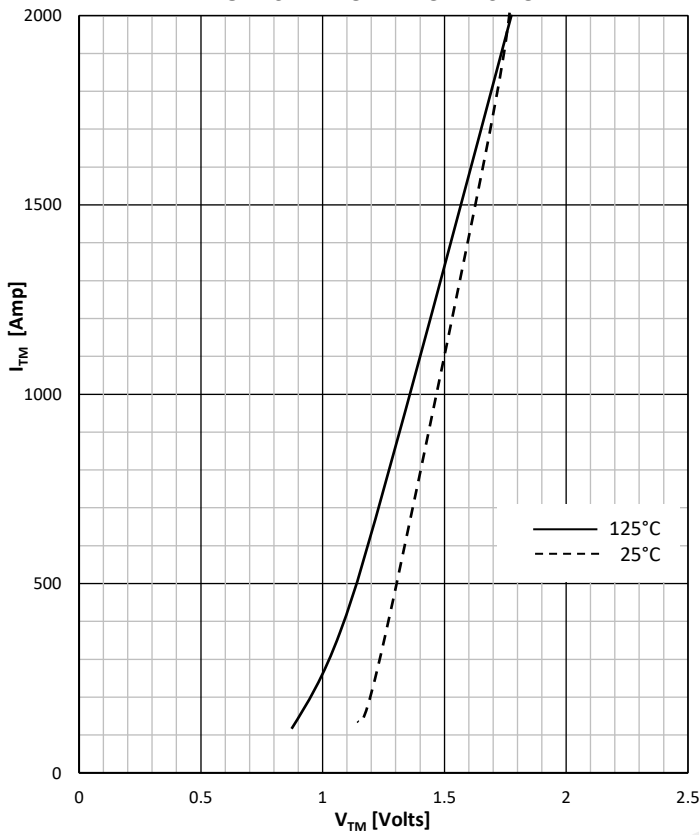
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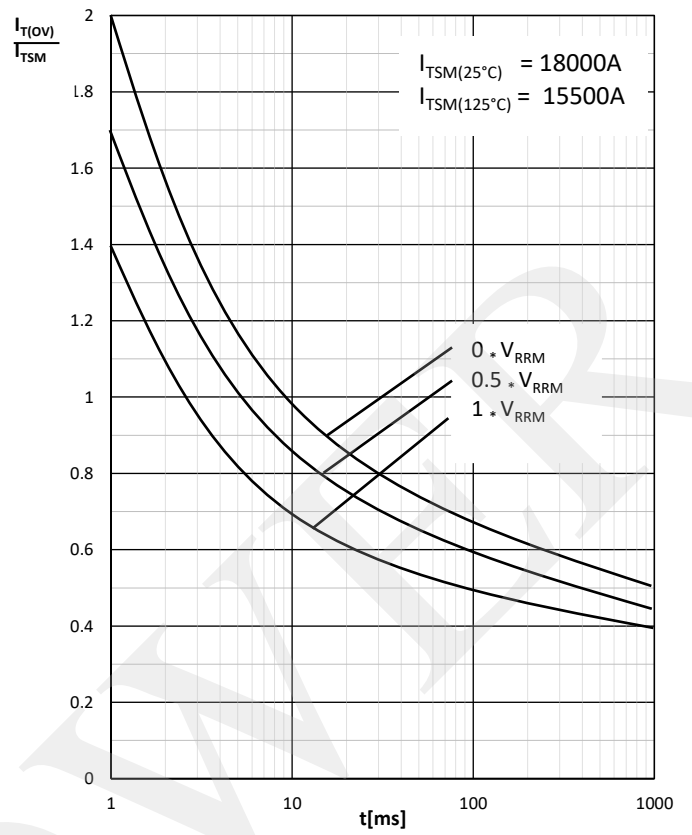
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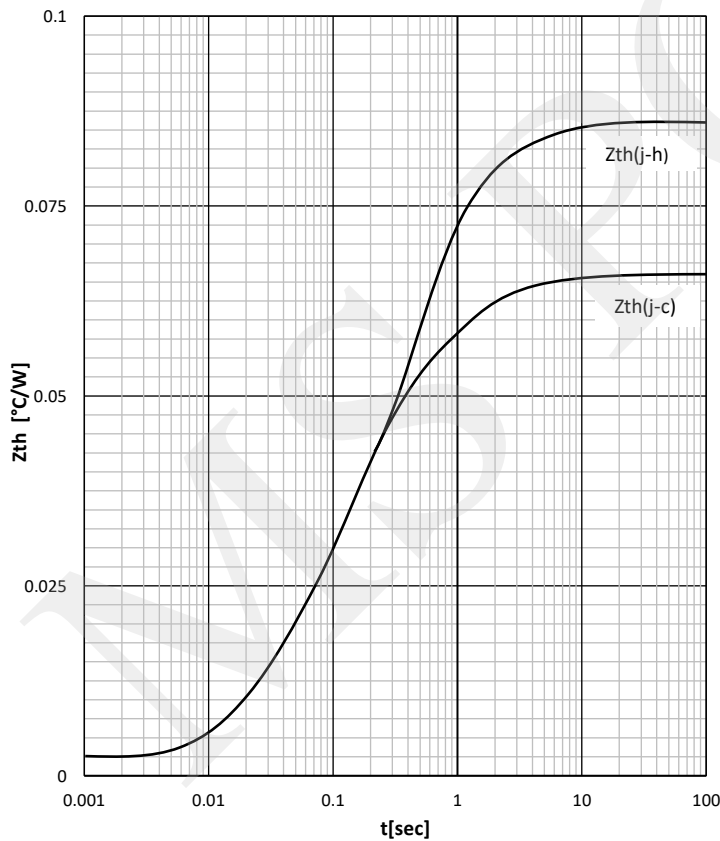
ON -STATE CHARACTERISTIC



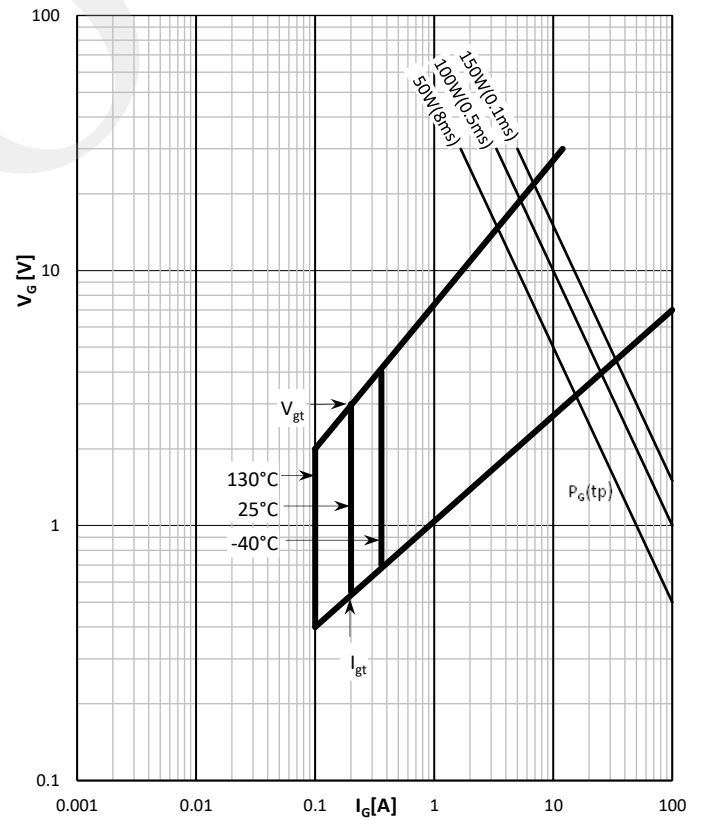
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



GATE TRIGGER CHARACTERISTICS



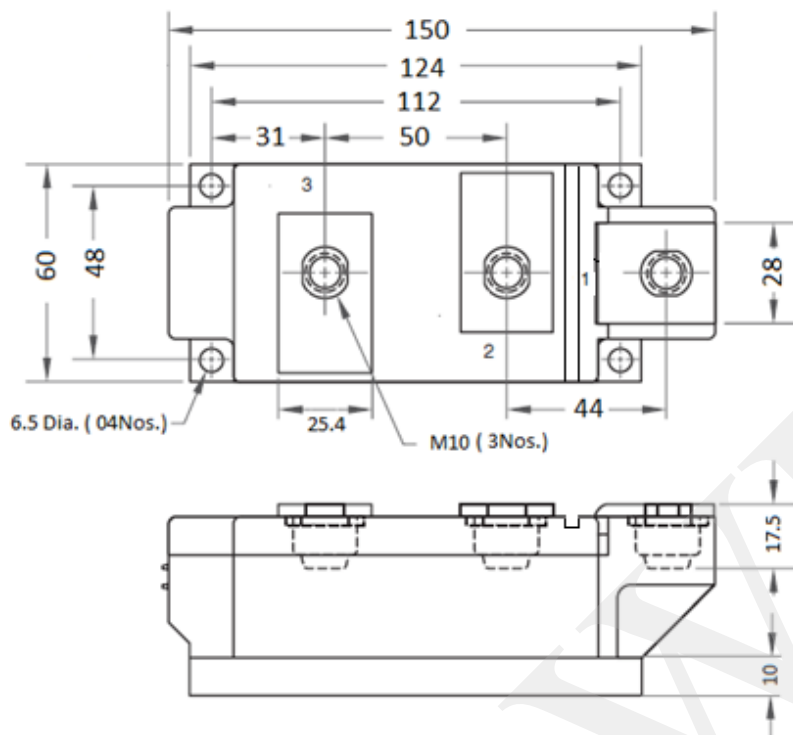
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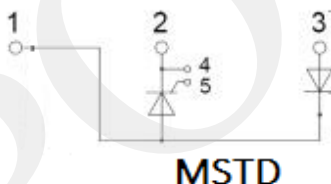
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Outline



Note : All dimensions are in mm.
Tolerance : $\pm 0.5\text{mm}$



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