



Key Parameters

V_{DRM} / V_{RRM}	= 2200V
$I_{T(AV)}$	= 4050A
I_{TSM}	= 62kA
$V_{T(TO)}$	= 0.92V
r_T	= 0.090mΩ

Features

- Full blocking capability over wide temperature range
- High Surge current capability
- Hermetic metal case with ceramic insulator

Applications

- Battery Chargers
- Medical Equipment
- UPS
- Power Supplies
- Motor control
- Controlled Rectifiers
- Transportation
- Induction Heating
- Welding

Ordering Information

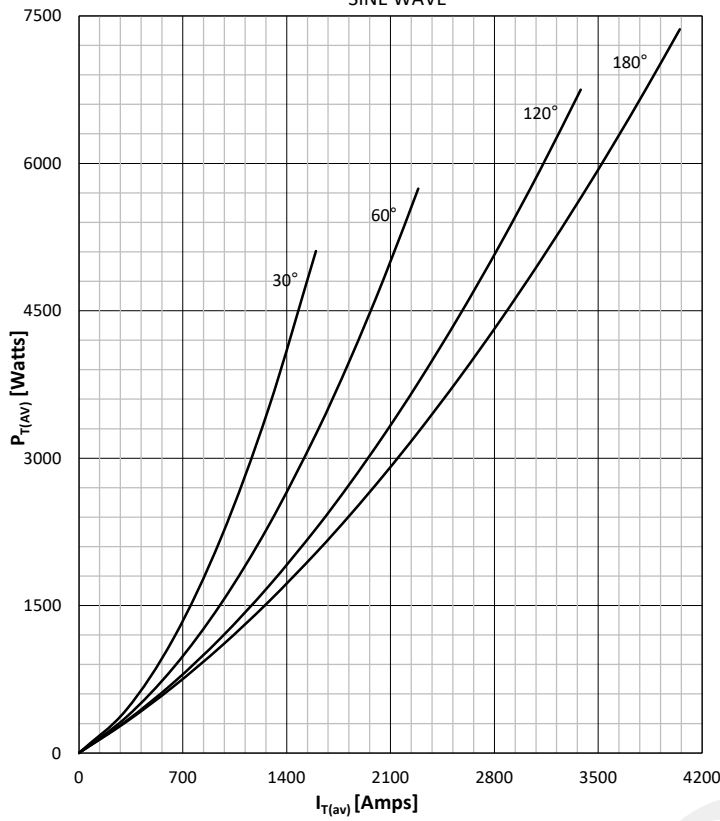
MS T	4050	C	XX
Phase Control Thyristor	Current Code	C - Capsule package with Alloyed silicon technology	Voltage Code Code X 100 = V_{DRM}/V_{RRM}
Order Code MS T4050C22: 2200V V_{DRM}, V_{RRM} , 26mm clamp height capsule thyristor			

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Symbol	Characteristic	Conditions	T _J [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	1200 - 2200	V
V _{RSM}	Non-repetitive peak reverse voltage		125	1300 - 2300	V
V _{DRM}	Repetitive peak off-state voltage		125	1200 - 2200	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 =70°C, Double side cooled		4050	A
I _{RMS}	RMS on-state current	T _c =70°C, Double side cooled		6358	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	62000	A
			125	60000	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	19220 x 10 ³	A ² s
			125	18000 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 2000A	25	1.10	V
V _{T(TO)}	Threshold voltage		125	0.92	V
r _T	On-state slope resistance		125	0.090	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current Non-repetitive (f=1Hz)	From 75%V _{DRM} , Gate 10V 5Ω, di _G /dt≥1A/μs	125	200	A/μs
dv/dt	Critical rate of rise of off-state voltage	V _{DR} = 67%V _{DRM}	125	500	V/μs
GATE					
I _{gt}	Gate trigger current	V _D =6V	25	300	mA
V _{gt}	Gate trigger voltage	V _D =6V	25	3.0	V
I _H	Holding current	V _D =6V, gate open circuit	25	300	mA
I _L	Latching current	V _D =6V	25	1500	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, DC	Junction to case, Double side cooled		0.0075	°C/W
R _{th(j-c)}	Thermal impedance, rec120°	Junction to case, Double side cooled		0.0086	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink, Double side cooled		0.002	°C/W
T _j	Max. junction temperature			125	°C
T _{stg}	Storage temperature			-40 125	°C
M	Clamping Force			40 - 50	kN
W	Weight (Approx.)			1150	gm
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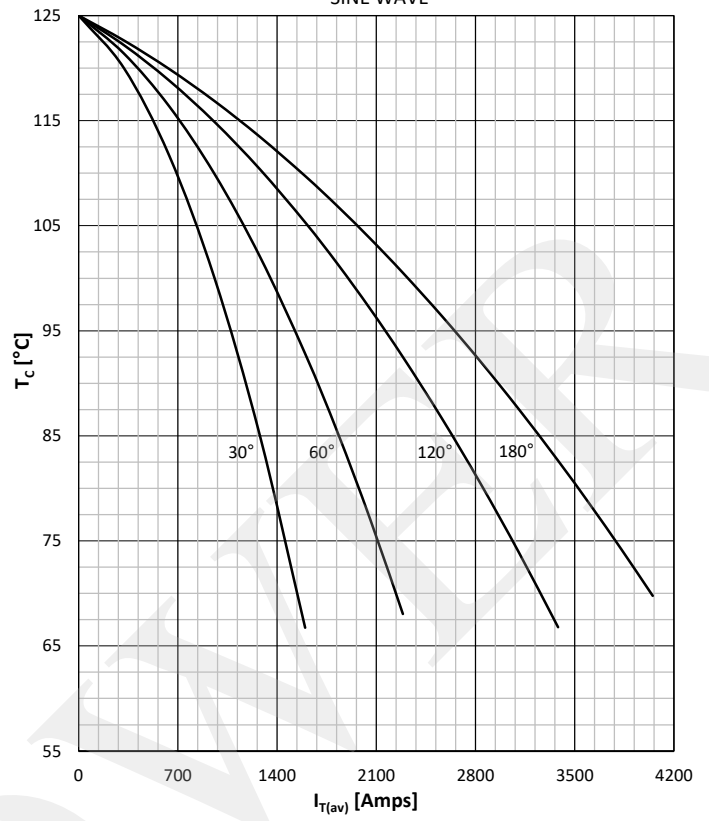
DISSIPATION CHARACTERISTICS

SINE WAVE



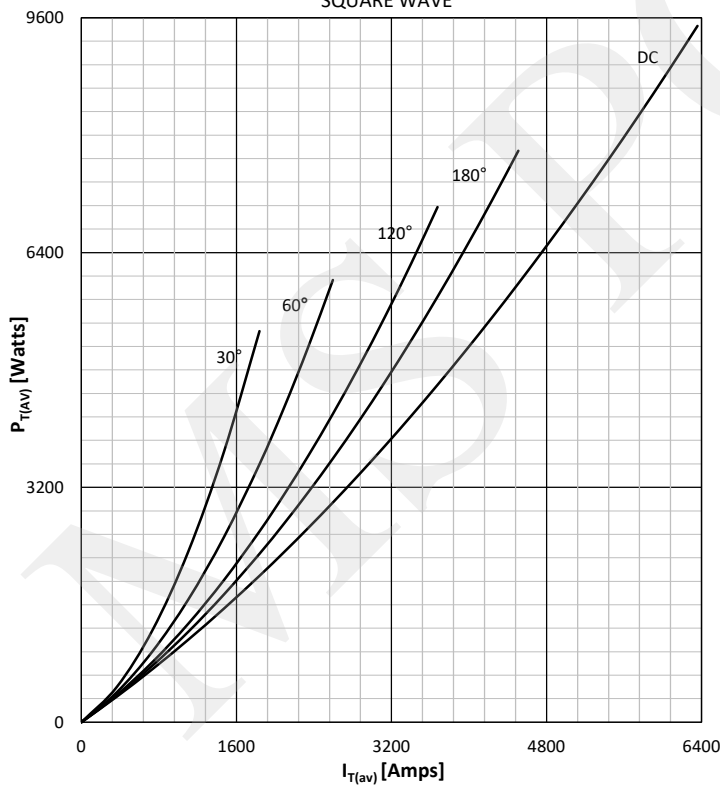
ON STATE CURRENT DERATING CURVE

SINE WAVE



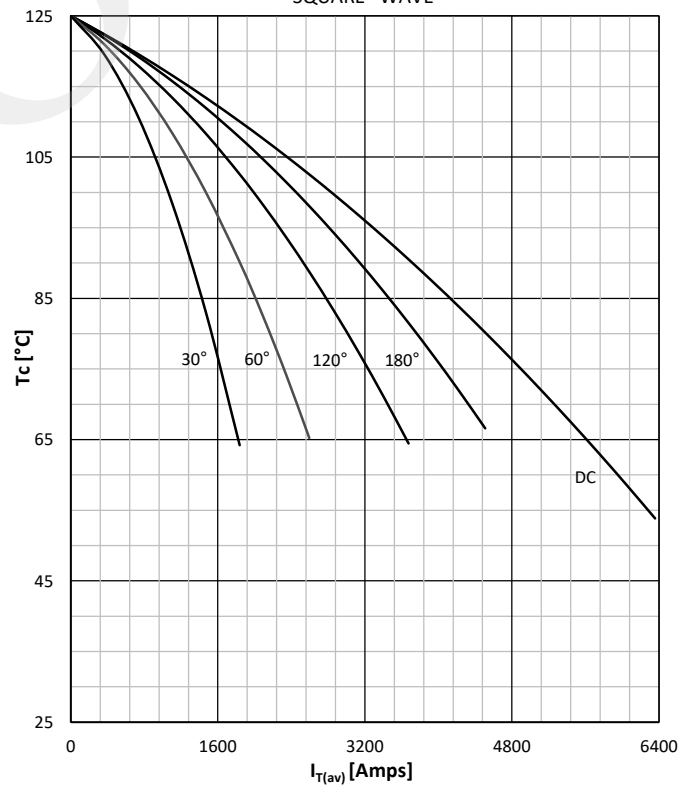
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



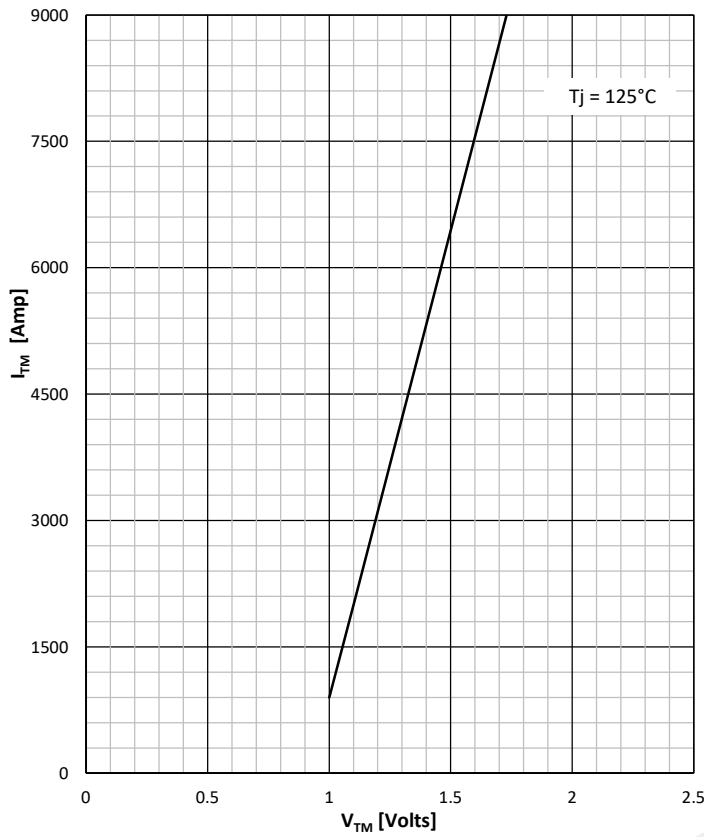
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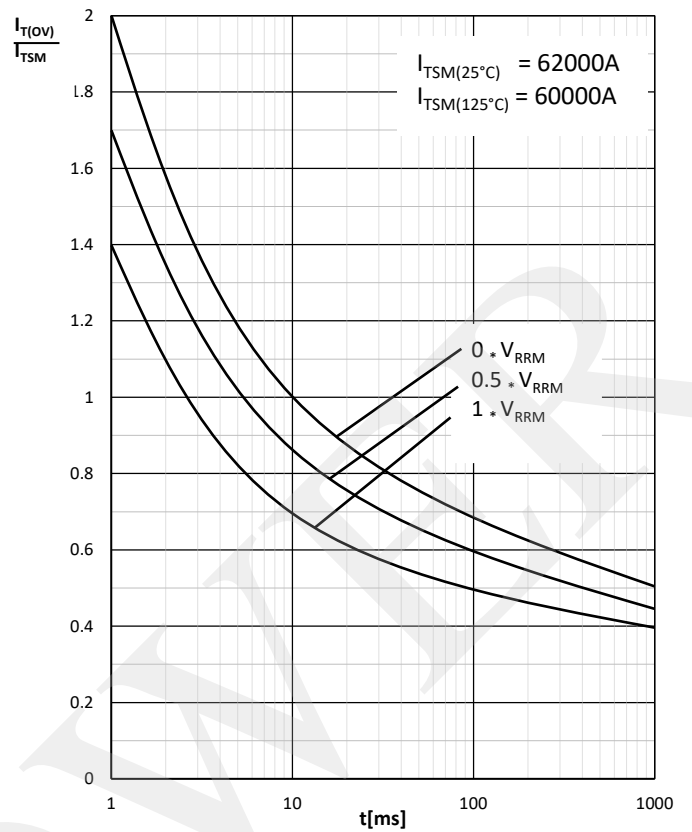
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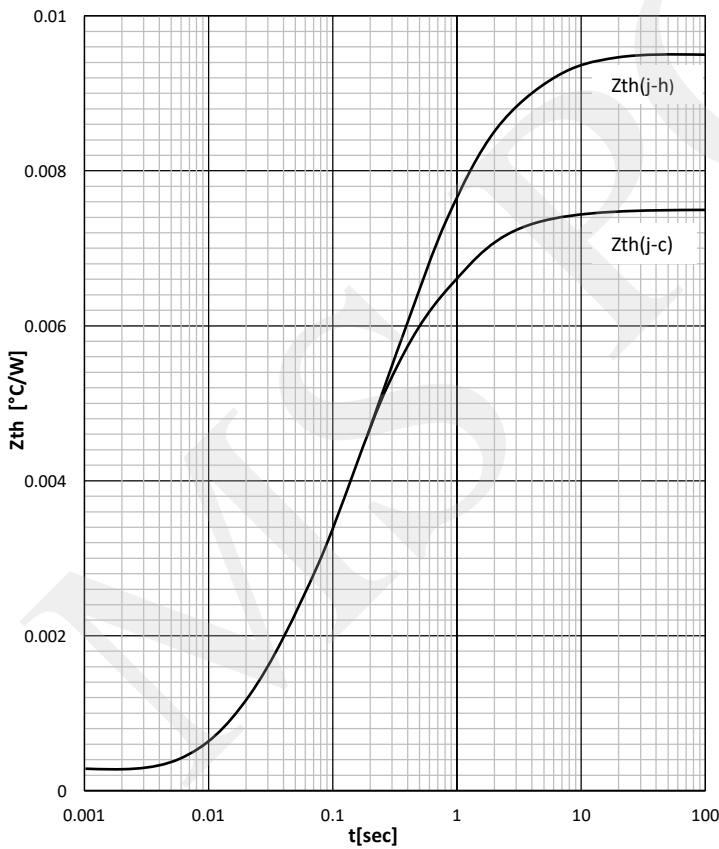
ON STATE CHARACTERISTIC



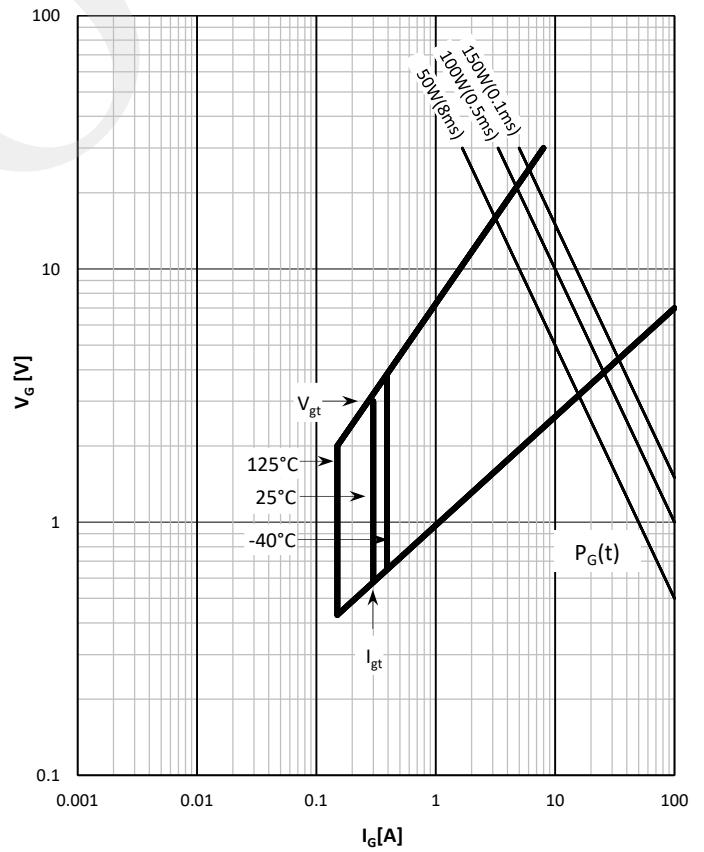
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS



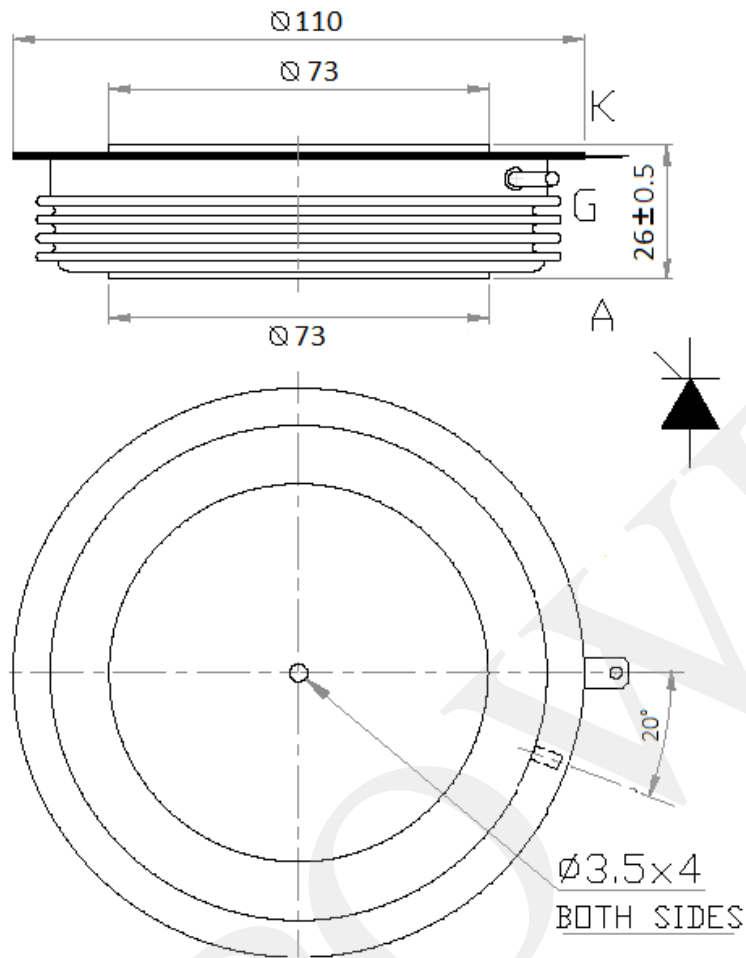
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