



Key Parameters

V_{DRM} / V_{RRM}	= 600V
$I_{T(AV)}$	= 3100A
I_{TSM}	= 46kA
$V_{T(TO)}$	= 0.69V
r_T	= 0.087mΩ

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

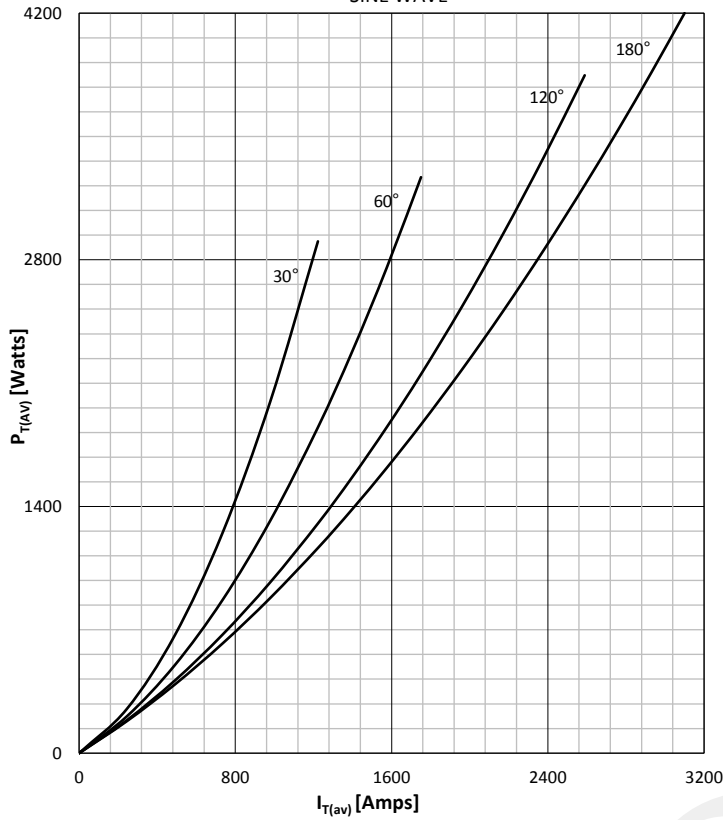
MS T	3100	C	XX
Phase Control Thyristor	Current Code	C - Capsule package with Alloyed silicon technology	Voltage Code Code X 100 = V_{DRM}/V_{RRM}
Order Code MS T3100C06 : 600V V_{DRM}, V_{RRM} , 37mm clamp height capsule thyristor			

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Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	200 - 600	V
V _{RSM}	Non-repetitive peak reverse voltage		125	300 - 700	V
V _{DRM}	Repetitive peak off-state voltage		125	200 - 600	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	125	150	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	125	150	mA
CONDUCTING					
I _{T(AV)}	Mean on state current	180° sin ,50 Hz, T _c =70°C, Double side cooled 180° sin ,50 Hz, T _c =73°C, Double side cooled		3100 3000	A
I _{RMS}	RMS on-state current	T _c =70°C, Double side cooled		4867	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	46000	A
			125	44500	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	10580 x 10 ³	A ² s
			125	9901 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 3000A	125	1.00	V
V _{T(TO)}	Threshold voltage		125	0.69	V
r _T	On-state slope resistance		125	0.087	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current		125	100	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	250	mA
V _{gt}	Gate trigger voltage	V _D =6V	25	3.0	V
I _H	Holding current	V _D =6V, gate open circuit	25	800	mA
I _L	Latching current	V _D =6V	25	1000	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case, Double side cooled		0.012	°C/W
R _{th(j-c)}	Thermal impedance, rec120°	Junction to case, Double side cooled		0.014	°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			27 - 45	kN
W	Weight (Approx.)			1600	gm
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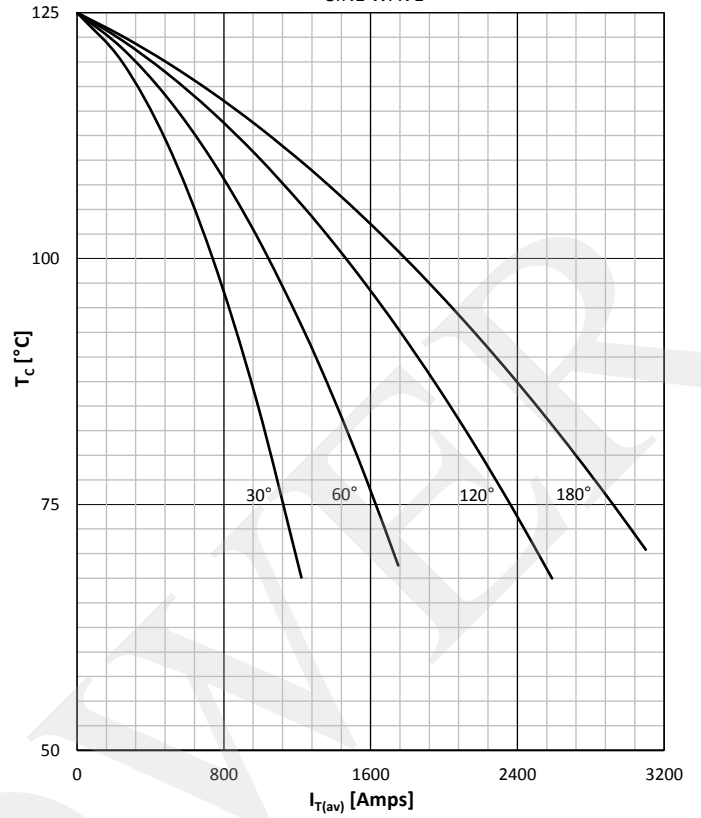
DISSIPATION CHARACTERISTICS

SINE WAVE



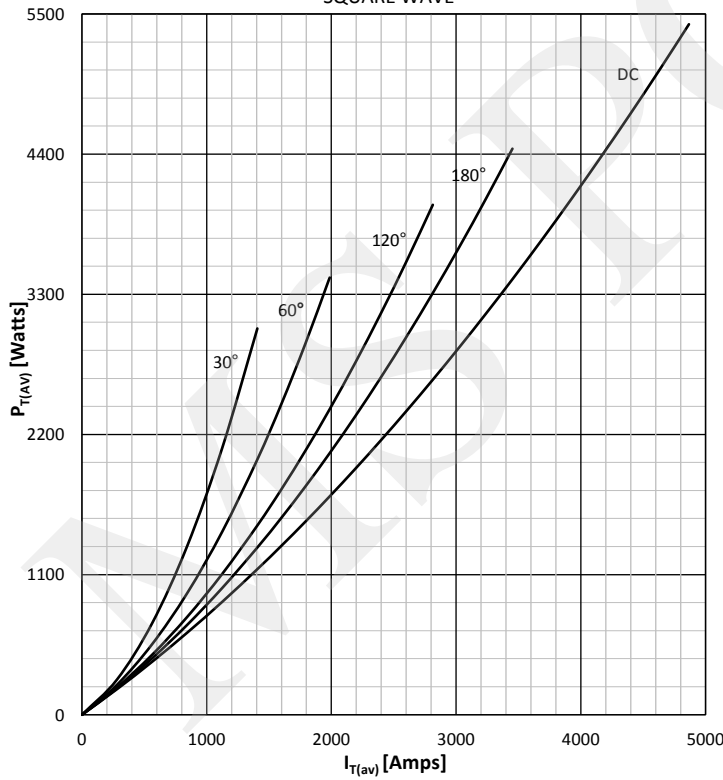
ON STATE CURRENT DERATING CURVE

SINE WAVE



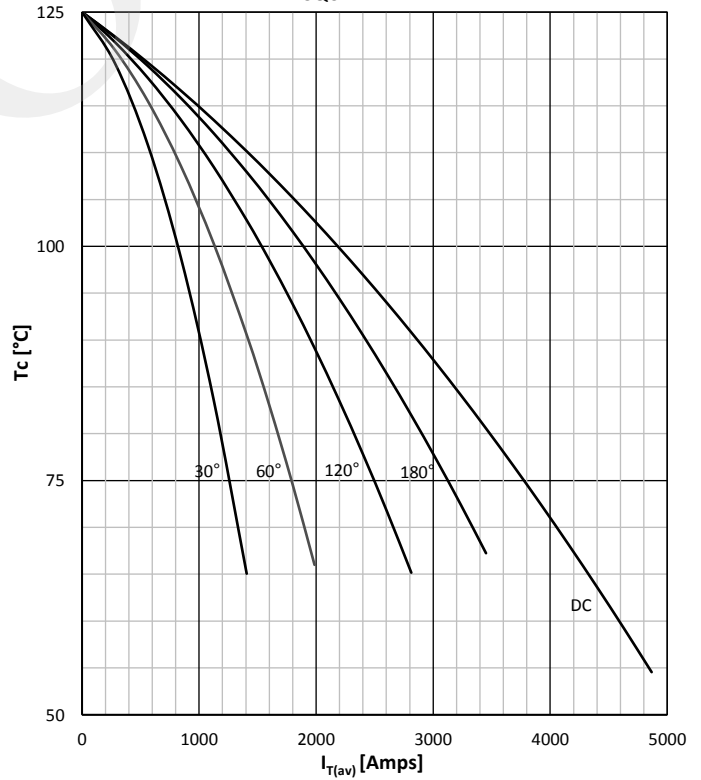
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



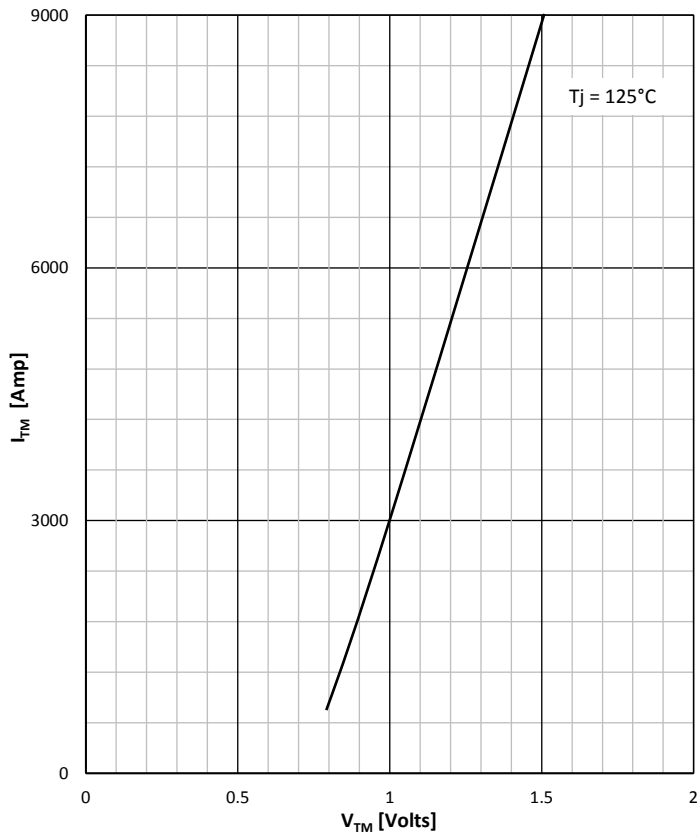
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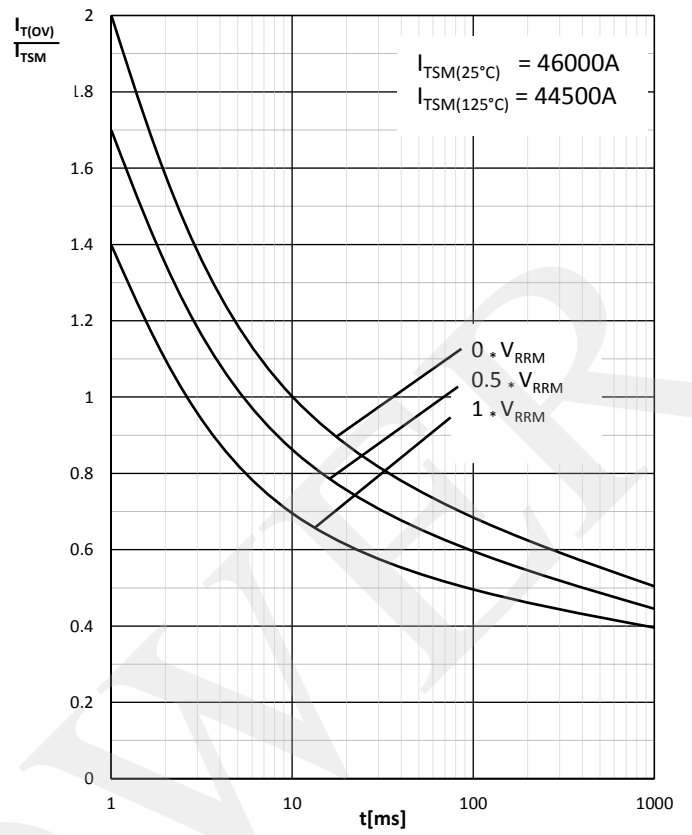
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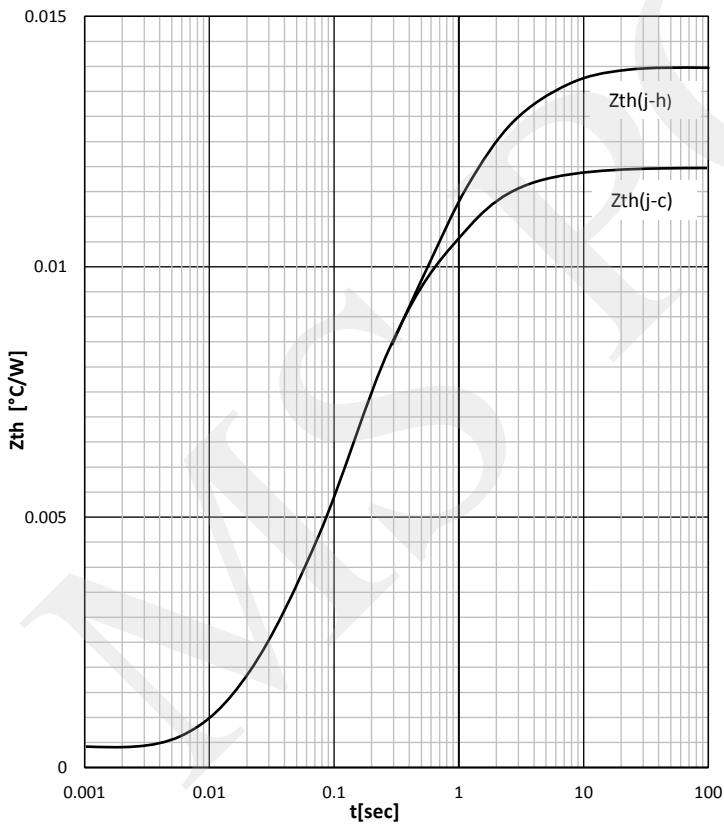
ON STATE CHARACTERISTIC



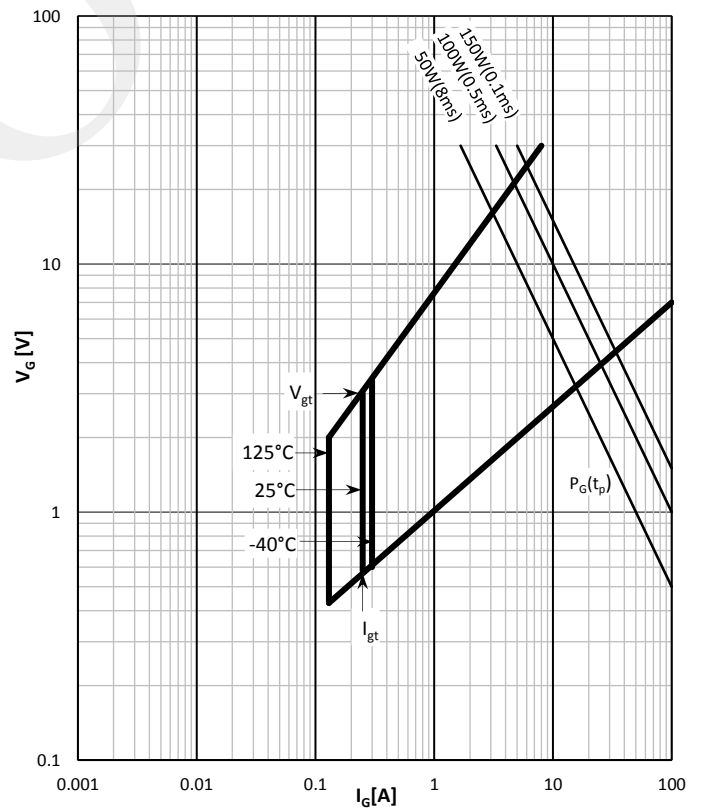
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS



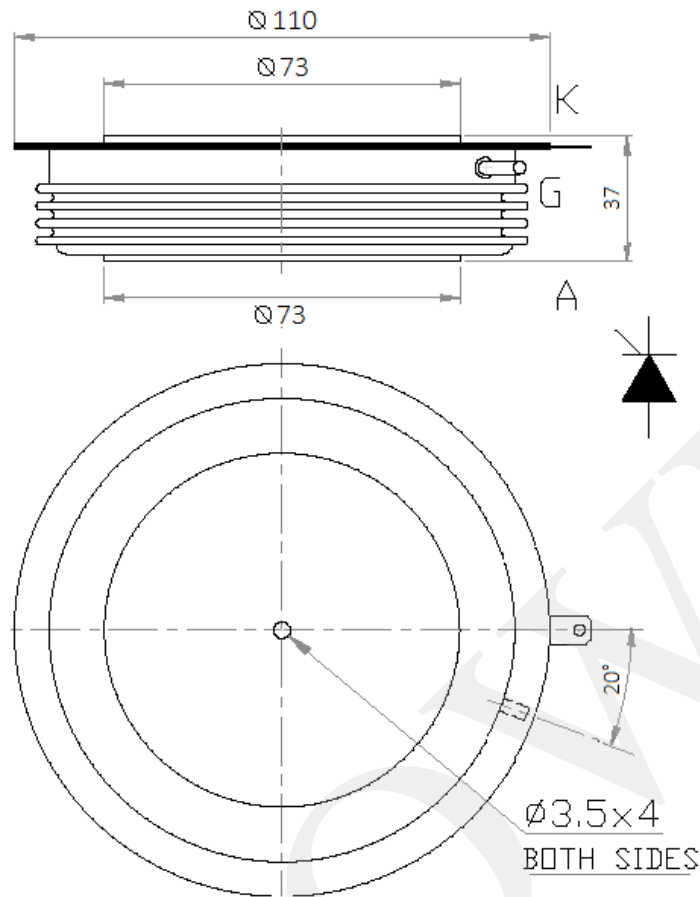
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