



Key Parameters

V_{DRM} / V_{RRM}	= 1600V
$I_{T(AV)}$	= 85A
I_{TSM}	= 1350A
$V_{T(TO)}$	= 1.20V
r_T	= 2.60m Ω

Features

- Full blocking capability over wide temperature range
- Hard soldered joints for high reliability

Applications

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

Ordering Information

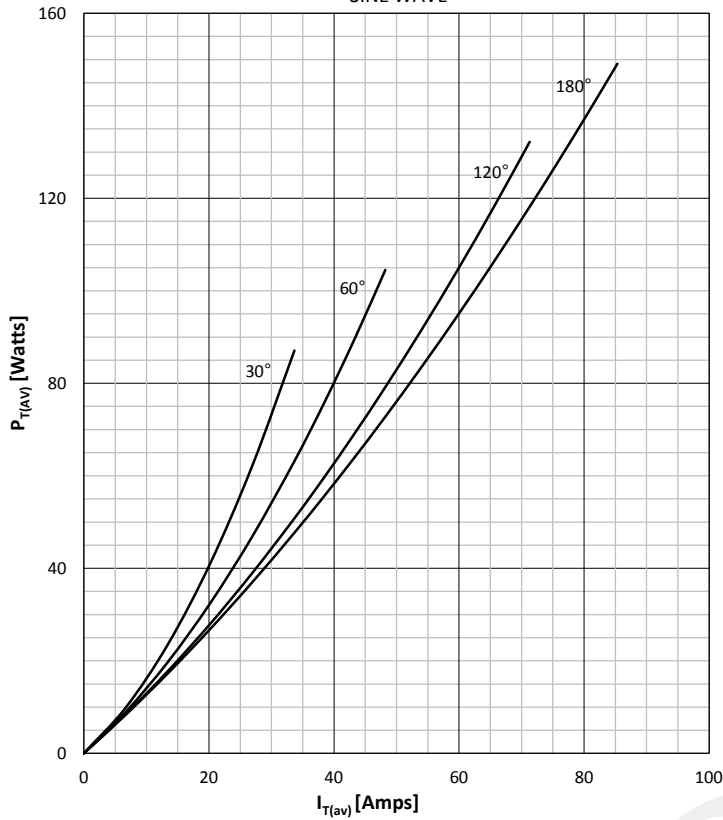
MS T	85	S	XX	U	B
Phase Control Thyristor	Current Code	Stud / Flat Base Version	Voltage Code Code X 100 = V_{DRM}/V_{RRM}	Stud Threads U = 1/2" UNF	Technology B = Solder Bond Technology
Order Code MS T85S16UB : 1600V V_{DRM}, V_{RRM} , Stud base Thyristor with 1/2" UNF threads					

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Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	200 - 1600	V
V _{RSM}	Non-repetitive peak reverse voltage		125	300 - 1700	V
V _{DRM}	Repetitive peak off-state voltage		125	200 - 1600	V
I _{RRM}	Repetitive peak reverse current	V = V _{RRM}	125	30	mA
I _{DRM}	Repetitive peak off-state current	V = V _{DRM}	125	30	mA
CONDUCTING					
I _{T(AV)}	Mean on state current	180° sin ,50 Hz, T _c =85°C		85	A
I _{RMS}	RMS on-state current			134	A
I _{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	1350	A
			125	1250	A
I ² t	I ² t	Sine wave, 10 ms Without reverse voltage	25	9112	A ² s
			125	7812	A ² s
V _T	On-state voltage	On-state current = 270A	125	1.98	V
V _{T(TO)}	Threshold voltage		125	1.20	V
r _T	On-state slope resistance		125	2.60	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	150	mA
V _{gt}	Gate trigger voltage	V _D =6V	25	3.0	V
I _H	Holding current	V _D =6V, gate open circuit	25	400	mA
I _L	Latching current	V _D =6V	25	600	mA
MOUNTING					
R _{th(j-c)}	Thermal impedance, sin 180°	Junction to case		0.27	°C/W
R _{th(j-c)}	Thermal impedance, rec120°	Junction to case		0.31	°C/W
R _{th(c-h)}	Thermal impedance	Case to heatsink		0.08	°C/W
T _j	Max. junction temperature			125	°C
T _{stg}	Storage temperature			-40 125	°C
M	Mounting torque			14	NM
W	Weight (Approx.)			200	gm
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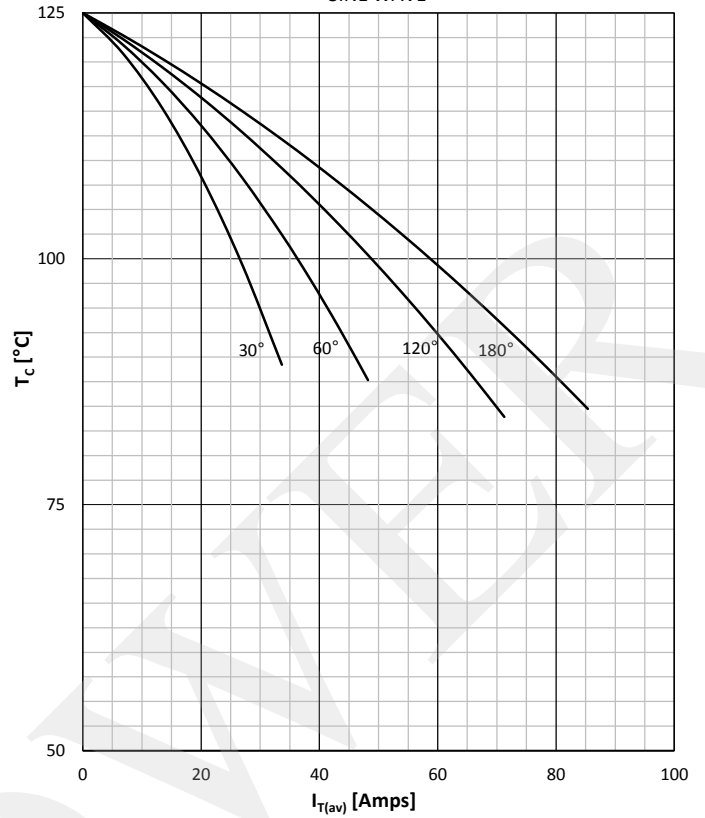
DISSIPATION CHARACTERISTICS

SINE WAVE



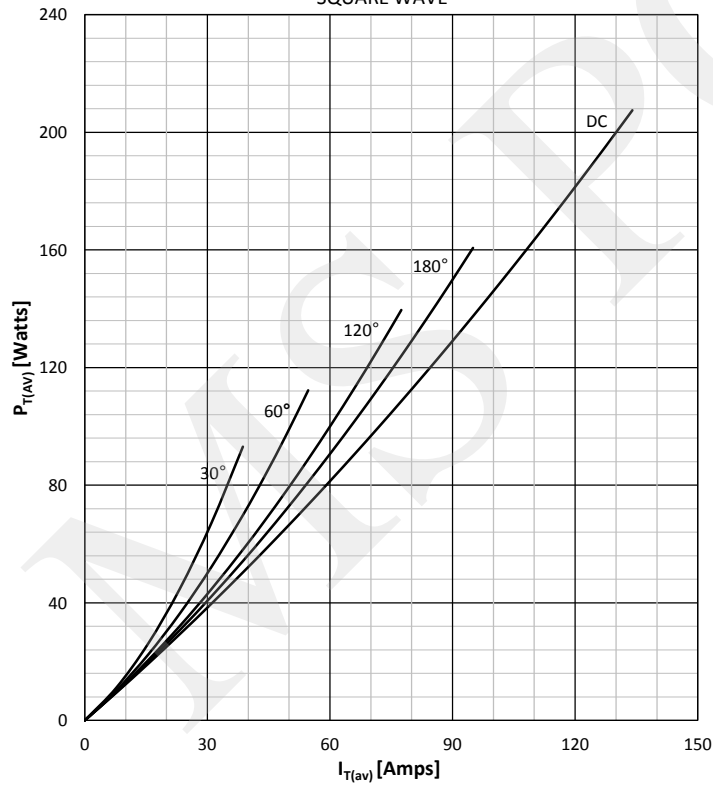
ON STATE CURRENT DERATING CURVE

SINE WAVE



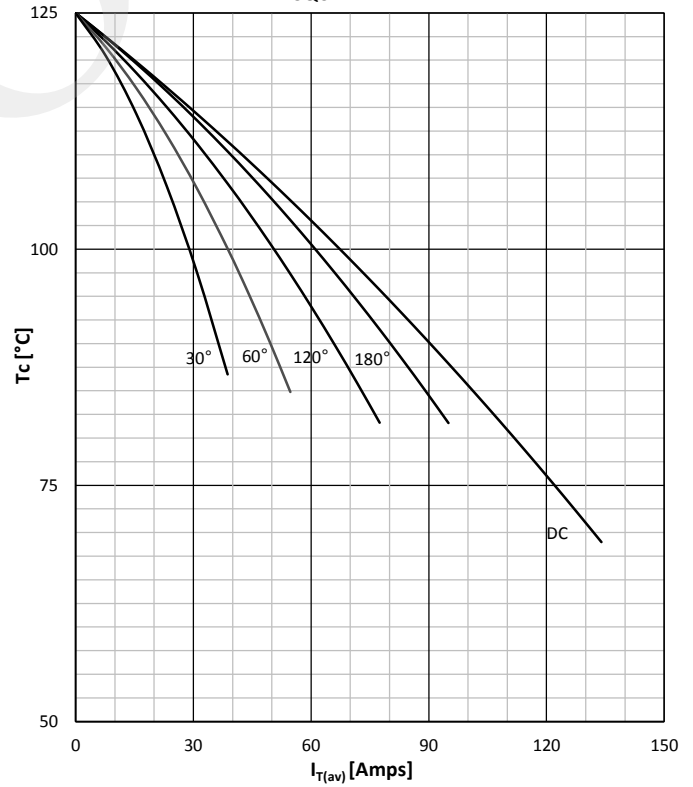
DISSIPATION CHARACTERISTICS

SQUARE WAVE



ON STATE CURRENT DERATING CURVE

SQUARE WAVE



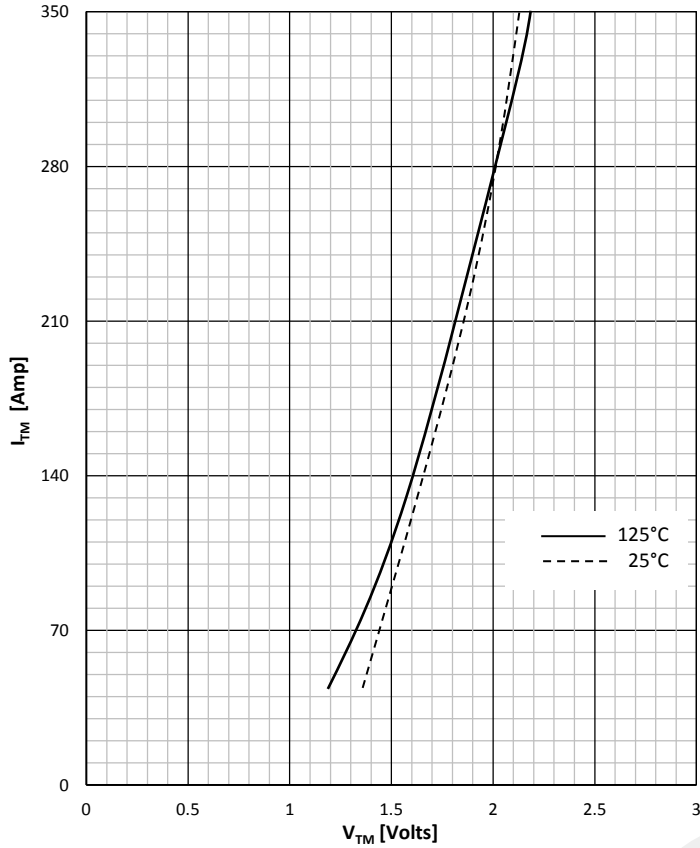
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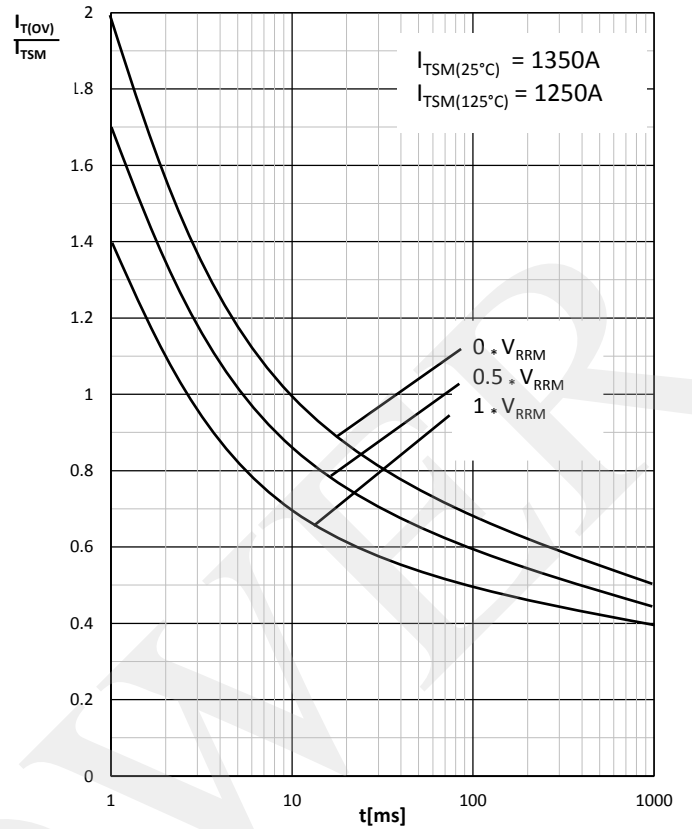
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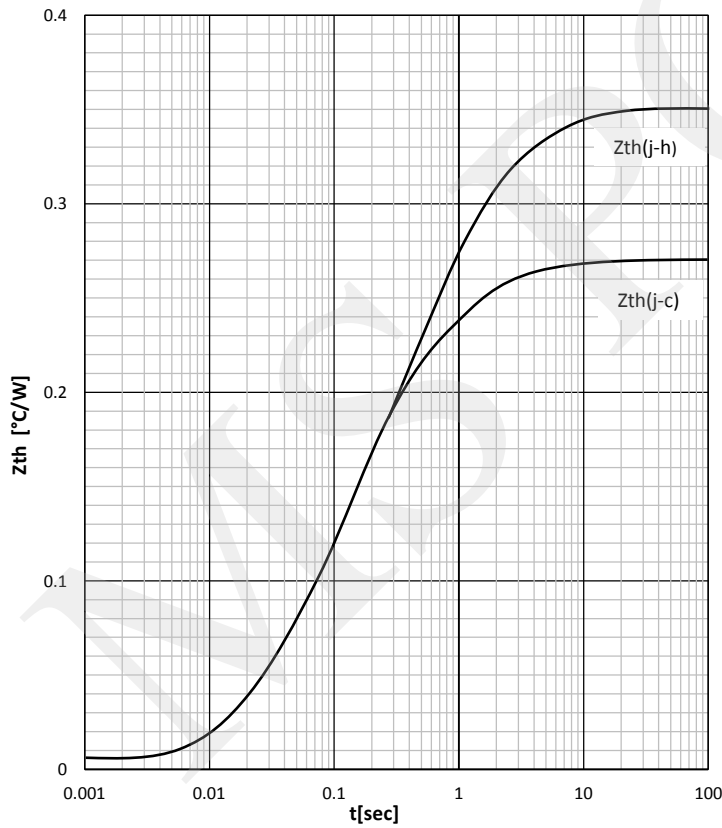
ON STATE CHARACTERISTIC



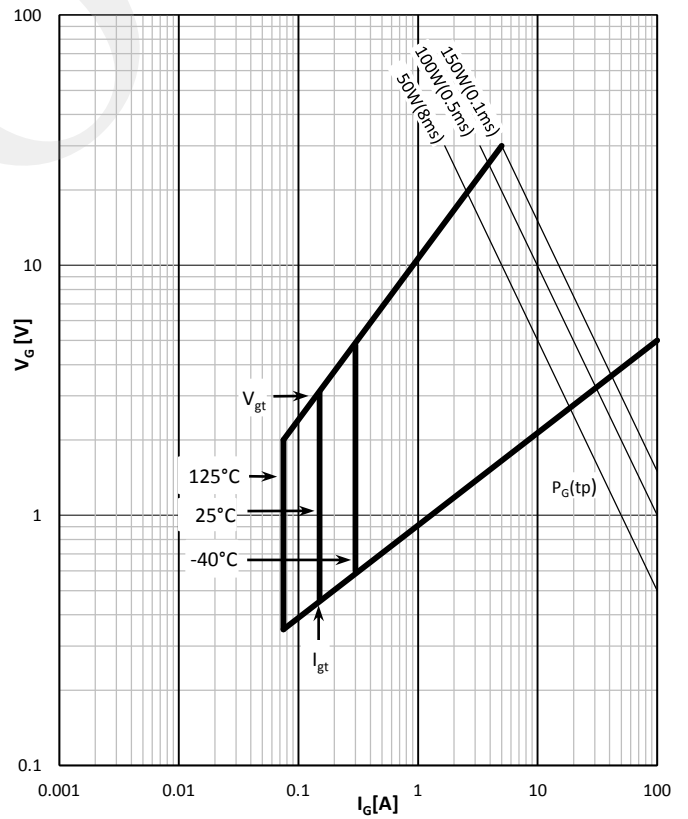
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS



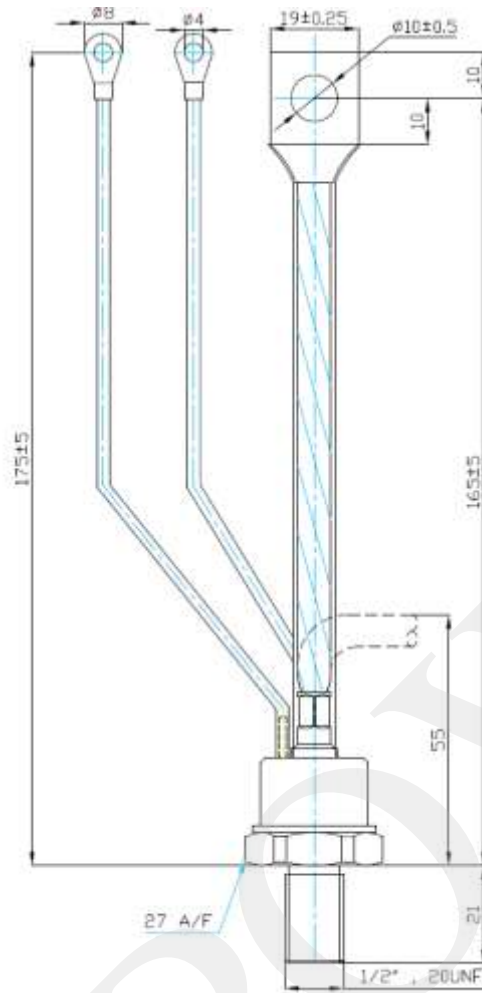
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