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SCT1350C

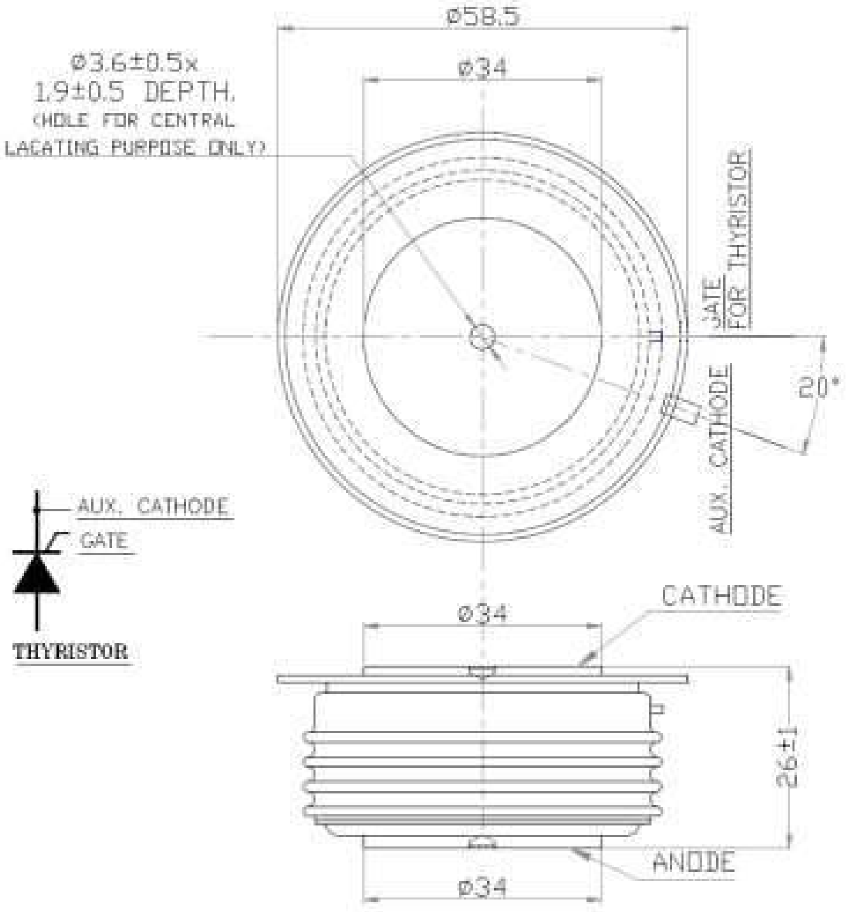
Power Rectifier Thyristor

Key Parameters

V_{DRM} / V_{RRM}	= 600V
$I_{T(AV)}$	= 1350A
I_{TSM}	= 26.0kA
$V_{T(TO)}$	= 0.80V
r_T	= 0.14mΩ

Features

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



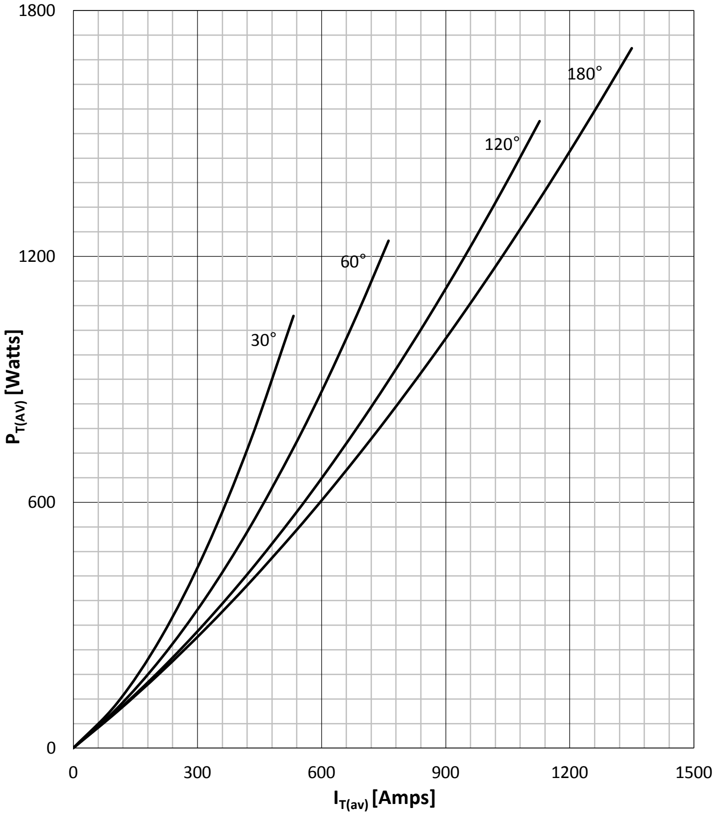
Applications

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

Symbol	Characteristic	Conditions	Tj [°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	80	mA
I_{DRM}	Repetitive peak off-state current	$V= V_{DRM}$	125	80	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T_c=67°C, Double side cooled		1350	A
I_{RMS}	RMS on-state current			2119	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	26000	A
			125	24400	A
I^2t	I^2t	Sine wave, 10 ms Without reverse voltage	25	3380 x 10^3	A^2s
			125	2977 x 10^3	A^2s
V_T	On-state voltage	On-state current = 3600A	125	1.31	V
$V_{T(TO)}$	Threshold voltage		125	0.80	V
r_T	On-state slope resistance		125	0.14	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current	Non-repetitive, $V_D = 80\%V_{DRM}$, Gate 20V, 20Ω, t_r≤1µs,	125	1000	A/µs
dv/dt	Critical rate of rise of off-state voltage	$V_{DR} = 80\%V_{DRM}$	125	500	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, Double side cooled		0.034	°C/W
$R_{th(j-c)}$	Thermal impedance, rec120°	Junction to case, Double side cooled		0.039	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, Double side cooled		0.006	°C/W
T_j	Max. junction temperature			125	°C
T_{stg}	Storage temperature			-40 125	°C
M	Clamping Force			12 - 15	kN
W	Weight (Approx.)			255	gm

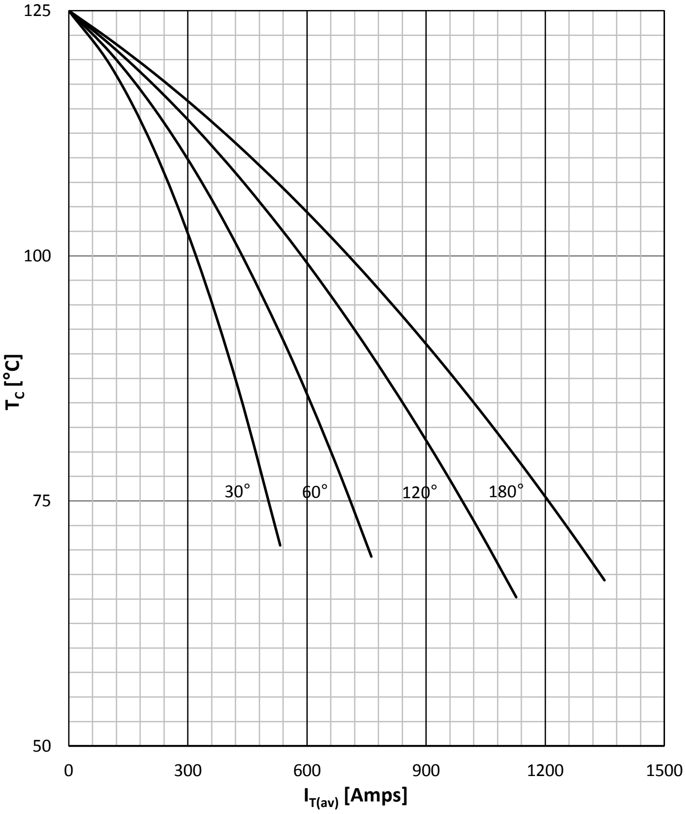
DISSIPATION CHARACTERISTICS

SINE WAVE



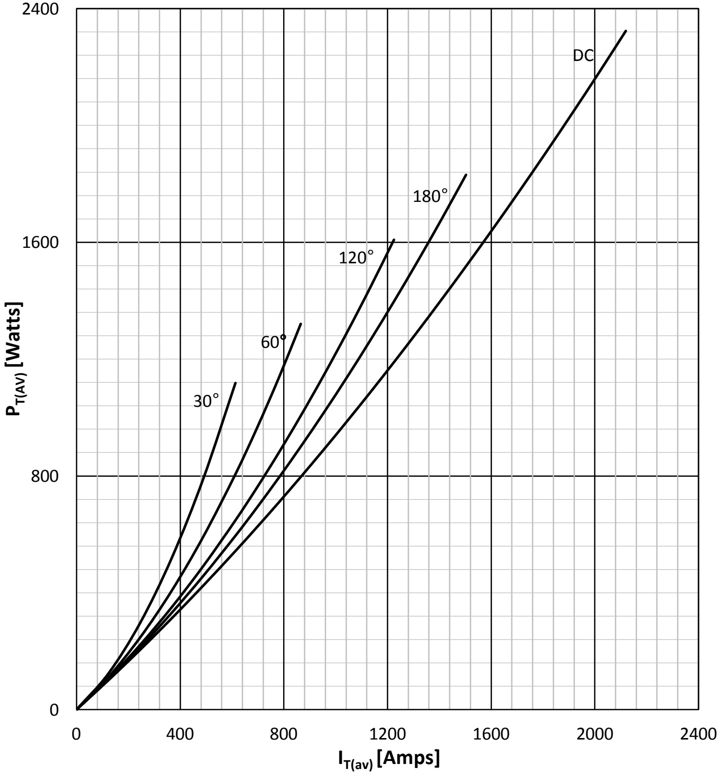
ON STATE CURRENT DERATING CURVE

SINE WAVE



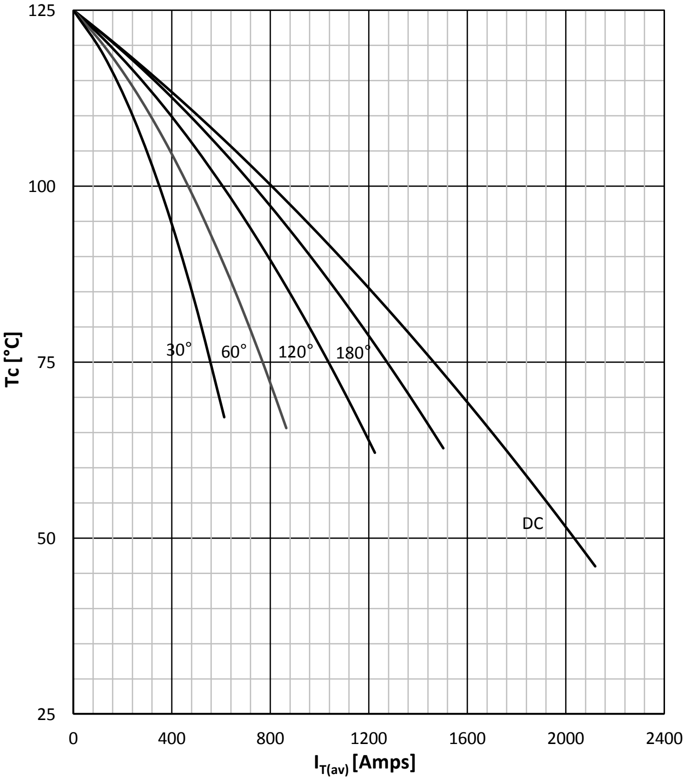
DISSIPATION CHARACTERISTICS

SQUARE WAVE

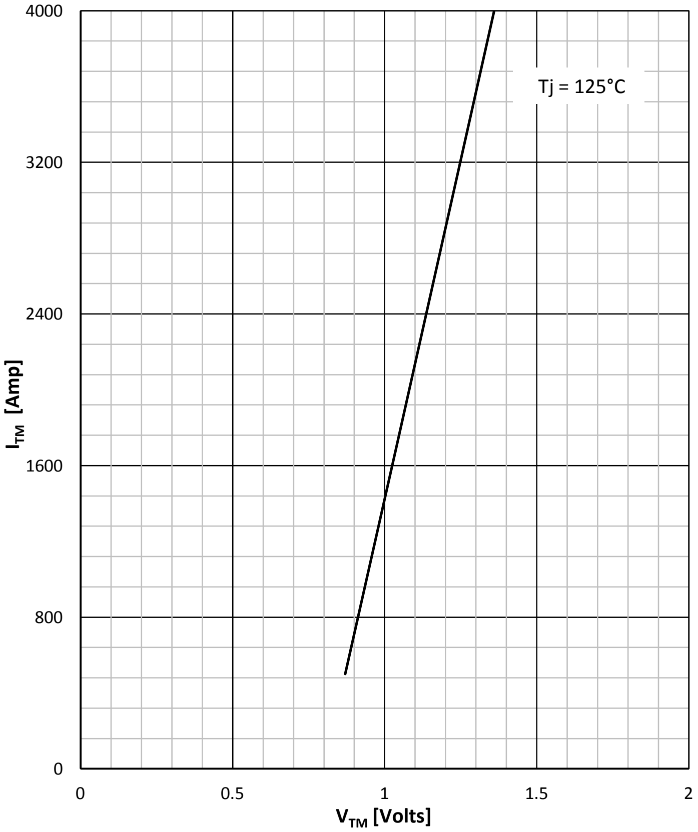


ON STATE CURRENT DERATING CURVE

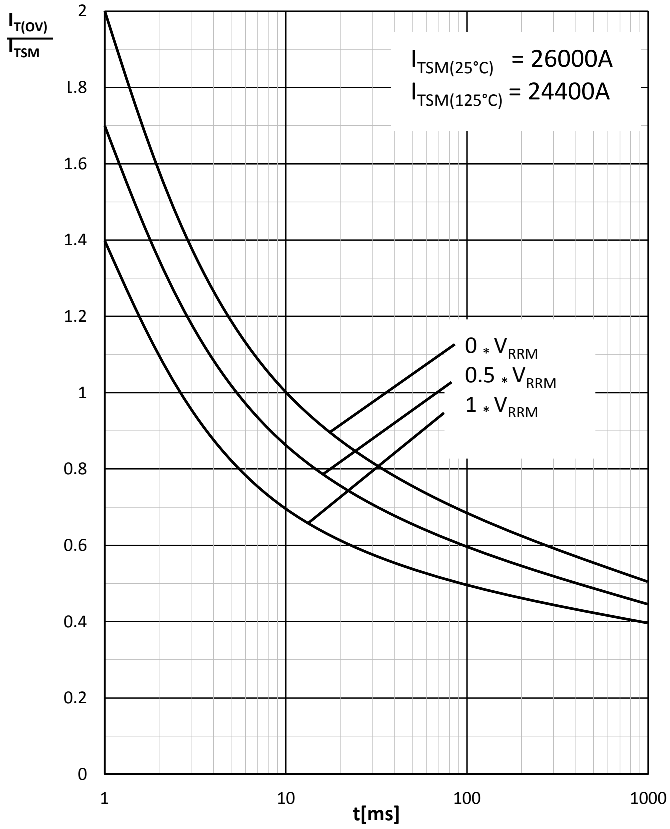
SQUARE WAVE



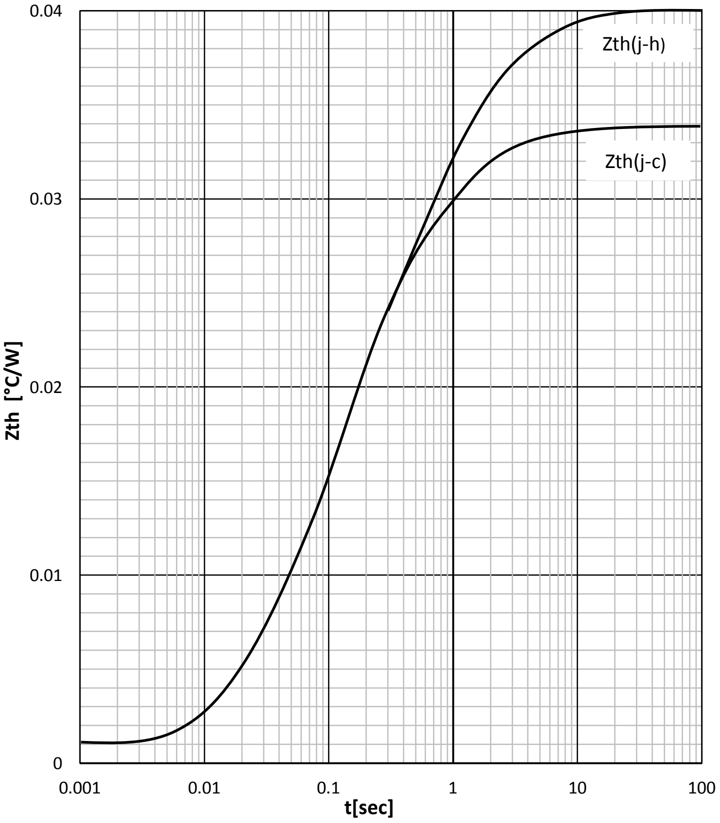
ON STATE CHARACTERISTIC



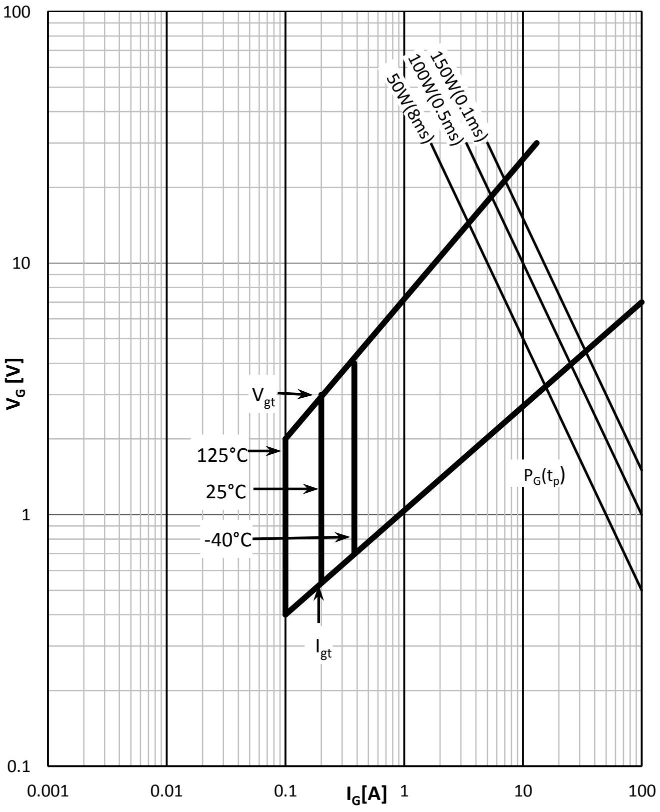
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



GATE TRIGGER CHARACTERISTICS



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