



## SCT3324

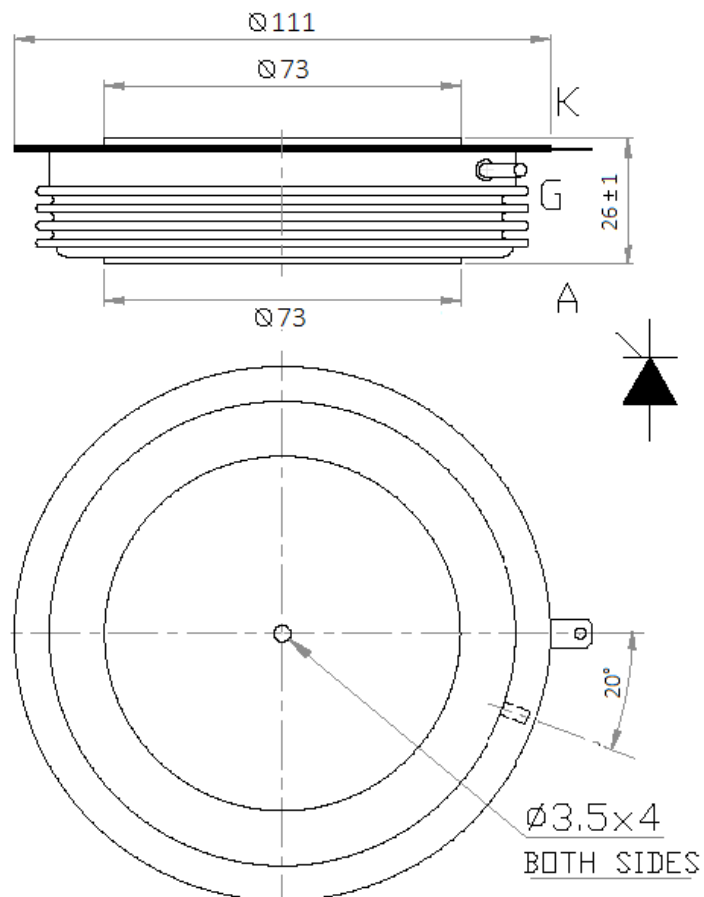
### Power Rectifier Thyristor

#### Key Parameters

$V_{DRM} / V_{RRM}$	= 2800V
$I_{T(AV)}$	= 3324A
$I_{TSM}$	= 58kA
$V_{T(TO)}$	= 0.95V
$r_T$	= 0.12m $\Omega$

#### Features

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



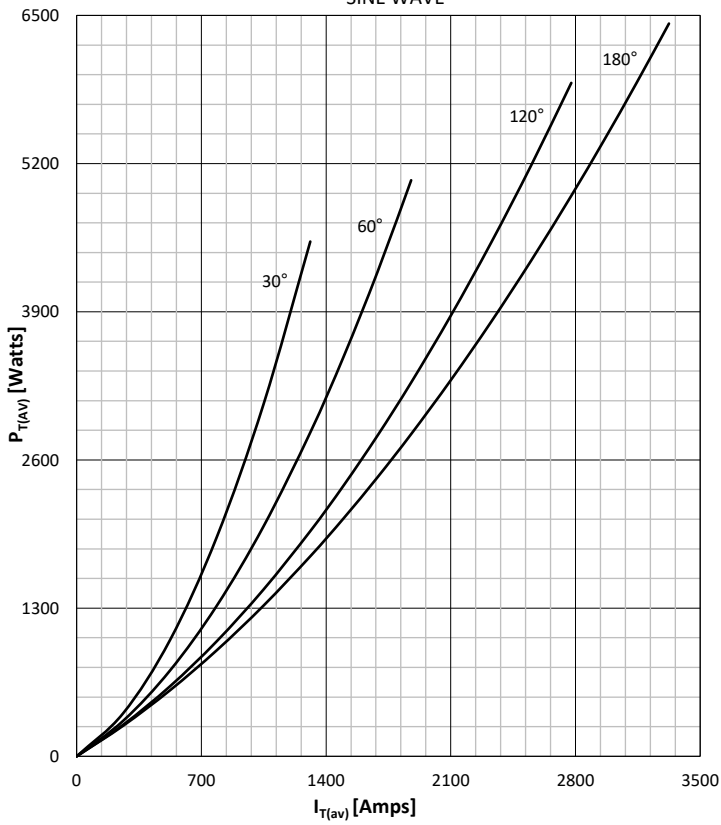
#### Applications

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

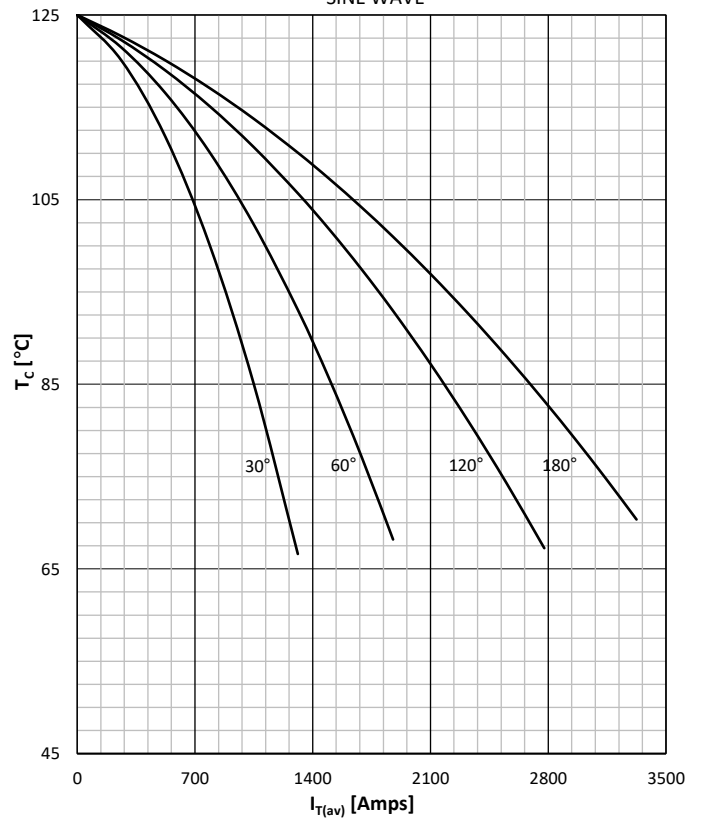
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	1600 - 2800	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		125	1700 - 2900	V
V <sub>DRM</sub>	Repetitive peak off-state voltage		125	1600 - 2800	V
I <sub>RRM</sub>	Repetitive peak reverse current	V = V <sub>RRM</sub>	125	250	mA
I <sub>DRM</sub>	Repetitive peak off-state current	V = V <sub>DRM</sub>	125	250	mA
<b>CONDUCTING</b>					
I <sub>T(AV)</sub>	Mean on state current	180° sin ,50 Hz, T <sub>c</sub> =70°C, Double side cooled 180° sin ,50 Hz, T <sub>c</sub> =85°C, Double side cooled		3324 2700	A
I <sub>RMS</sub>	RMS on-state current			5220	A
I <sub>TSM</sub>	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	58000	A
			125	50000	A
I <sup>2</sup> t	I <sup>2</sup> t	Sine wave, 10 ms Without reverse voltage	25	16820 × 10 <sup>3</sup>	A <sup>2</sup> s
			125	12500 × 10 <sup>3</sup>	A <sup>2</sup> s
V <sub>T</sub>	On-state voltage	On-state current = 3000A	125	1.35	V
V <sub>T(TO)</sub>	Threshold voltage		125	0.95	V
r <sub>T</sub>	On-state slope resistance		125	0.12	mΩ
<b>SWITCHING</b>					
di/dt	Critical rate of rise of on-state current	V <sub>D</sub> = 67%V <sub>DRM</sub> , I <sub>GM</sub> =1A, di <sub>G</sub> /dt = 1A/μs, f=50Hz	125	200	A/μs
dv/dt	Critical rate of rise of off-state voltage	V <sub>DR</sub> = 67%V <sub>DRM</sub>	125	1000	V/μs
<b>GATE</b>					
I <sub>gt</sub>	Gate trigger current	V <sub>D</sub> =6V	25	250	mA
V <sub>gt</sub>	Gate trigger voltage	V <sub>D</sub> =6V	25	3.0	V
I <sub>H</sub>	Holding current	V <sub>D</sub> =6V, gate open circuit	25	300	mA
I <sub>L</sub>	Latching current	V <sub>D</sub> =6V	25	1500	mA
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance, sin 180°	Junction to case, Double side cooled		0.0085	°C/W
R <sub>th(j-c)</sub>	Thermal impedance, rec120°	Junction to case, Double side cooled		0.0098	°C/W
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, Double side cooled		0.0025	°C/W
T <sub>j</sub>	Max. junction temperature			125	°C
T <sub>stg</sub>	Storage temperature			-40 .... 125	°C
M	Clamping Force			40 - 45	kN
W	Weight (Approx.)			1200	gm

**DISSIPATION CHARACTERISTICS**

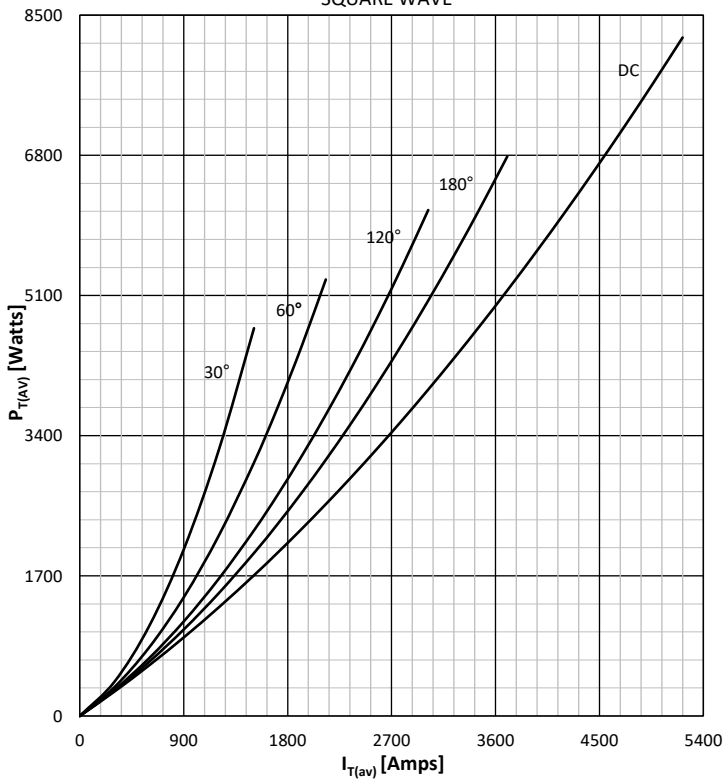
SINE WAVE


**ON STATE CURRENT DERATING CURVE**

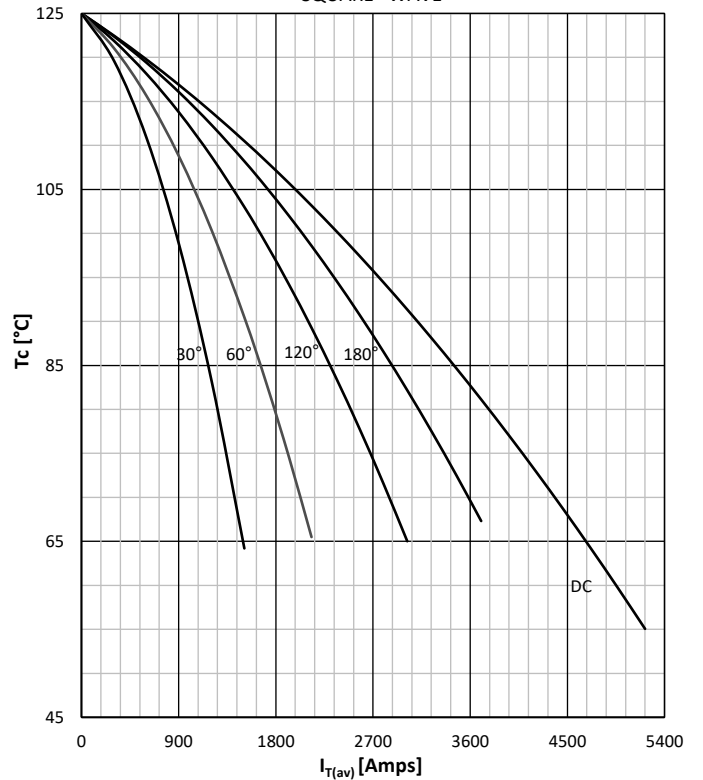
SINE WAVE

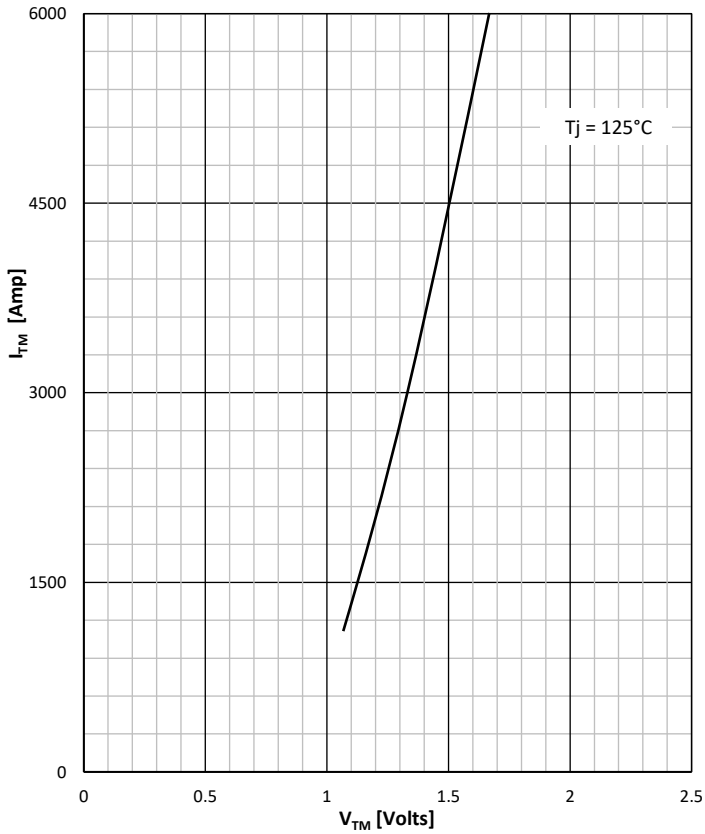
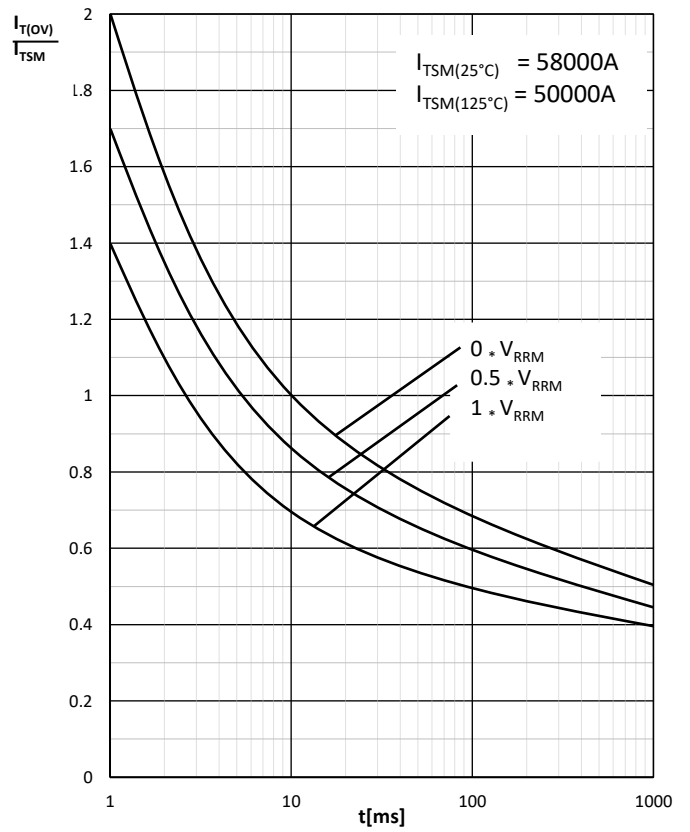
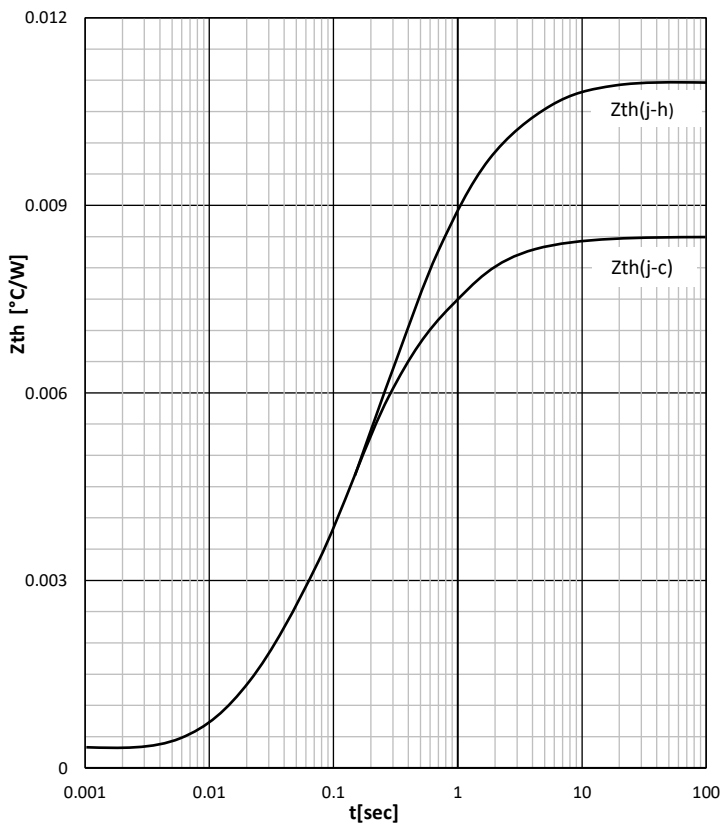

**DISSIPATION CHARACTERISTICS**

SQUARE WAVE


**ON STATE CURRENT DERATING CURVE**

SQUARE WAVE



**ON STATE CHARACTERISTIC**

**SURGE CHARACTERISTICS**

**TRANSIENT THERMAL IMPEDANCE**

**GATE TRIGGER CHARACTERISTICS**
