

SCT1460



Power Rectifier Diodes

Features

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

Applications

- UPS
- Power Supplies
- Motor control
- Controlled Rectifiers
- Transportation
- Induction Heating

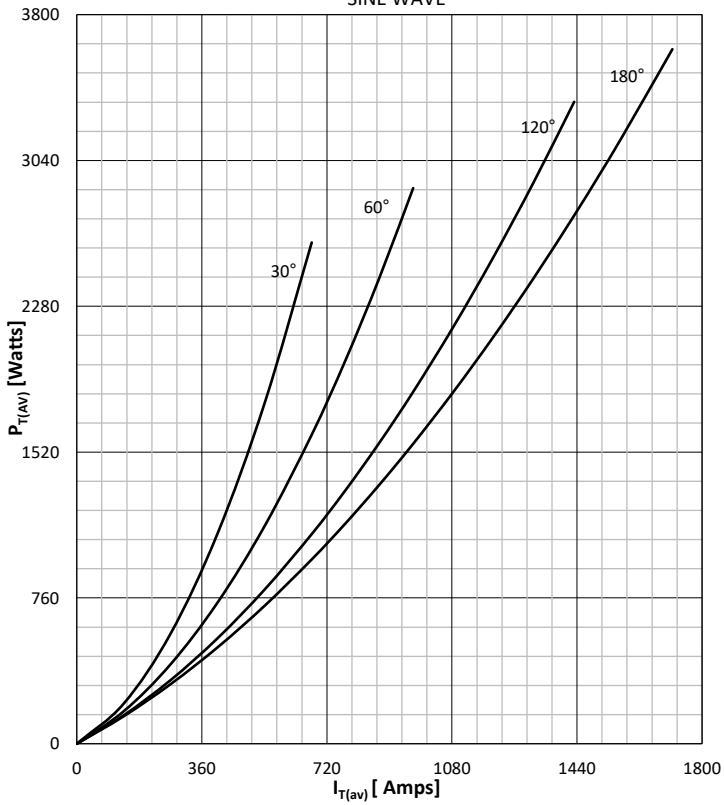
Key Parameters

V_{DRM} / V_{RRM}	= 2800V
$I_{T(AV)}$	= 1715A
I_{TSM}	= 31kA
$V_{T(TO)}$	= 0.97V
r_T	= 0.27mΩ

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	2000 - 2800	V
V_{RSM}	Non-repetitive peak reverse voltage		125	2100 - 2900	V
V_{DRM}	Repetitive peak off-state voltage		125	2000 - 2800	V
I_{RRM}	Repetitive peak reverse current	$V = V_{RRM}$	125	70	mA
I_{DRM}	Repetitive peak off-state current	$V = V_{DRM}$	125	70	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 =82°C, Double side cooled		1715 1460	A
I_{RMS}	RMS on-state current	T _c =70°C, Double side cooled		2692	A
I_{TSM}	Surge on-state current	Sine wave, 10 ms Without reverse voltage	25	31000	A
			125	30000	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	4805 x 10 ³	A ² s
			125	4500 x 10 ³	A ² s
V_T	On-state voltage	On-state current = 3000A	125	2.00	V
$V_{T(TO)}$	Threshold voltage		125	0.97	V
r_T	On-state slope resistance		125	0.27	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current		125	200	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	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	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		0.015	°C/W
$R_{th(j-c)}$	Thermal impedance, rec120°	Junction to case, Double side cooled		0.01725	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, Double side cooled		0.005	°C/W
T_j	Max. junction temperature			125	°C
T_{stg}	Storage temperature			-40 125	°C
M	Clamping Force			20 - 24	kN
W	Weight (Approx.)			500	gm

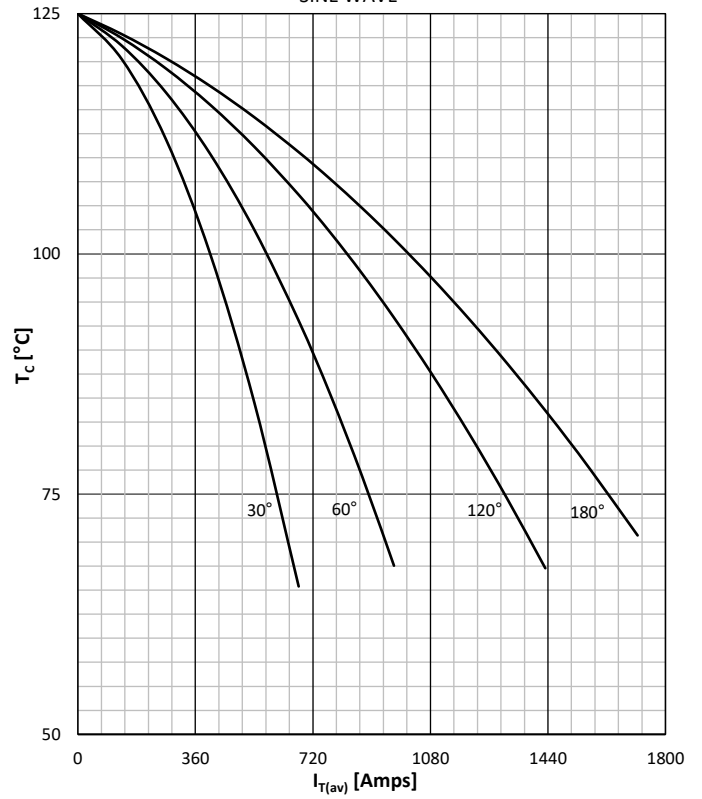
DISSIPATION CHARACTERISTICS

SINE WAVE



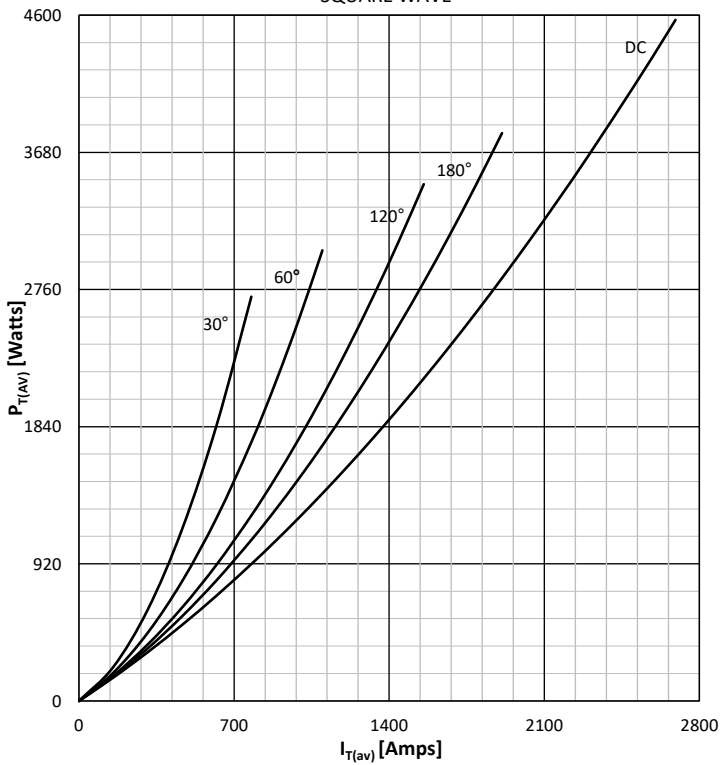
ON STATE CURRENT DERATING CURVE

SINE WAVE



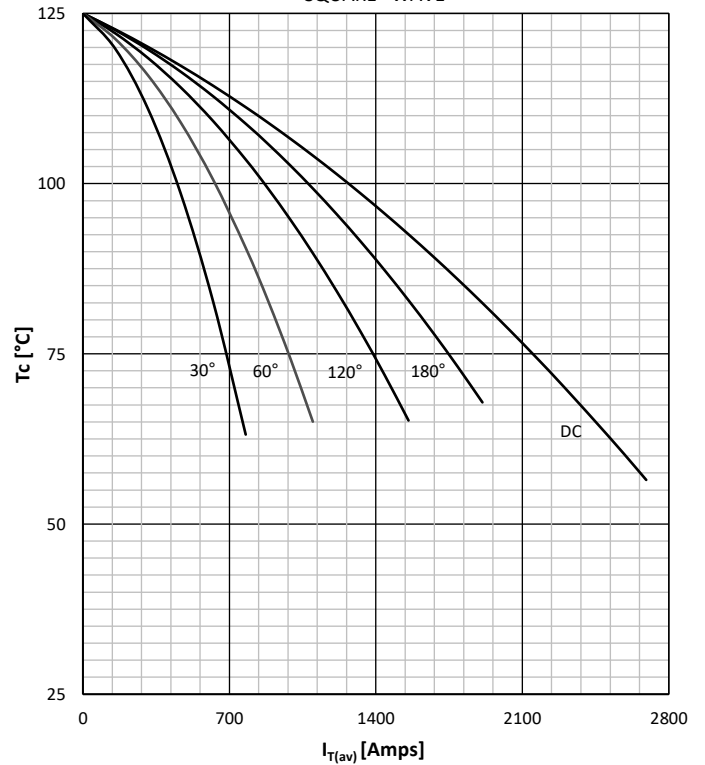
DISSIPATION CHARACTERISTICS

SQUARE WAVE

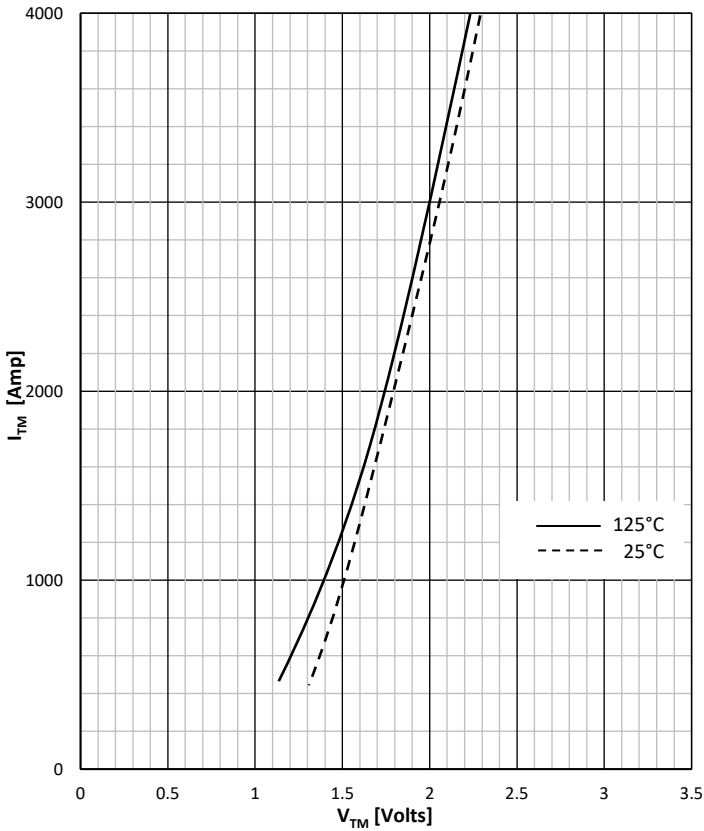


ON STATE CURRENT DERATING CURVE

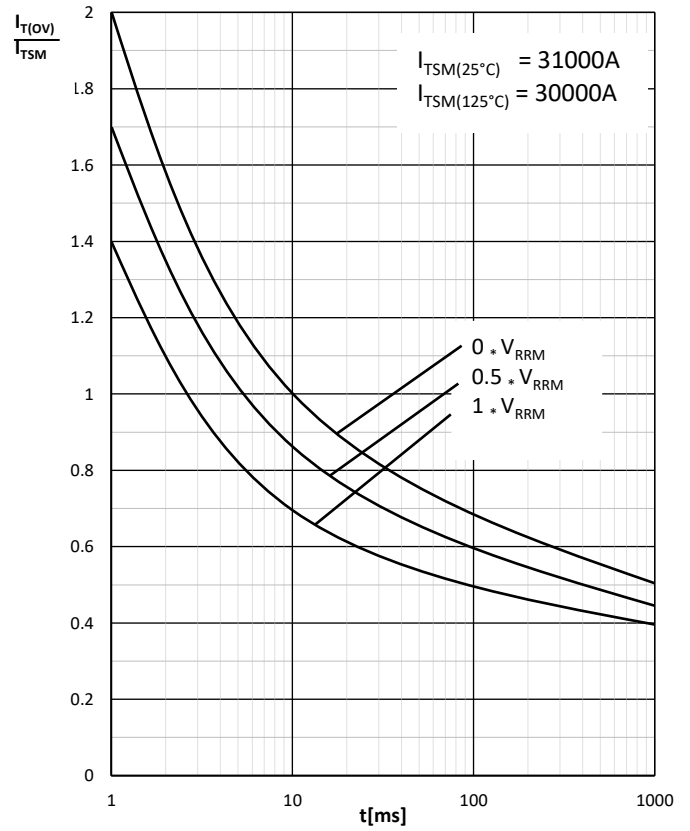
SQUARE WAVE



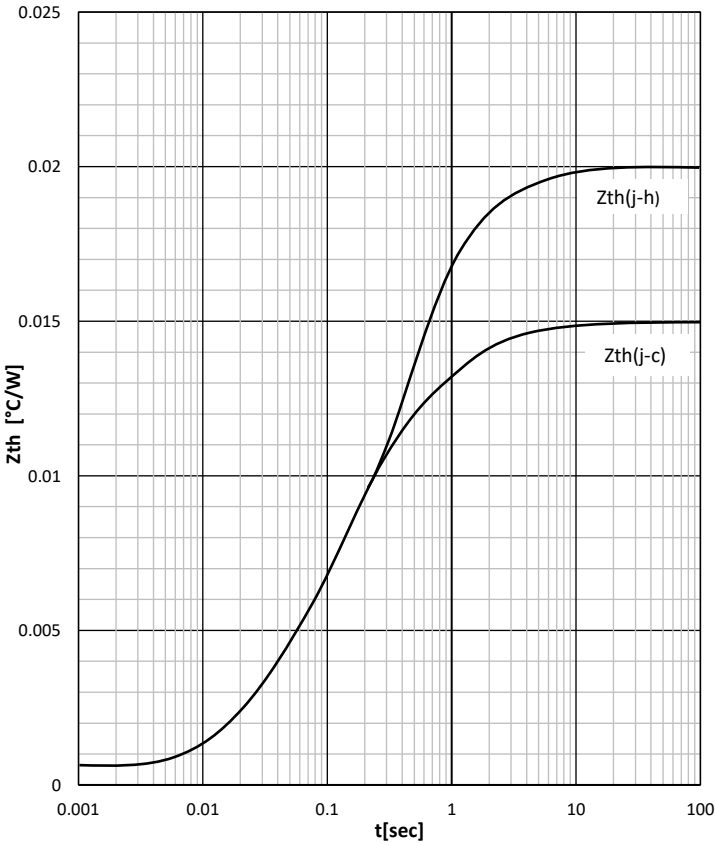
ON -STATE CHARACTERISTIC



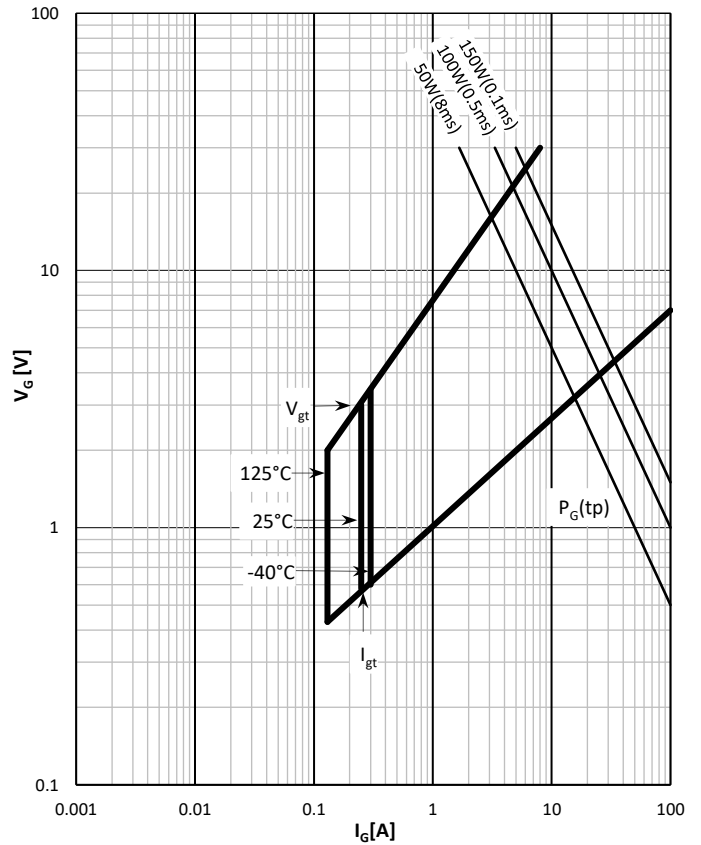
SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE, PER ARM



GATE TRIGGER CHARACTERISTICS



Outline

