

Features

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

Key Parameters

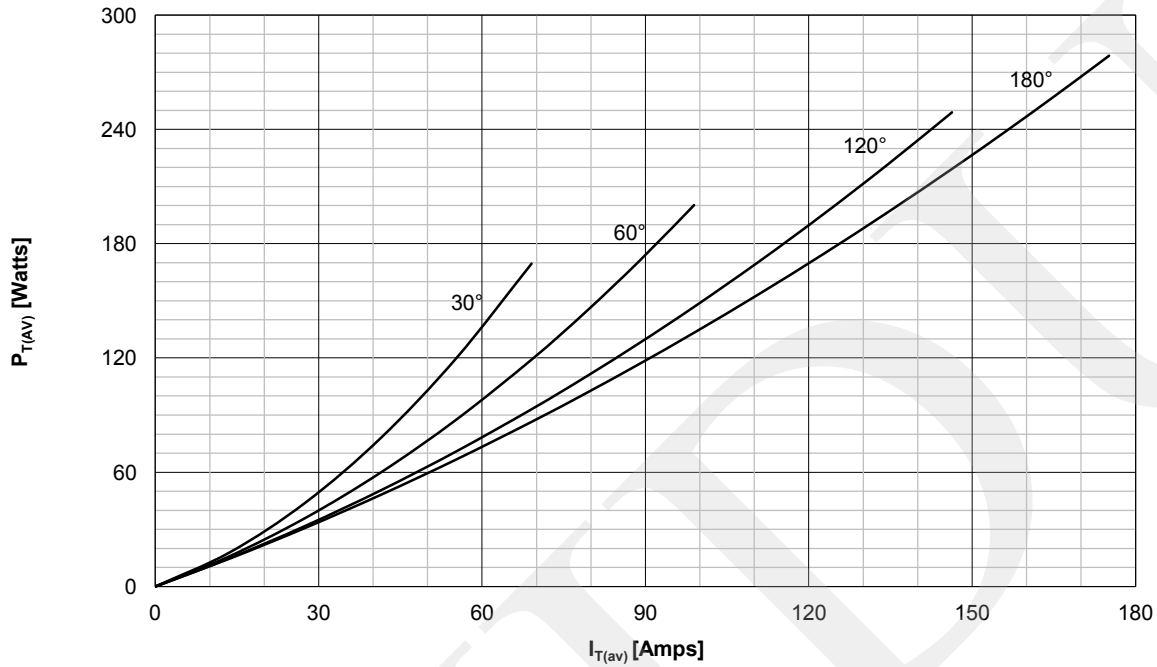
V_{DRM} / V_{RRM}	= 1200V
$I_{T(AV)}$	= 175A
I_{TSM}	= 5000A
$V_{T(TO)}$	= 1.03V
r_T	= 1.30mΩ

Applications

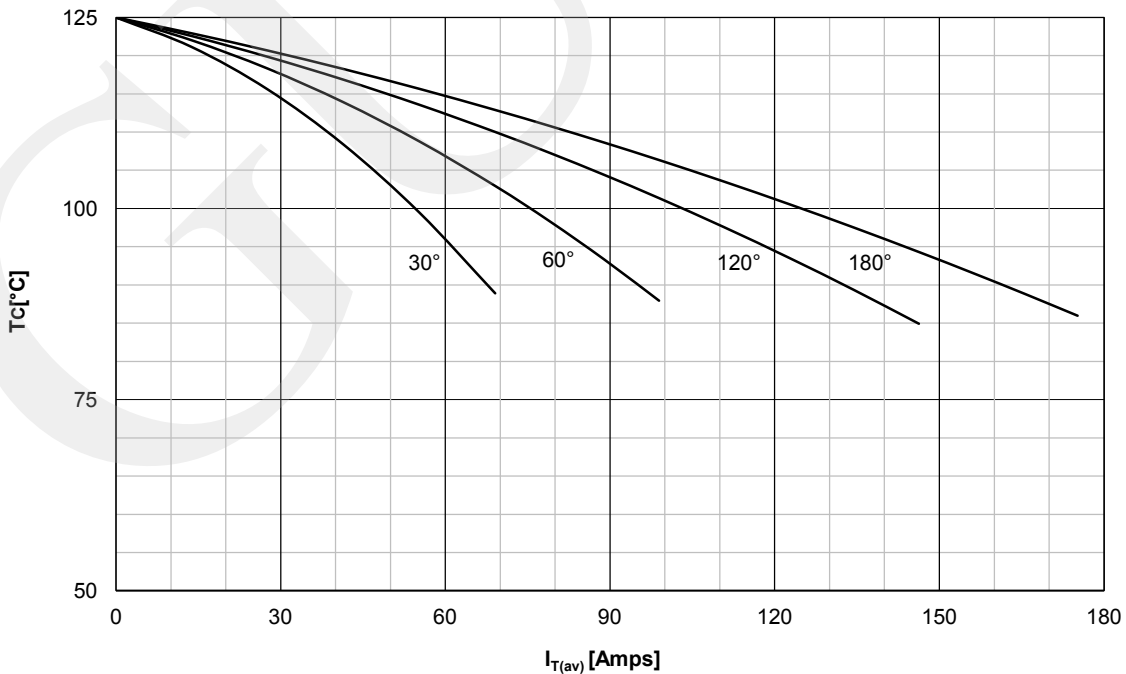
- Power Supplies
- AC Controllers
- Controlled Rectifiers
- DC motor control

Symbol	Characteristic	Conditions	T _J [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	200 - 1200	V
V_{RSM}	Non-repetitive peak reverse voltage		125	300 - 1300	V
V_{DRM}	Repetitive peak off-state voltage		125	200 - 1200	V
I_{RRM}	Repetitive peak reverse current	$V = V_{RRM}$	125	50	mA
I_{DRM}	Repetitive peak off-state current	$V = V_{DRM}$	125	50	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T _c =85°C		175	A
I_{TRMS}	RMS on state current			275	A
I_{TSM}	Surge on state current	Sine wave, 10 ms Without reverse voltage	25	5000	A
			125	4000	A
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	125000	A ² s
			125	80000	A ² s
V_T	Peak on state voltage	Peak on state current = 550A	125	1.75	V
$V_{T(TO)}$	Threshold voltage		125	1.03	V
r_T	On state slope resistance		125	1.30	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current	Repetitive	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	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		0.14	°C/W
$R_{th(c-h)}$	Thermal impedance	Case to heatsink		0.04	°C/W
T_j	Max. junction temperature			125	°C
T_{stg}	Storage temperature			-40 ... 125	°C
M	Mounting Torque			26	Nm
W	Weight (Approx.)			280	gm

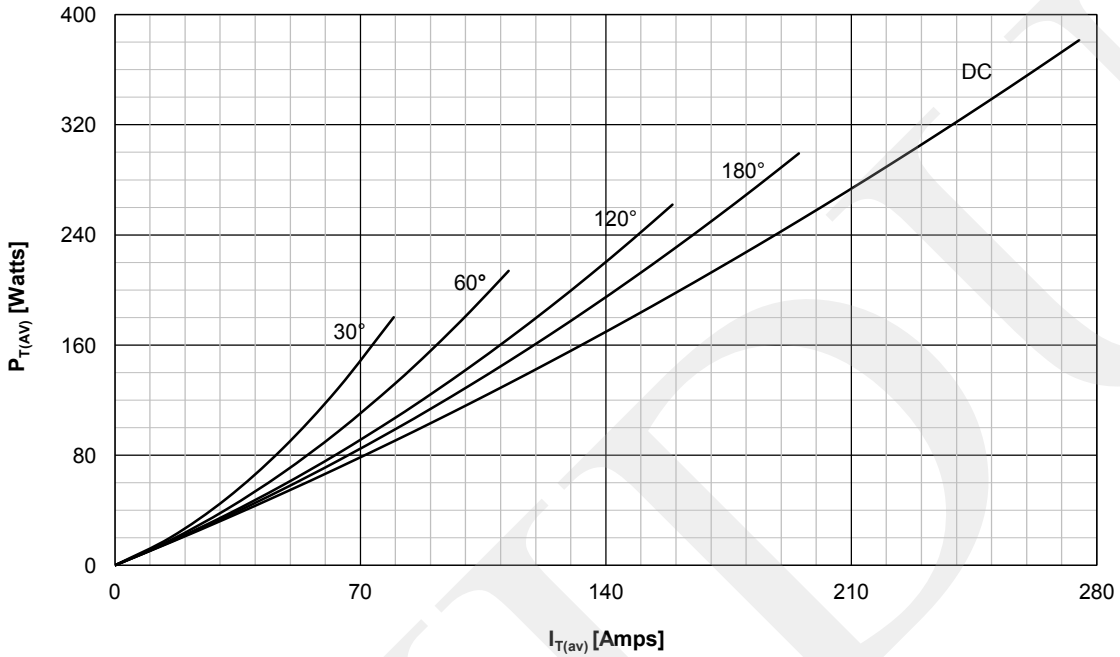
DISSIPATION CHARACTERISTICS
SINE WAVE



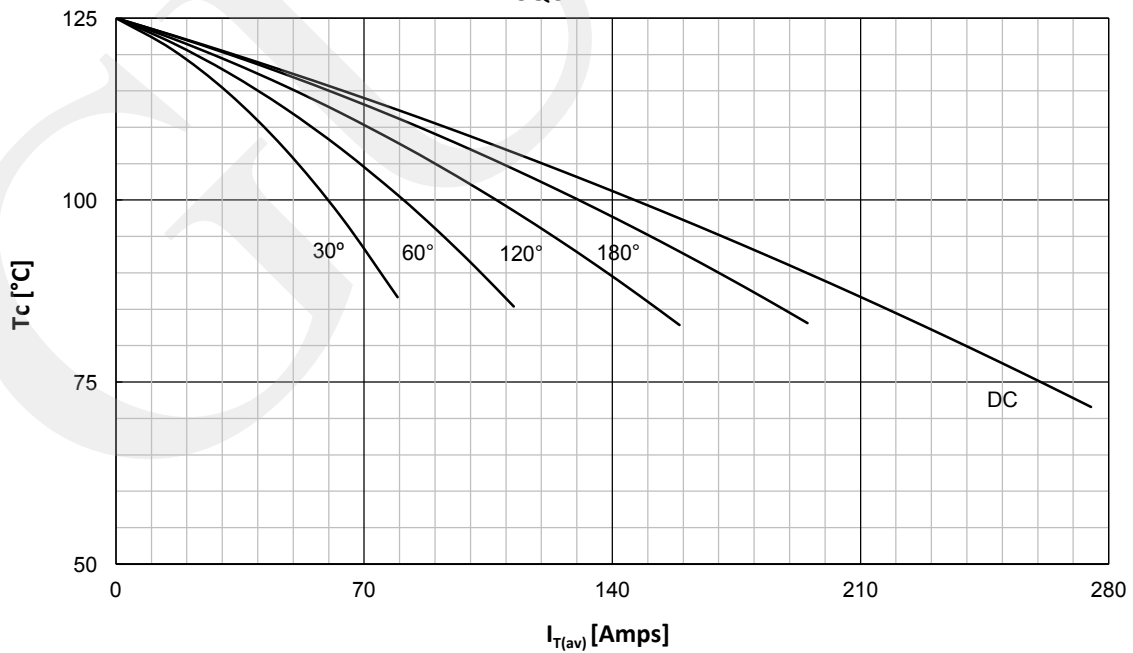
ON STATE CURRENT DERATING CURVE
SINE WAVE



DISSIPATION CHARACTERISTICS
SQUARE WAVE

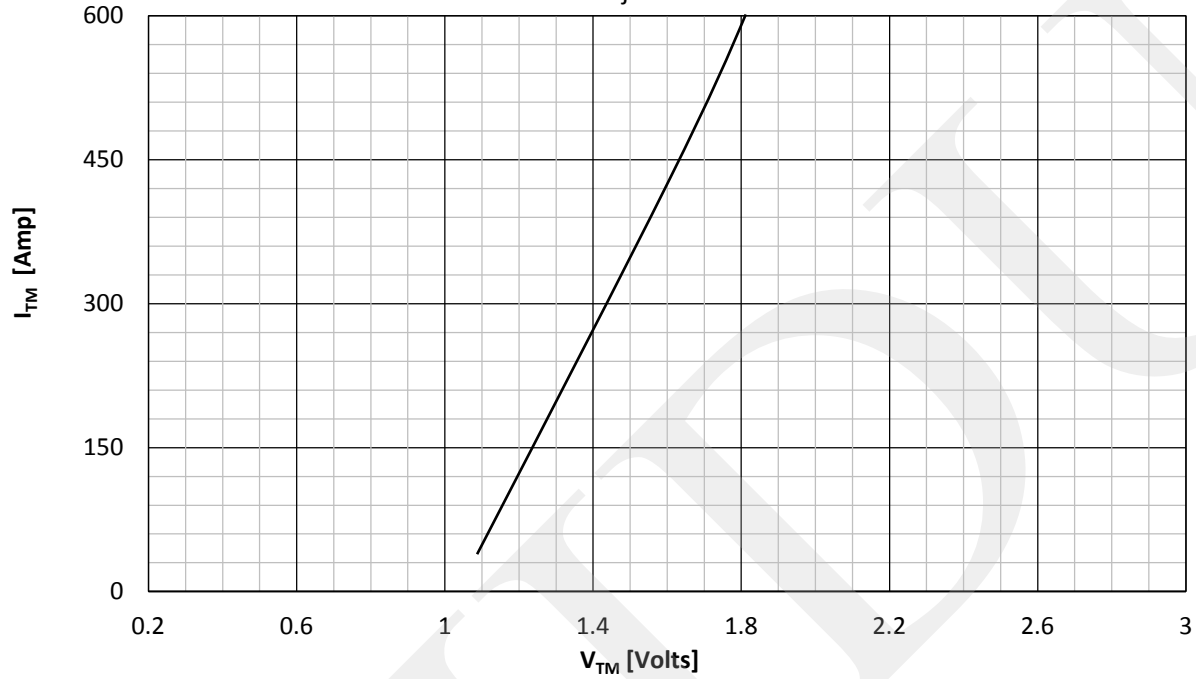


ON STATE CURRENT DERATING CURVE
SQUARE WAVE

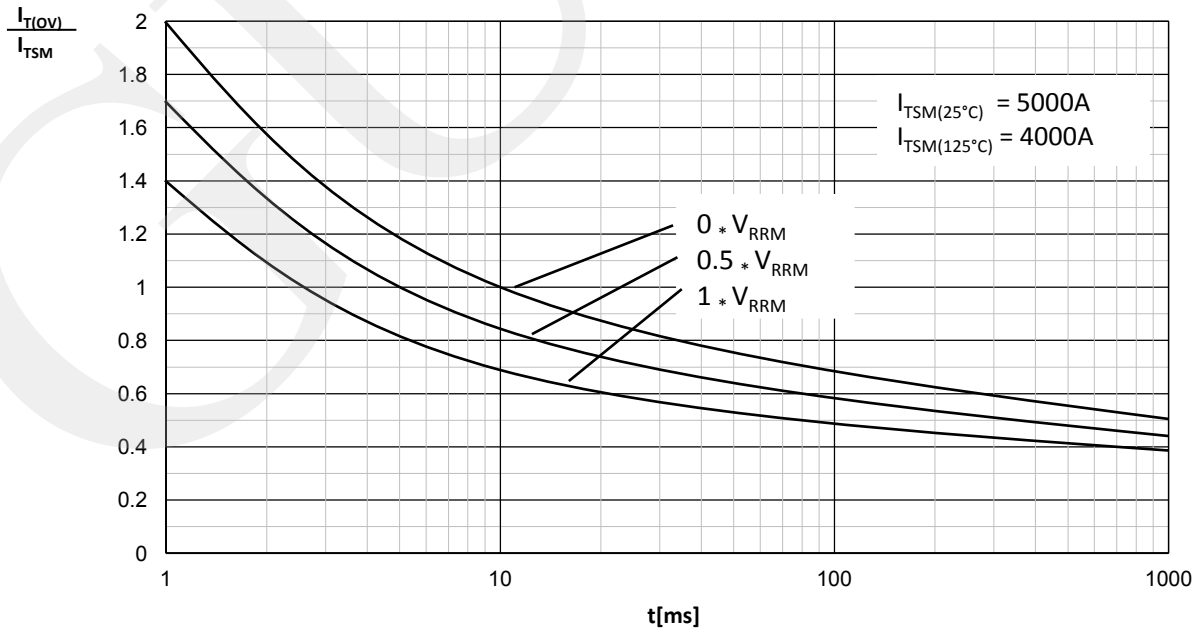


ON -STATE CHARACTERISTICS

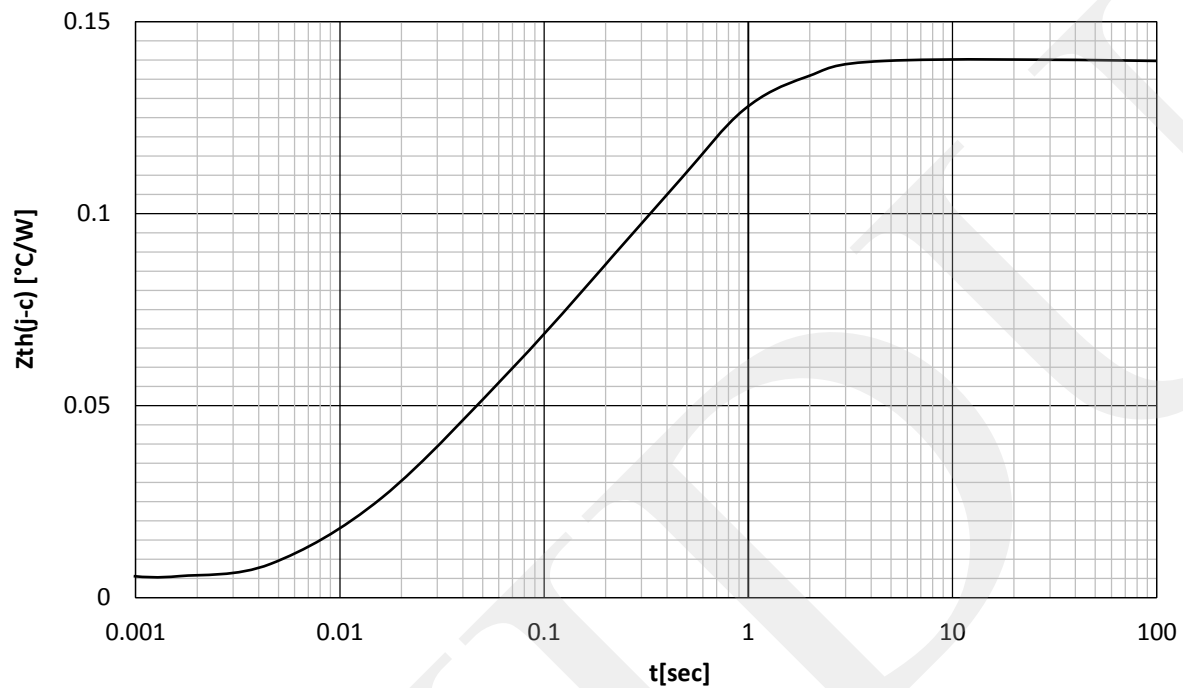
Tj = 125°C



SURGE CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE



ORDERING INFORMATION

GDKP	174	S	XX	U
Phase Control Thyristor	Current Code	Stud / Flat Base Version	Voltage Code Code X 100 = V_{DRM}/V_{RRM}	Stud Threads U = 3/4" UNF

Order Code GDKP174S12U : 1200V V_{DRM}, V_{RRM} , Stud base Thyristor with 3/4" UNF threads

Outline

