

Features

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

Key Parameters

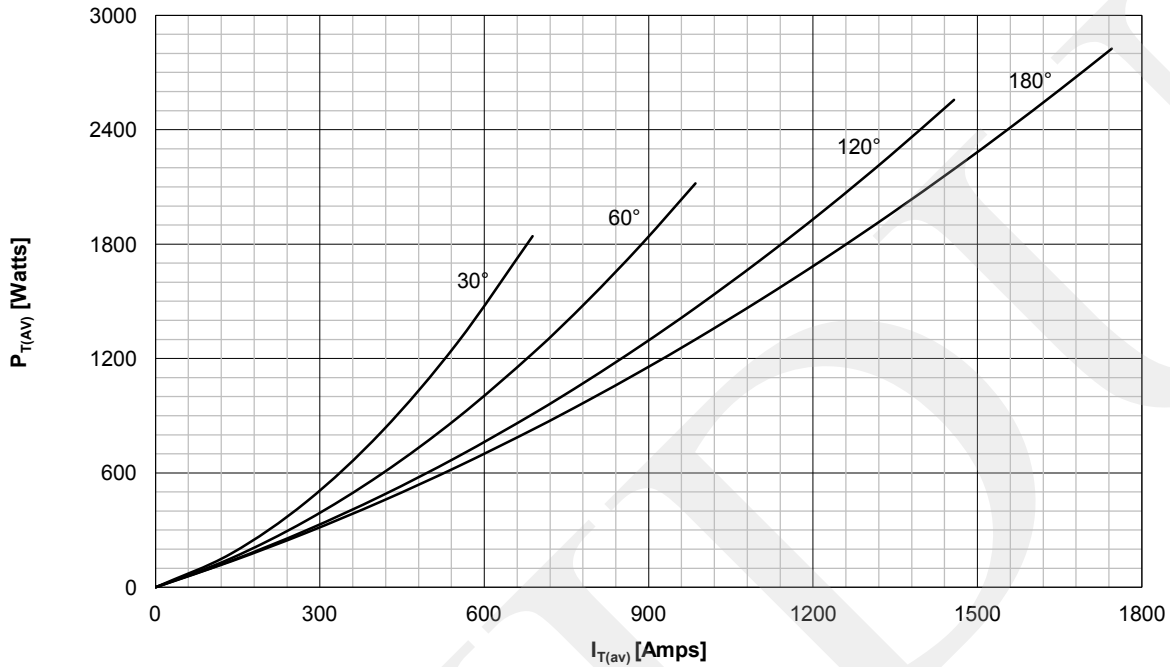
V_{DRM} / V_{RRM}	= 1800V
$I_{T(AV)}$	= 1745A
I_{TSM}	= 34.5kA
$V_{T(TO)}$	= 0.93V
r_T	= 0.16mΩ

Applications

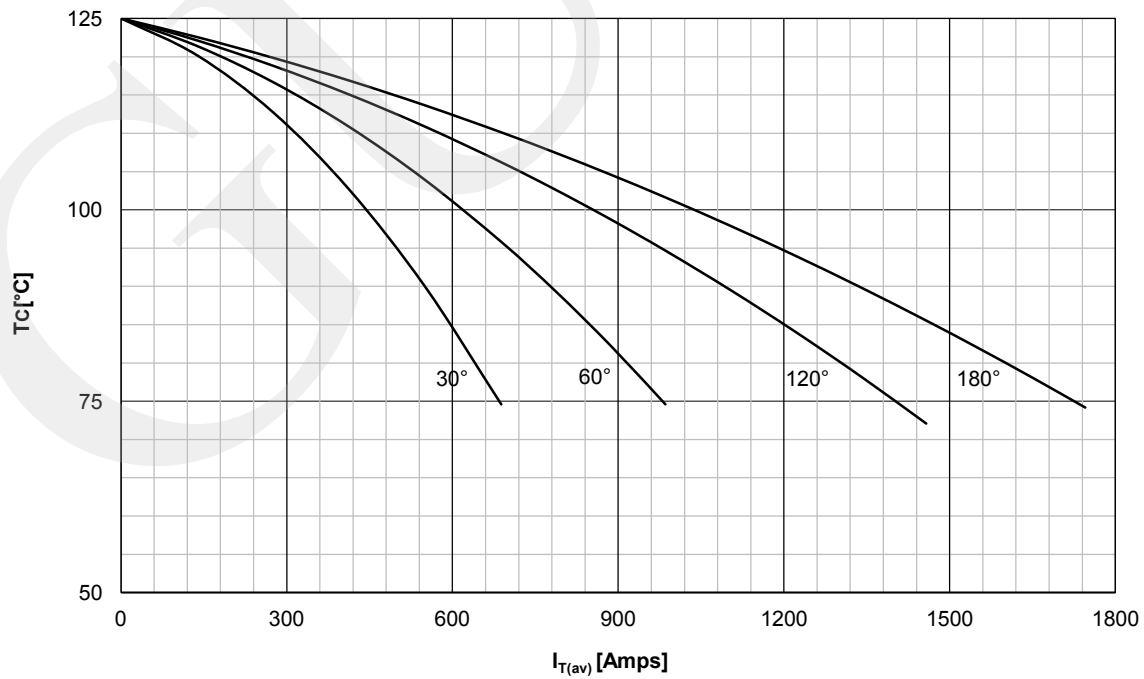
- Power Supplies
- AC Controllers
- Controlled Rectifiers

Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	200 - 1800	V
V_{RSM}	Non-repetitive peak reverse voltage		125	300 - 1900	V
V_{DRM}	Repetitive peak off-state voltage		125	200 - 1800	V
I_{RRM}	Repetitive peak reverse current	$V = V_{RRM}$	125	100	mA
I_{DRM}	Repetitive peak off-state current	$V = V_{DRM}$	125	100	mA
CONDUCTING					
$I_{T(AV)}$	Mean on state current	180° sin ,50 Hz, T _c =74°C, double side cooled		1745	A
I_{TRMS}	RMS on state current			2740	A
I_{TSM}	Surge on state current	Sine wave, 10 ms Without reverse voltage	25	34.5	kA
			125	33.5	kA
$I^2 t$	$I^2 t$	Sine wave, 10 ms Without reverse voltage	25	5951 x 10 ³	A ² s
			125	5611 x 10 ³	A ² s
V_T	Peak on state voltage	Peak on state current = 4000A	125	1.62	V
$V_{T(TO)}$	Threshold voltage		125	0.93	V
r_T	On state slope resistance		125	0.16	mΩ
SWITCHING					
di/dt	Critical rate of rise of on-state current	Repetitive	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	300	mA
I_L	Latching current	$V_D = 6V$	25	700	mA
MOUNTING					
$R_{th(j-c)}$	Thermal impedance, sin 180°	Junction to case, Double side cooled		0.018	°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	Mounting Torque			20 - 24	KN
W	Weight (Approx.)			500	gm

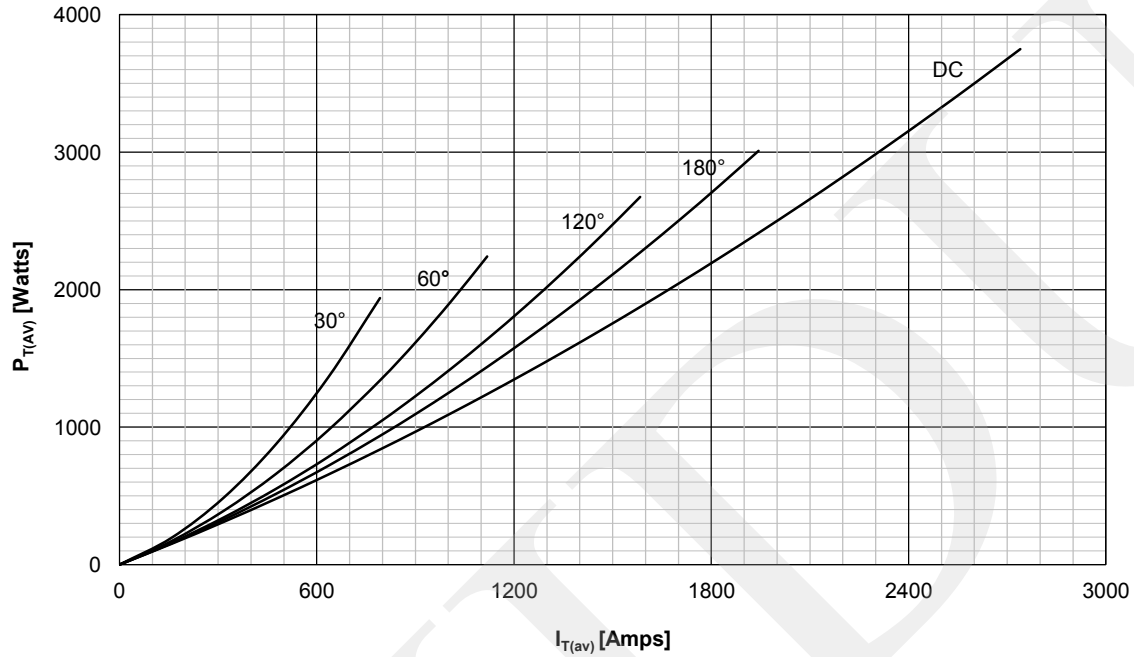
DISSIPATION CHARACTERISTICS
SINE WAVE



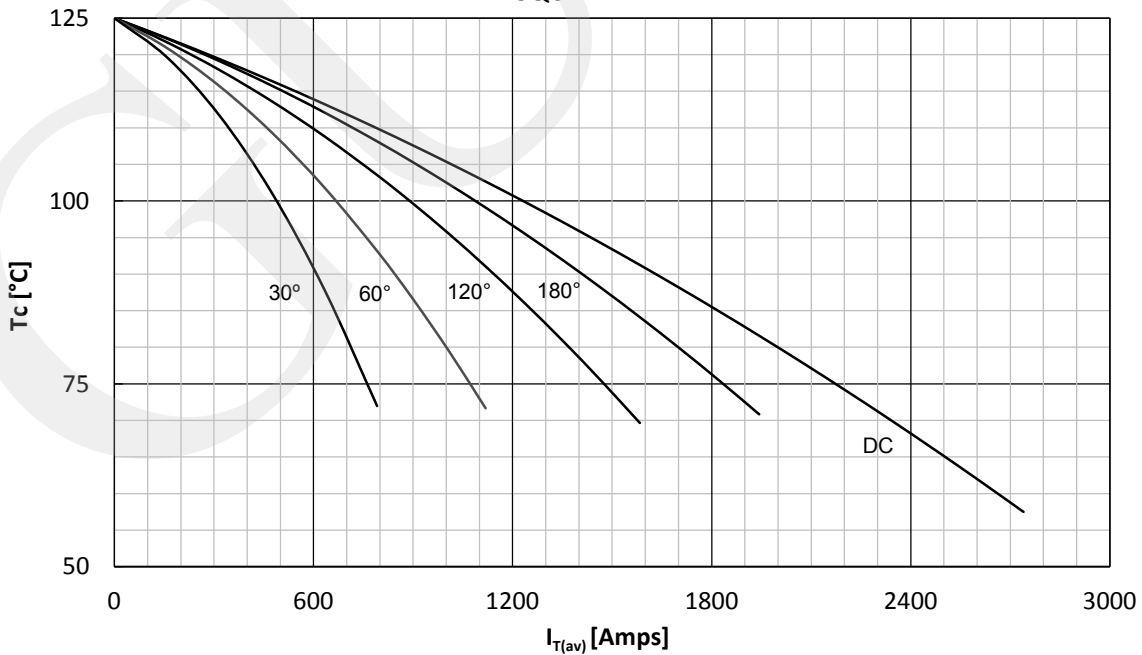
ON STATE CURRENT DERATING CURVE
SINE WAVE



DISSIPATION CHARACTERISTICS
SQUARE WAVE

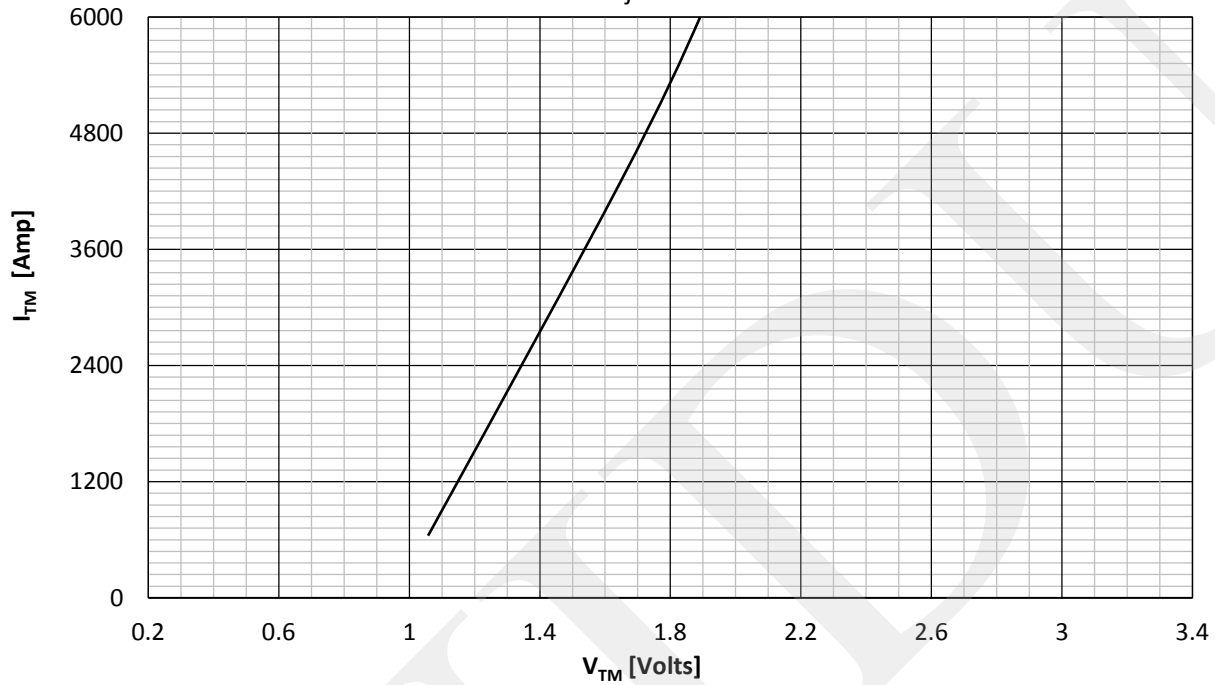


ON STATE CURRENT DERATING CURVE
SQUARE WAVE

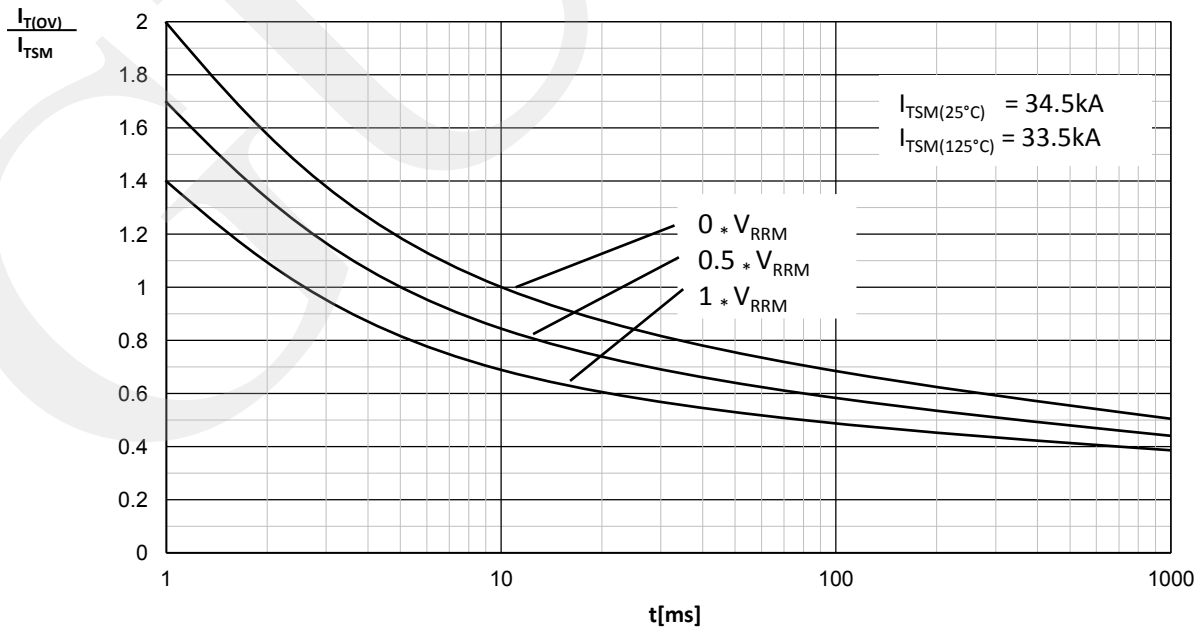


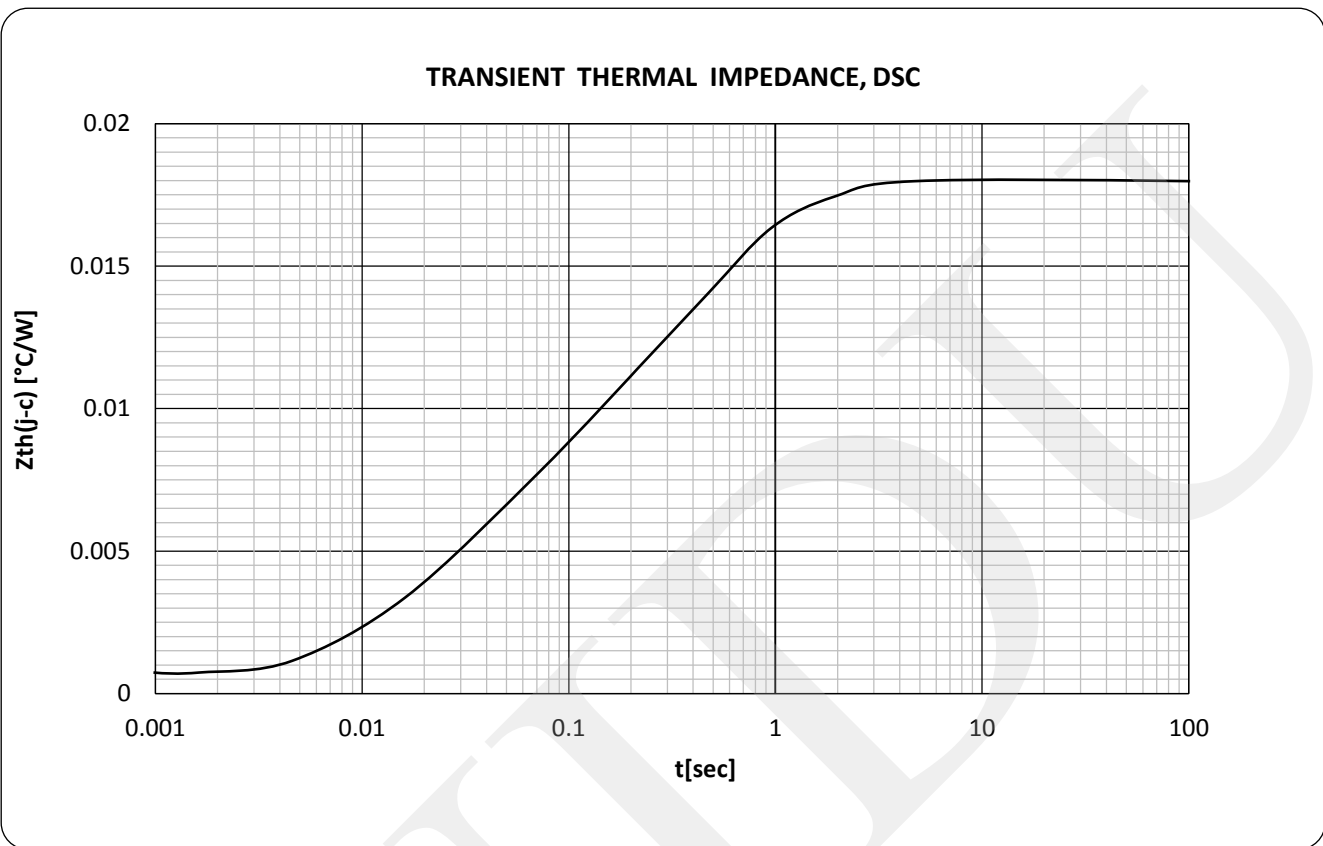
ON -STATE CHARACTERISTICS

$T_j = 125^\circ\text{C}$



SURGE CHARACTERISTICS





ORDERING INFORMATION

GDKP	1745	C	X X
Phase Control Thyristor	Current code	Capsule Version	Voltage Code Code X 100 = V_{DRM}/V_{RRM}
Order Code GDKP1745C18 – 1800V V_{DRM}, V_{RRM} , 26mm clamp height capsule			

Outline

