

**HIGH CURRENT PHASE CONTROL
THYRISTOR INSULATED MODULE**

AZT400HVI

Repetitive voltage up to **4500 V**
Mean forward current **411 A**
Surge current **11 kA**

FINAL SPECIFICATION

Feb. 18 - Issue: 4

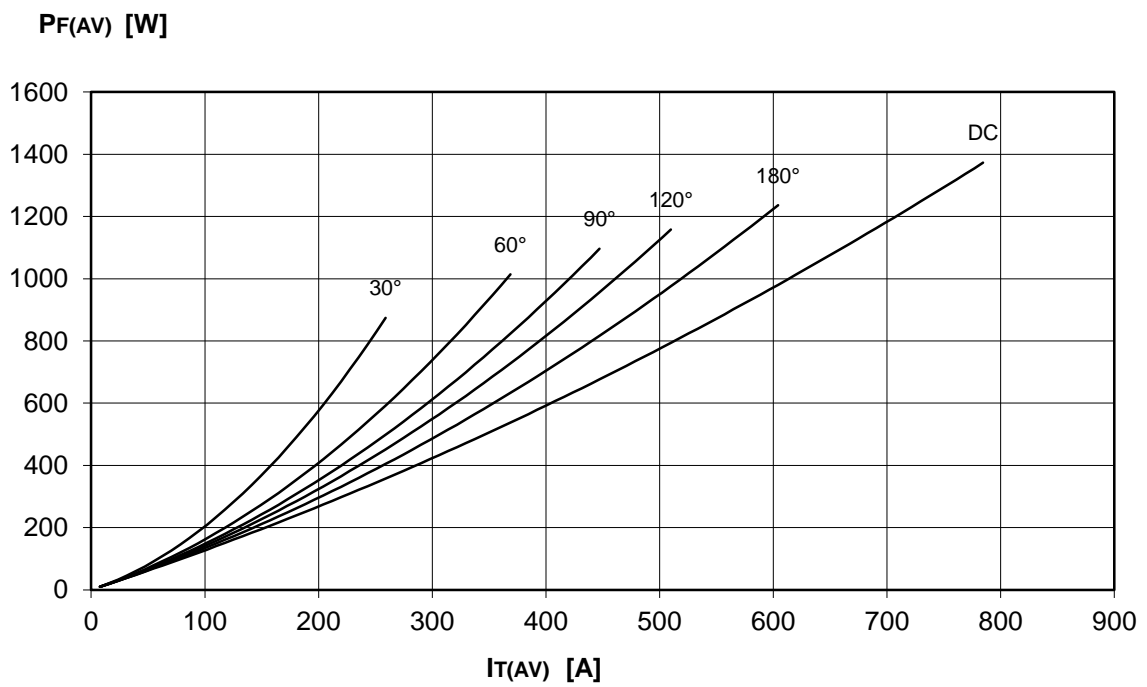
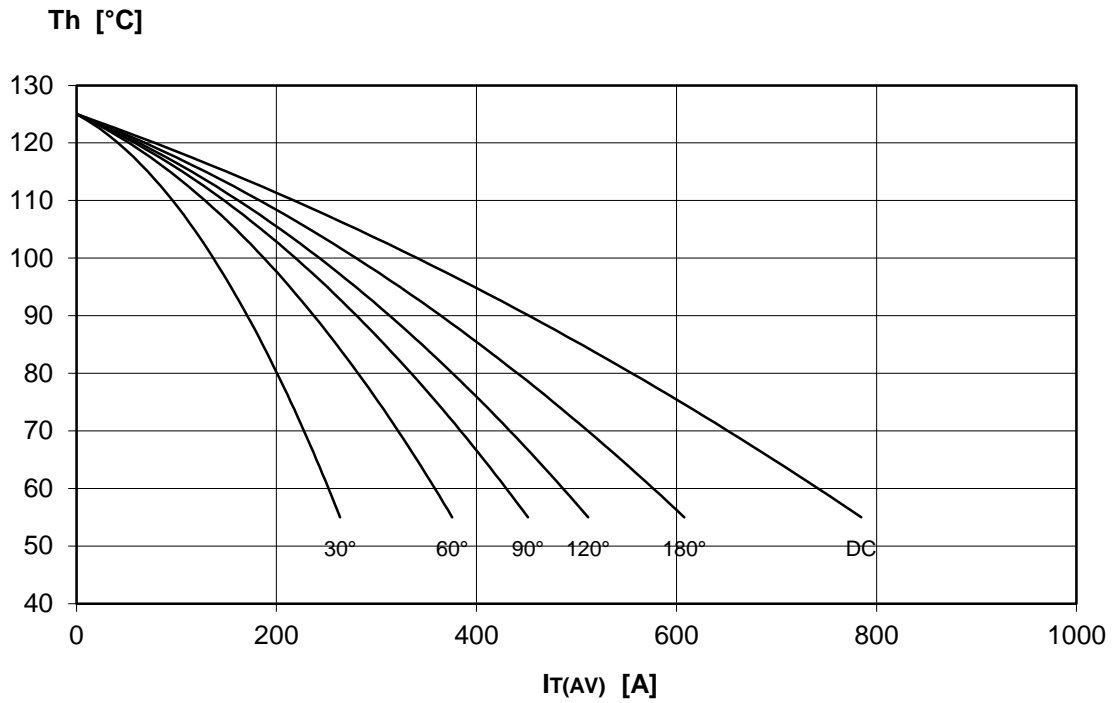
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	4500	V
V _{RSM}	Non-repetitive peak reverse voltage		125	4600	V
V _{DRM}	Repetitive peak off-state voltage		125	4500	V
I _{RRM}	Repetitive peak reverse current		125	100	mA
I _{DRM}	Repetitive peak off-state current		125	100	mA
CONDUCTING					
I _{T(AV)}	Mean forward current	180° sin, 50 Hz, T _c =55°C, double side cooled		609	A
I _{T(AV)}	Mean forward current	180° sin, 50 Hz, T _c =85°C, double side cooled		411	A
I _{TSM}	Surge forward current	Sine wave, 10 ms	125	11	kA
I ² t	I ² t	without reverse voltage		605 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 1800 A	25	2,66	V
V _{T(TO)}	Threshold voltage		125	1,20	V
r _T	On-state slope resistance		125	0,700	mohm
SWITCHING					
di/dt	Critical rate of rise of on-state current, min.	From 75% V _{DRM} up to 1050 A; gate 10V, 5Ω	125	400	A/μs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 70% of V _{DRM}	125	1000	V/μs
t _d	Gate controlled delay time, typical	VD=100V; gate source 25V, 10Ω, tr=.5 μs	25	3	μs
t _q	Circuit commutated turn-off time, typical	dv/dt = 20 V/μs linear up to 75% V _{DRM}		350	μs
Q _{rr}	Reverse recovery charge	di/dt = -20 A/μs, I _s = 700 A	125		μC
I _{rr}	Peak reverse recovery current	VR= 50 V			A
I _H	Holding current, typical	VD=5V, gate open circuit	25		mA
I _L	Latching current, typical	VD=5V, tp=30μs	25		mA
GATE					
V _{GT}	Gate trigger voltage	VD=5V	25	3,50	V
I _{GT}	Gate trigger current	VD=5V	25	400	mA
V _{GD}	Non-trigger gate voltage, min.	VD=V _{DRM}	125	0,25	V
V _{FGM}	Peak gate voltage (forward)			30	V
I _{FGM}	Peak gate current			10	A
V _{RGM}	Peak gate voltage (reverse)			5	V
P _{GM}	Peak gate power dissipation	Pulse width 100 μs		150	W
P _G	Average gate power dissipation			2	W
MOUNTING					
R _{th(j-c)}	Thermal impedance, DC	Junction to case, per element		51,0	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, per element		20	°C/kW
T _j	Operating junction temperature			-30 / 125	°C
V _{ins}	RMS insulation voltage	50 hz, circuit to base, all terminal shorted	25	6000	V
T	Mounting torque	Case to heatsink		4,0 to 6,0	
		Busbars to terminals		12,0 to 18,0	kN
	Mass			2800	g

ORDERING INFORMATION : AZT400HVI S 45

standard specification _____ VRRM/100

DISSIPATION CHARACTERISTICS

SQUARE WAVE



DISSIPATION CHARACTERISTICS

SINE WAVE

