

PHASE CONTROL MODULE

ATT505

Repetitive voltage up to **1800 V**
Mean forward current **490 A**
Surge current **13 kA**

FINAL SPECIFICATION

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Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse/off-state voltage		130	1800	V
V _{RSM}	Non-repetitive peak reverse voltage		130	1900	V
I _{RRM/DRM}	Repetitive peak reverse/off-state current		130	50	mA
CONDUCTING					
I _{T(AV)}	Mean forward current	180° sin, 50 Hz, T _c =85°C, single side cooled		490	A
I _{T(AV)}	Mean forward current	180° sin, 50 Hz, T _h =55°C, single side cooled		722	A
I _{TSM}	Surge forward current	Sine wave, 10 ms	130	13	kA
I ² t	I ² t	without reverse voltage		845 x 10 ³	A ² s
V _T	On-state voltage	On-state current = 1570 A	25	1,50	V
V _{T(TO)}	Threshold voltage		130	0,95	V
r _T	On-state slope resistance		130	0,300	mohm
SWITCHING					
di/dt	Critical rate of rise of on-state current, min.	From 75% V _{DRM} up to 1000 A; gate 10V, 5Ω	130	200	A/μs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 70% of V _{DRM}	130	500	V/μs
t _d	Gate controlled delay time, typical	V _D =100V; gate source 25V, 10Ω, tr=.5 μs	25	3,0	μs
t _q	Circuit commutated turn-off time, typical	dv/dt = 20 V/μs linear up to 75% V _{DRM}		160	μs
Q _{rr}	Reverse recovery charge	di/dt = -20 A/μs, I = 500 A	130		μC
I _{rr}	Peak reverse recovery current	V _R = 100V			A
I _H	Holding current, typical	V _D =12V, gate open circuit	25	300	mA
I _L	Latching current, typical	V _D =12V, tp=30μs	25	700	mA
GATE					
V _{GT}	Gate trigger voltage	V _D =12V	25	3,50	V
I _{GT}	Gate trigger current	V _D =12V	25	250	mA
V _{GD}	Non-trigger gate voltage, min.	V _D =V _{DRM}	130	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		70,0	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, per element		20,0	°C/kW
T _j	Operating junction temperature			-30 / 130	°C
V _{ins}	RMS insulation voltage	50 hz, circuit to base, all terminal shorted	25	3000	V
T	Mounting torque	Case to heatsink		4 to 6	Nm
T	Mounting torque	Busbars to terminal		12 to 18	Nm
	Mass			1500	g

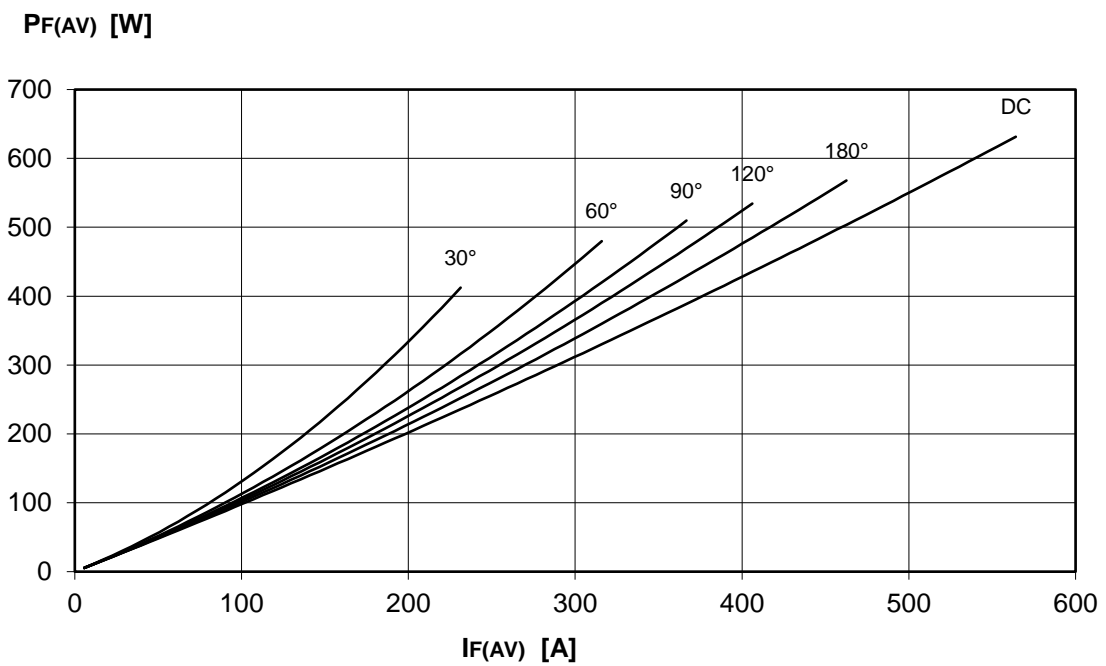
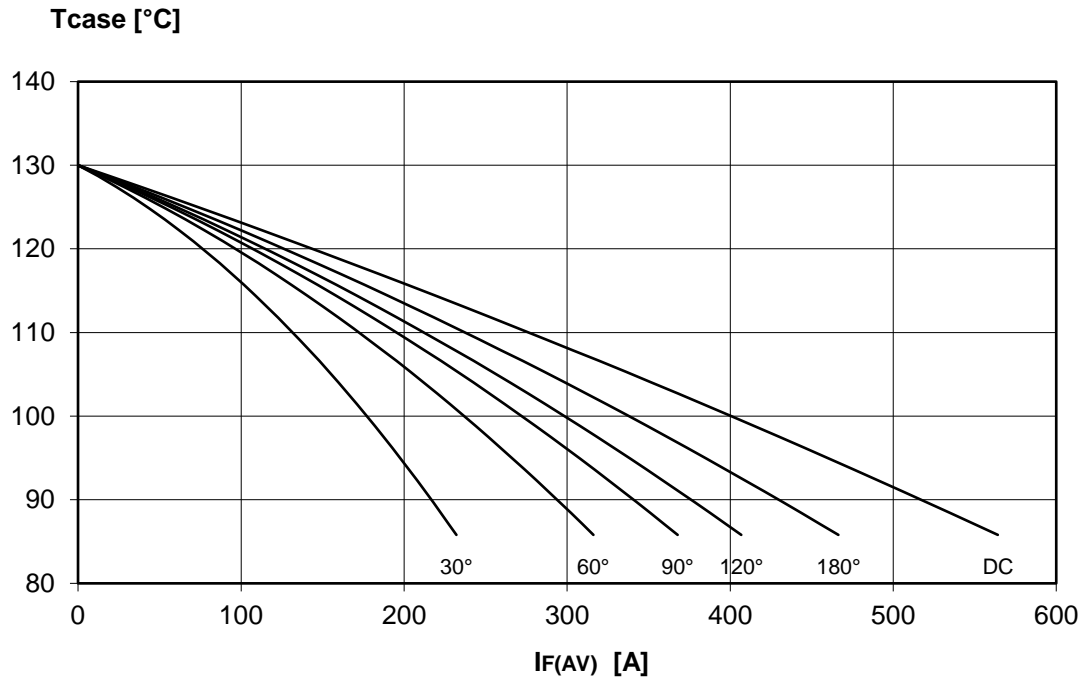
ORDERING INFORMATION : ATT505 S 18

standard specification VRRM/100

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DISSIPATION CHARACTERISTICS

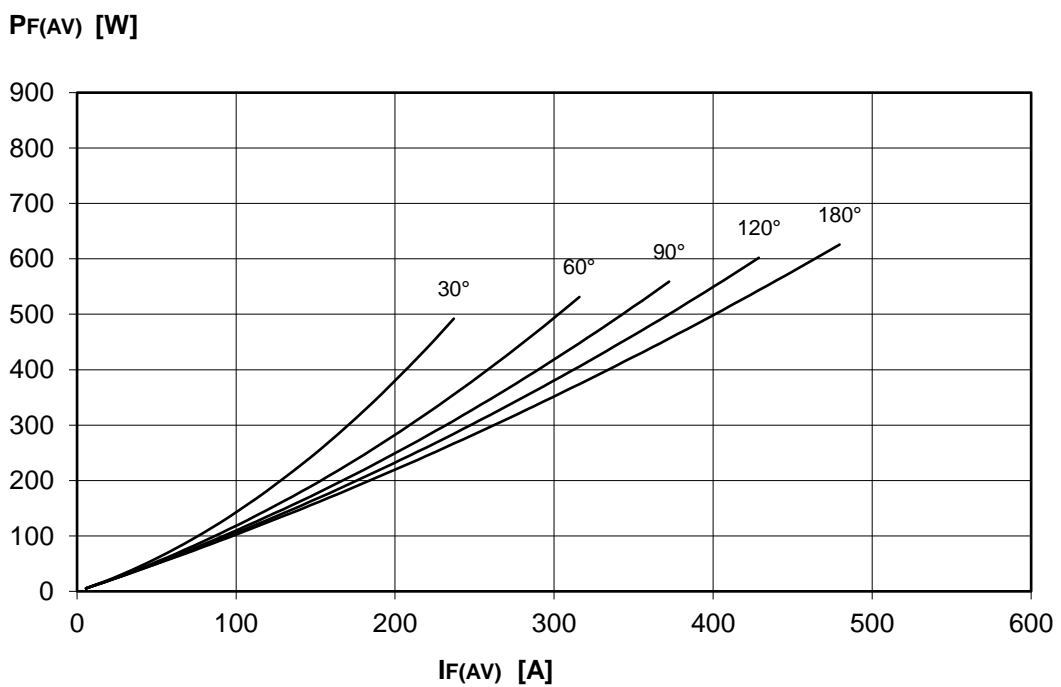
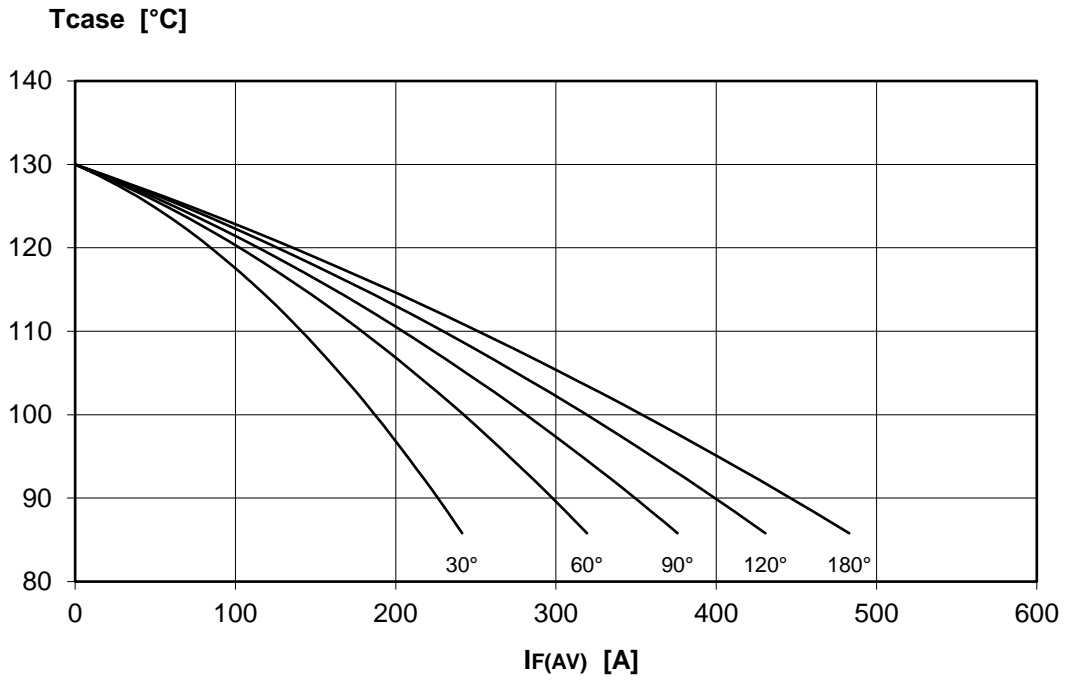
SQUARE WAVE



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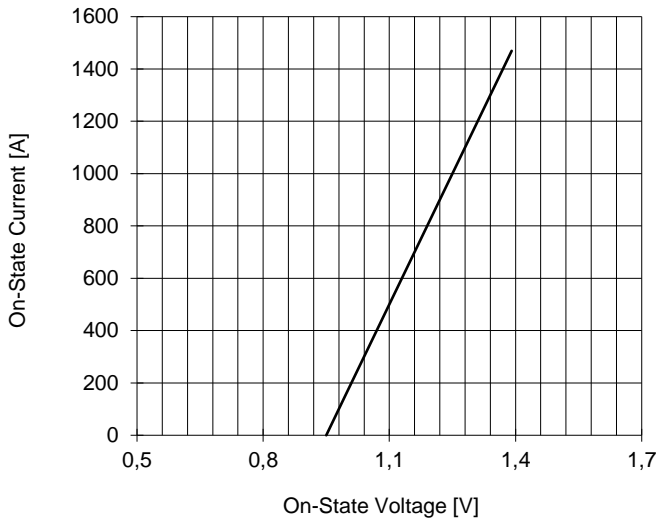
DISSIPATION CHARACTERISTICS

SINE WAVE

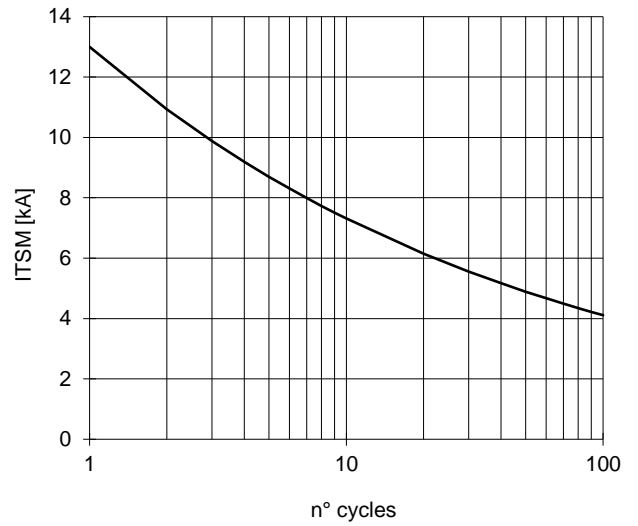


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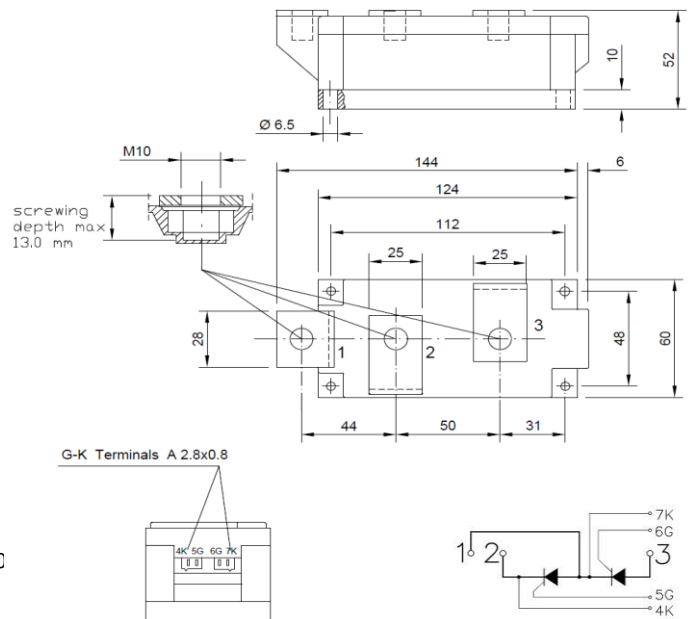
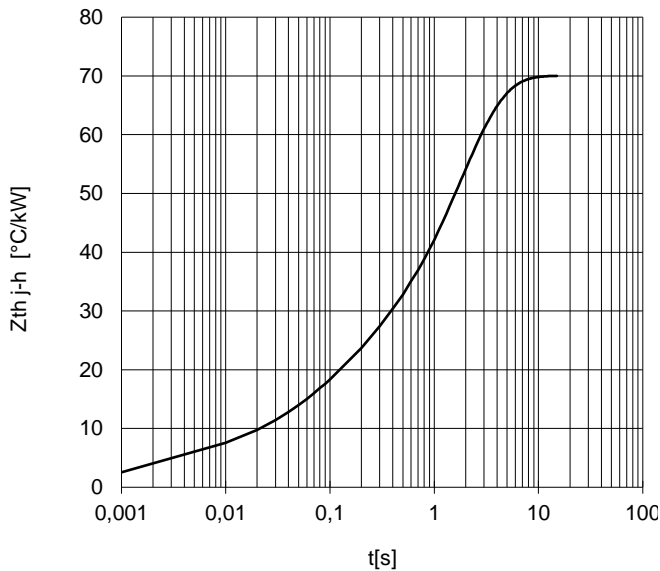
ON-STATE CHARACTERISTIC
T_j = 130 °C



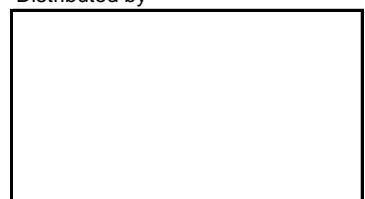
SURGE CHARACTERISTIC
T_j = 130 °C



TRANSIENT THERMAL IMPEDANCE



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All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink, surfaces with flatness < .03 mm and roughness < 2 μm. In the interest of product improvement POSEICO SpA reserves the right to change any data given in this data sheet at any time without previous notice. If not stated otherwise the maximum value of ratings (symbols over shaded background) and characteristics is reported.