

PHASE CONTROL THYRISTOR

AT960

Repetitive voltage up to **3200 V**
 Mean on-state current **5232 A**
 Surge current **100. kA**

FINAL SPECIFICATION

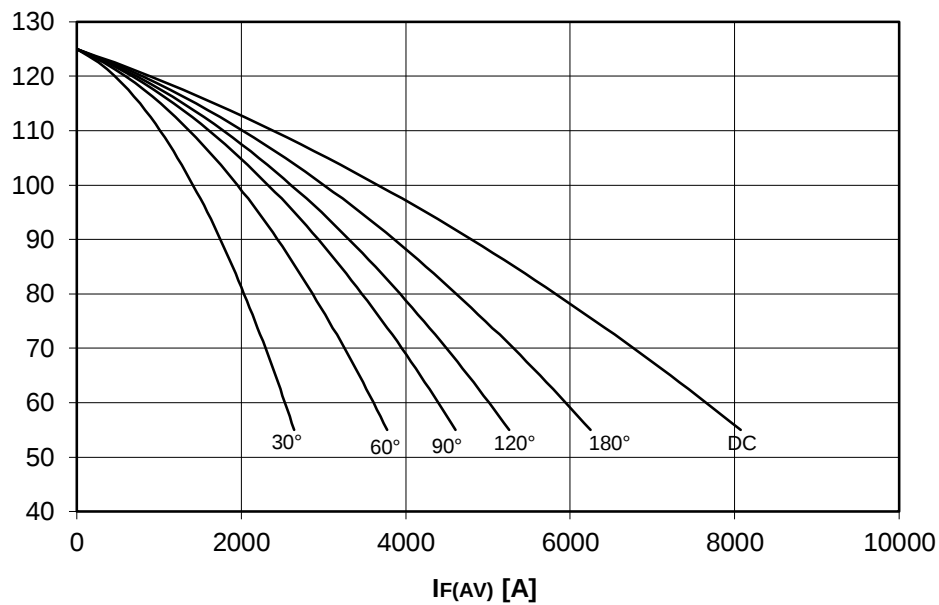
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Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	3200	V
V _{RSM}	Non-repetitive peak reverse voltage		125	3300	V
V _{DRM}	Repetitive peak off-state voltage		125	3200	V
I _{RRM}	Repetitive peak reverse current	V=V _{RRM}	125	700	mA
I _{DRM}	Repetitive peak off-state current	V=V _{DRM}	125	700	mA
CONDUCTING					
I _{T (AV)}	Mean on-state current	180° sin, 50 Hz, T _c =70°C, double side cooled		5170	A
I _{T (AV)}	Mean on-state current	180° sin, 50 Hz, T _h =55°C, double side cooled		5232	A
I _{TSM}	Surge on-state current	sine wave, 10 ms	125	100	kA
I ² t	I ² t	without reverse voltage		50000 x1E3	A ² s
V _T	On-state voltage	On-state current = 3000 A	125	1.09	V
V _{T(0)}	Threshold voltage		125	0.88	V
r _T	On-state slope resistance		125	0.070	mohm
SWITCHING					
di/dt	Critical rate of rise of on-state current, min.	From 67% V _{DRM}	125	200	A/μs
dv/dt	Critical rate of rise of off-state voltage, min.	Linear ramp up to 67% of V _{DRM}	125	1000	V/μs
td	Gate controlled delay time, typical		25		μs
tq	Circuit commutated turn-off time, typical				μs
Q _{RR}	Reverse recovery charge		125		μC
I _{RR}	Peak reverse recovery current				A
I _H	Holding current, typical	V _D =5V, gate open circuit	25	200	mA
I _L	Latching current, typical	V _D =12V, t _p =30μs	25	1000	mA
GATE					
V _{GT}	Gate trigger voltage		25	3.5	V
I _{GT}	Gate trigger current		25	300	mA
V _{GD}	Non-trigger gate voltage, min.	V _D =0,4 V _{DRM}	125	0.3	V
V _{FGM}	Peak gate voltage (forward)			12	V
I _{FGM}	Peak gate current			4	A
V _{RGM}	Peak gate voltage (reverse)			5	V
P _{GM}	Peak gate power dissipation			20	W
P _G	Average gate power dissipation			4	W
MOUNTING					
R _{th(j-c)}	Thermal impedance, DC	Junction to case, double side cooled		6.0	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		1.5	°C/kW
T _j	Operating junction temperature			-30 / 125	°C
F	Mounting force			80.0 / 100.0	kN
	Mass			3600	g
ORDERING INFORMATION : AT960 S 32 standard specification ☐ VDRM&VRRM/100 ☐					

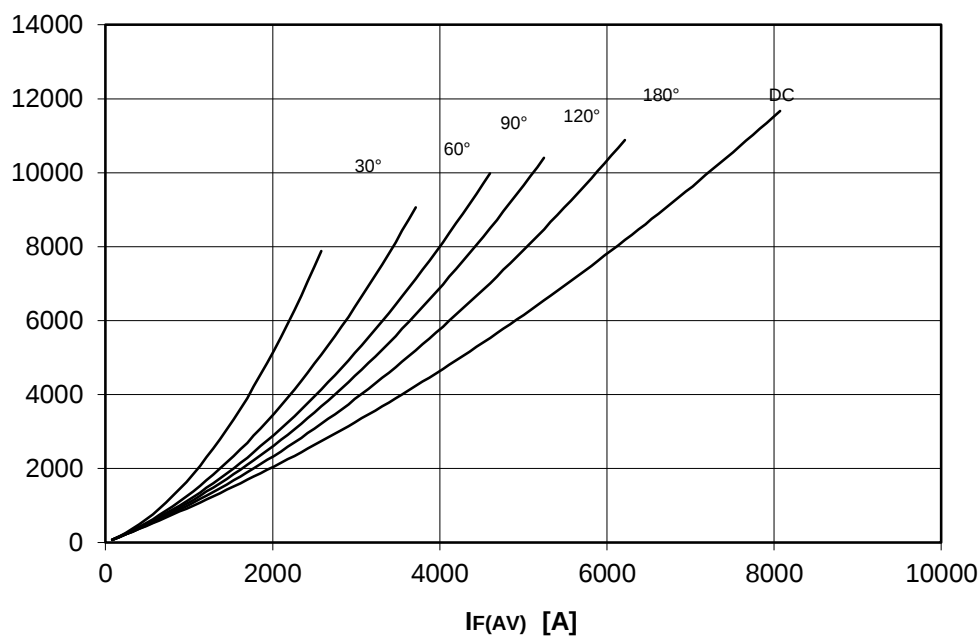
DISSIPATION CHARACTERISTICS

SQUARE WAVE

T_c [°C]



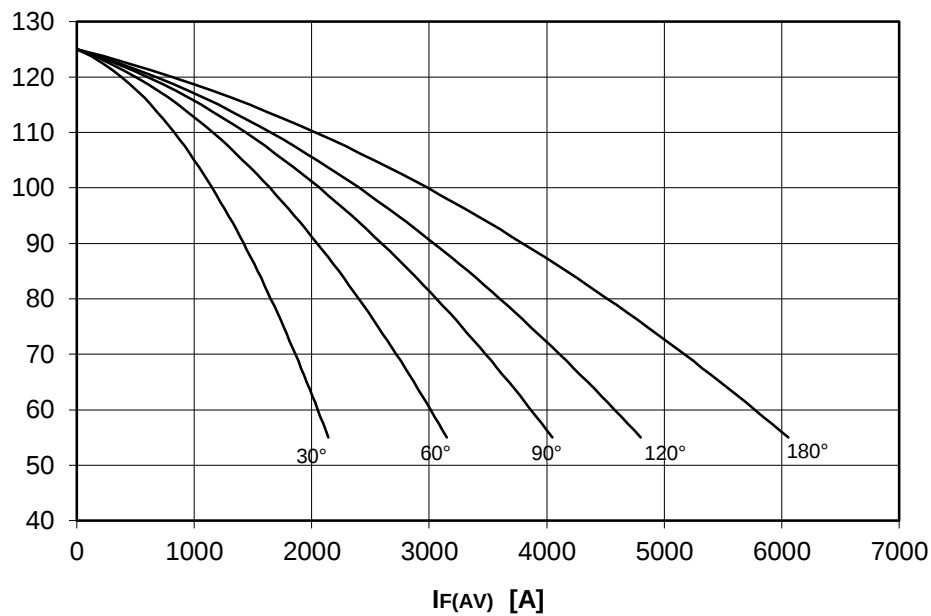
$P_F(AV)$ [W]



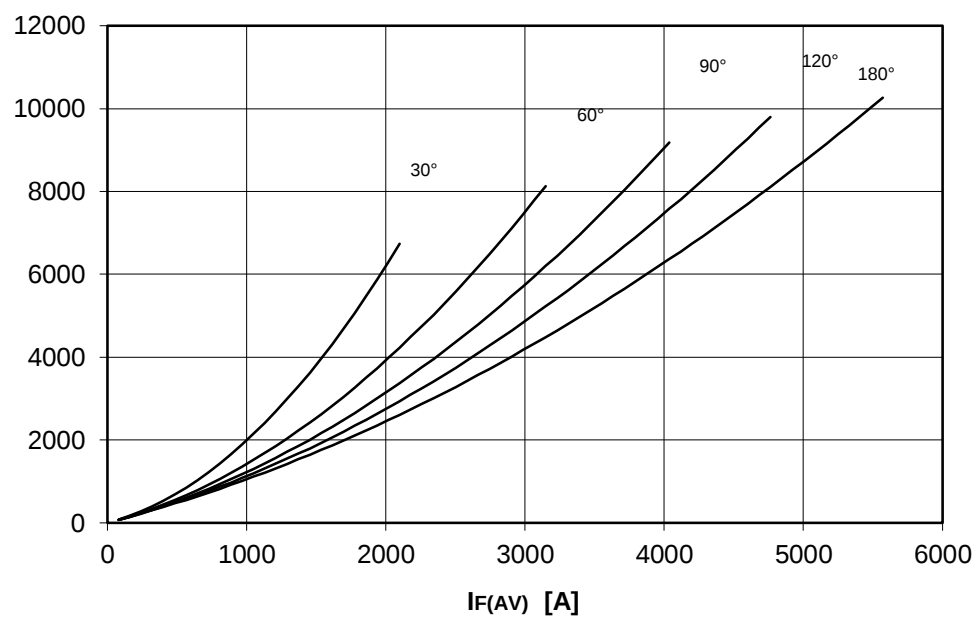
DISSIPATION CHARACTERISTICS

SINE WAVE

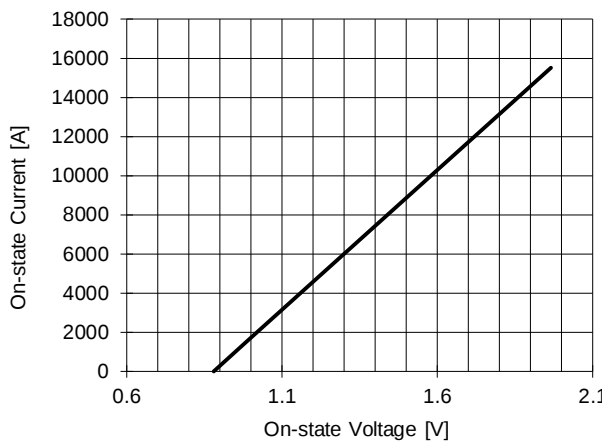
T_c [°C]



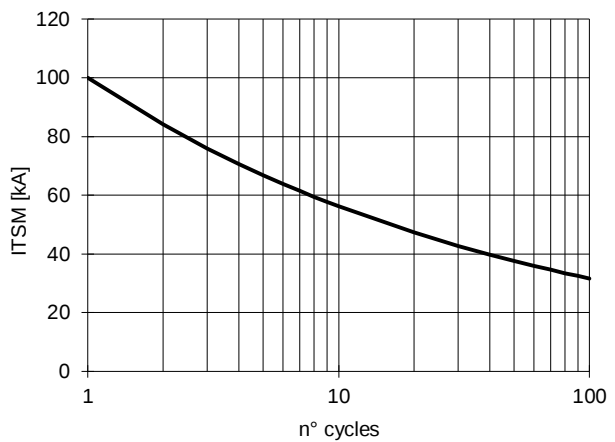
$P_F(AV)$ [W]



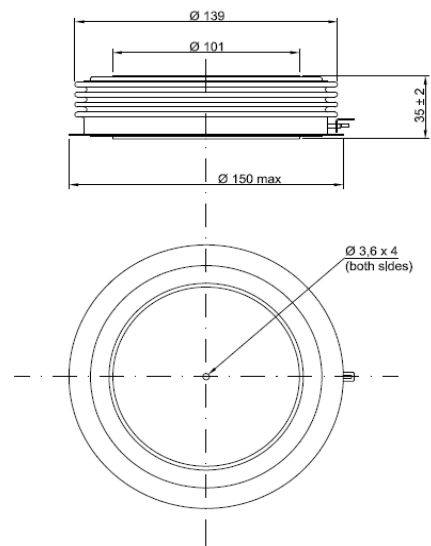
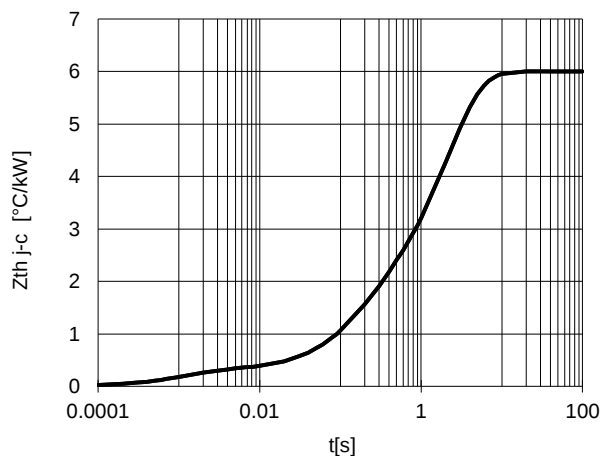
ON-STATE CHARACTERISTIC
 $T_j = 125^\circ\text{C}$



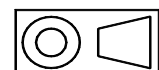
SURGE CHARACTERISTIC
 $T_j = 125^\circ\text{C}$



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED



Dimensions
in mm



Cathode terminal type DIN 46244 - A 4.8 - 0.8

Gate terminal type AMP 60598 - 1

All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink, surfaces with flatness $< .03\text{ mm}$ and roughness $< 2\text{ }\mu\text{m}$.

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.

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