

## GATE TURN-OFF THYRISTOR

# ATG875

Repetitive voltage up to **4500 V**  
Mean on-state current **1100 A**  
Controllable on-state current **4000 A**  
Surge on-state current **25 kA**

### FINAL SPECIFICATION

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Symbol	Characteristic	Conditions	Tj °C	Value			Unit
				min	typ	max	
<b>BLOCKING</b>							
V <sub>DRM</sub>	Repetitive peak off-state voltage		125			4500	V
V <sub>RRM</sub>	Repetitive peak reverse voltage					17	V
I <sub>DRM</sub>	Repetitive peak off-state current	V <sub>D</sub> =V <sub>DRM</sub> R <sub>GK</sub> <2 ohm				150	mA
I <sub>RRM</sub>	Repetitive peak reverse current	V <sub>R</sub> =V <sub>RRM</sub>				10	mA
(dv/dt) <sub>crit</sub>	Critical rate of rise of off-state voltage, min	Linear ramp up to 50% V <sub>DRM</sub> , shorted G-K				1000	V/uS
<b>CONDUCTING</b>							
I <sub>T(AV)</sub>	Mean on-state current	180° sin, 50 Hz, Th=75°C, double side cooled				1100	A
I <sub>TSM</sub>	Surge on-state current	sine wave, 10 ms, no reverse voltage	125			25	kA
I <sup>2</sup> t	I <sup>2</sup> t for fusing coordination	10ms, no reverse voltage				1445	A <sup>2</sup> s10 <sup>3</sup>
V <sub>T</sub>	On-state voltage	On-state current = 2500 A	125			3,6	V
V <sub>T(TO)</sub>	Threshold voltage		125			2,00	V
r <sub>T</sub>	On-state slope resistance					0,60	mohm
<b>SWITCHING ON</b>							
t <sub>gt</sub>	Gate controlled turn on time	I <sub>T</sub> = 2500A; di/dt = 350A/uS	125			7	µS
t <sub>d</sub>	Delay time	I <sub>GM</sub> > 56A; diRG/dt = 25A/uS				3	µS
E <sub>on</sub>	Turn-on switching energy	V <sub>D</sub> = 2800V, Cs = 2,5µF; RS = 5 ohm			2,2		J
(di/dt) <sub>crit</sub>	Critical rate of rise of on-state current	I <sub>T</sub> = 3000A, VD= 3000 V IGM = 50A,	125			400	A/uS
<b>SWITCHING OFF</b>							
I <sub>TCM</sub>	Controllable peak on-state current		125			4000	A
t <sub>gq</sub>	Gate controlled turn-off time	I <sub>TC</sub> = 3000 A VDM =4500V				34	µS
t <sub>s</sub>	Storage time	diRG/dt = 50A/uS				32	µS
E <sub>off</sub>	Turn-off switching energy	Cs = 3 µF, Ls = 0.28uH			10		J
I <sub>RG</sub>	Turn-off reverse gate current					950	A
V <sub>DSP</sub>	Spike voltage					1400	V
<b>TRIGGERING</b>							
V <sub>GT</sub>	Gate trigger voltage	V <sub>D</sub> =24V	25			1,5	V
I <sub>GT</sub>	Gate trigger current		25			3,0	A
V <sub>RGM</sub>	Peak reverse gate voltage		25			16	V
I <sub>RGM</sub>	Peak reverse leakage gate current	V <sub>RG</sub> = V <sub>RGM</sub>	125			10	mA
<b>DISSIPATION</b>							
R <sub>th(j-h)</sub>	Thermal resistance junction to heatsink d.c.	Double side cooled				11	°C/kW
T <sub>vj</sub>	Virtual junction temperature					125	°C
T <sub>stg</sub>	Storage temperature			-40		150	°C
<b>MOUNTING</b>							
W	Weight				1600		g
F	Mounting force			32.0	/	44.0	kN

ORDERING INFORMATION : ATG875 S 45

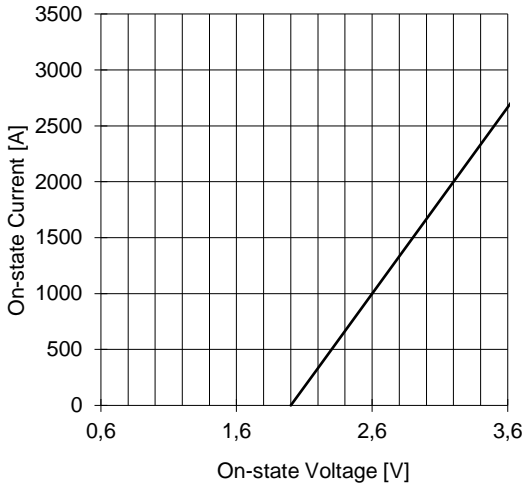
standard specification   VDRM/100

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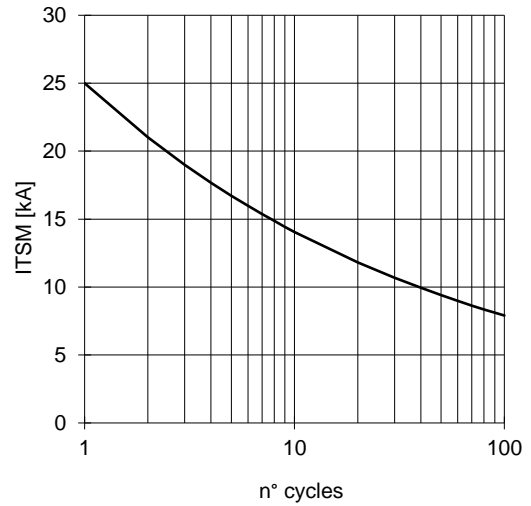


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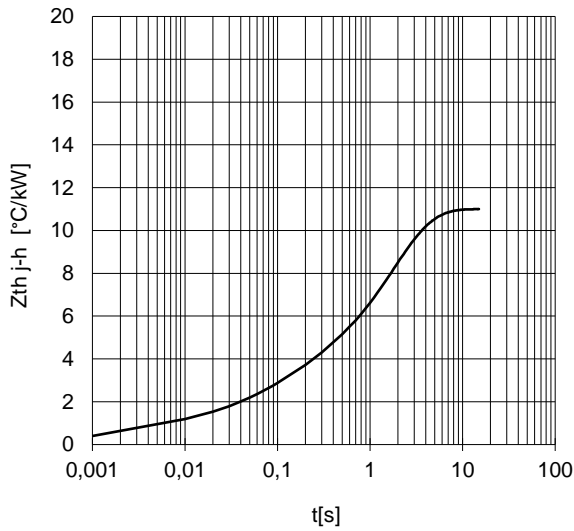
ON-STATE CHARACTERISTIC  
T<sub>j</sub> = 125 °C



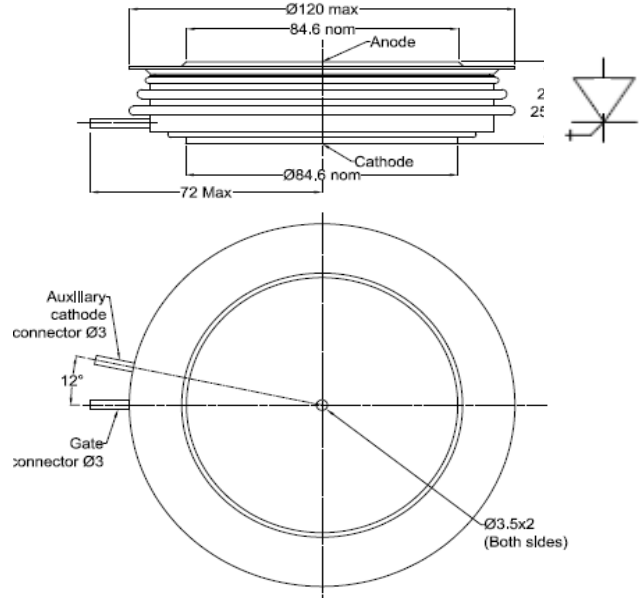
SURGE CHARACTERISTIC  
T<sub>j</sub> = 125 °C



TRANSIENT THERMAL IMPEDANCE  
DOUBLE SIDE COOLED



**Z2**



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.

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