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Power SEmiconductors Italian COrporation

POSEICO SPA  
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## RECTIFIER DIODE

# AR609LT

Repetitive voltage up to **600 V**  
Mean forward current **6825 A**  
Surge current **60 kA**

### FINAL SPECIFICATION

set 02 - ISSUE : 04

Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		190	600	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		190	700	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=VRRM	190	75	mA
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		6825	A
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Tc=85°C, double side cooled		7585	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms without reverse voltage	190	60	kA
I <sup>2</sup> t	I <sup>2</sup> t			18000 x 1E3	A <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current = 4500 A	25	1.05	V
V <sub>F(TO)</sub>	Threshold voltage		190	0.73	V
r <sub>F</sub>	Forward slope resistance		190	0.035	mohm
<b>SWITCHING</b>					
t <sub>rr</sub>	Reverse recovery time		190		μs
Q <sub>rr</sub>	Reverse recovery charge				μC
I <sub>rr</sub>	Peak reverse recovery current				A
<b>MOUNTING</b>					
R <sub>th(j-h)</sub>	Thermal impedance, DC	Junction to heatsink, double side cooled		15	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		5	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 190	°C
F	Mounting force			22.0 / 24.5	kN
	Mass			200	g

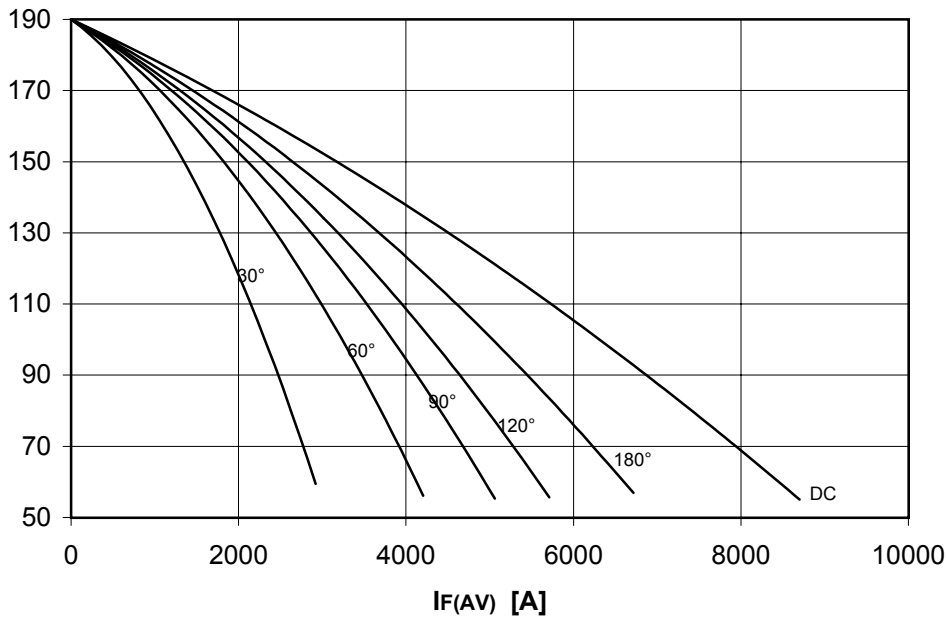
### ORDERING INFORMATION : AR609LT S 06

standard specification   VRRM/100

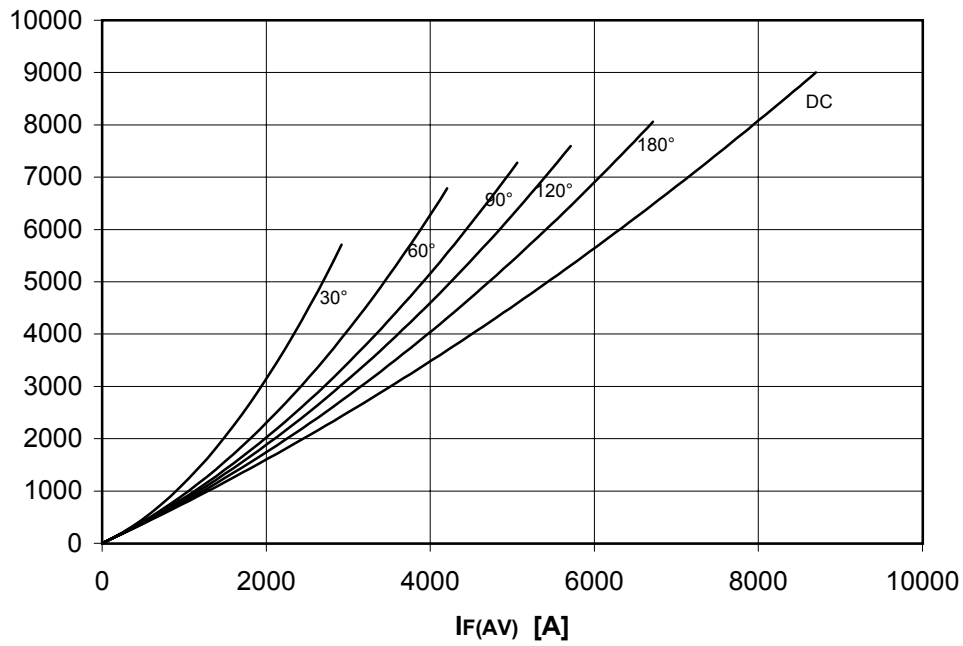
## DISSIPATION CHARACTERISTICS

SQUARE WAVE

Th [°C]



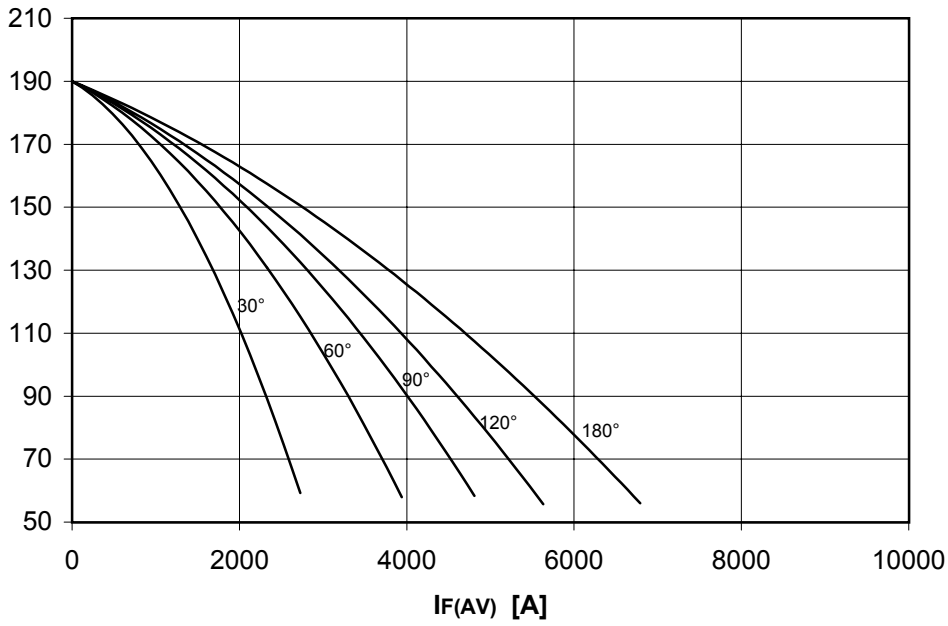
PF(AV) [W]



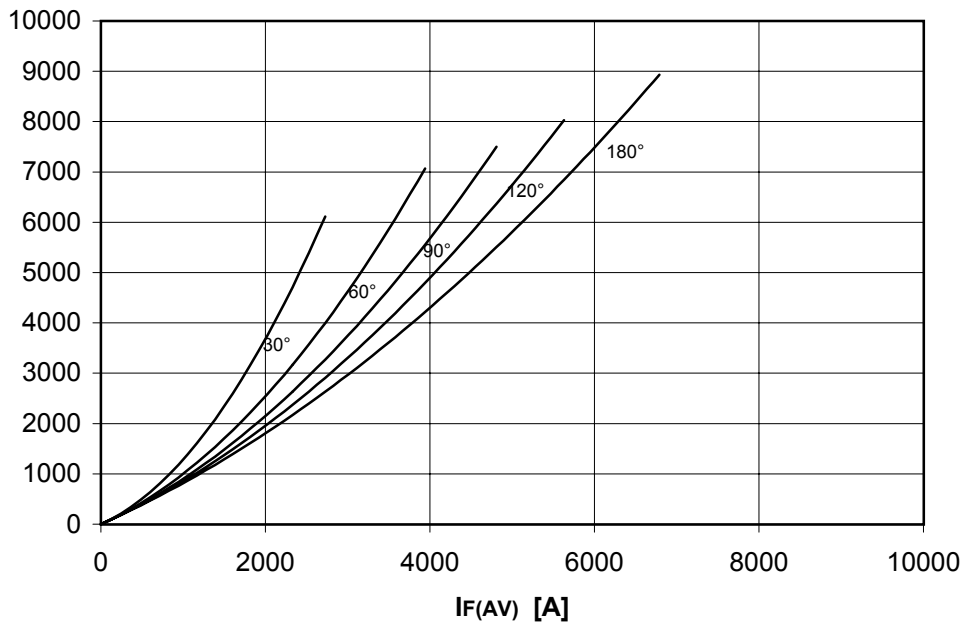
## DISSIPATION CHARACTERISTICS

SINE WAVE

Th [°C]



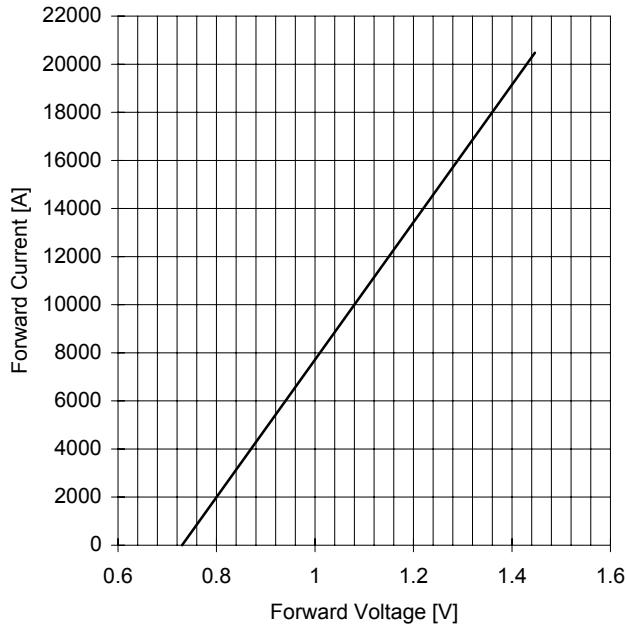
PF(AV) [W]



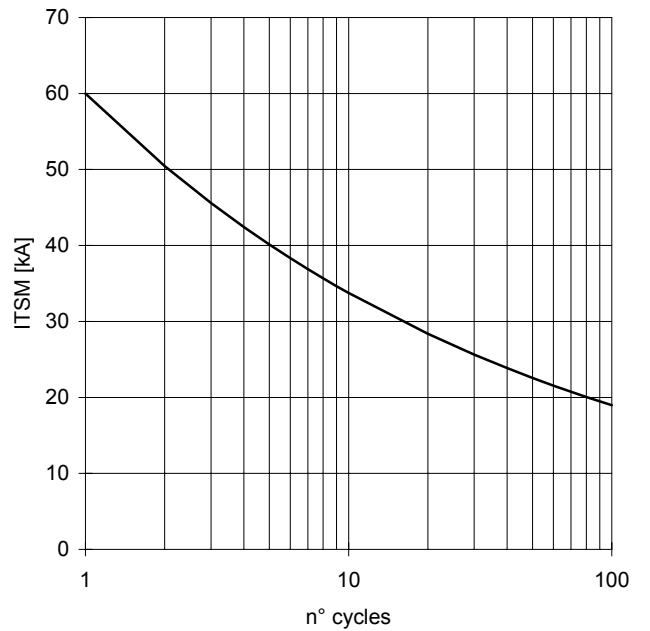
# AR609LT RECTIFIER DIODE

FINAL SPECIFICATION set 02 - ISSUE : 04

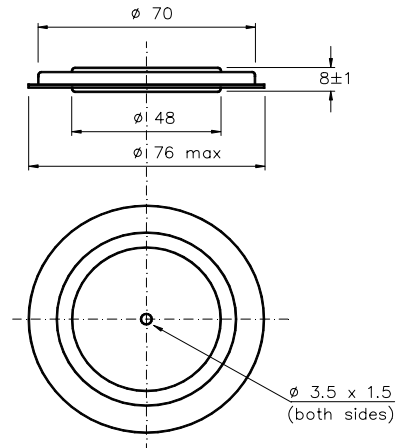
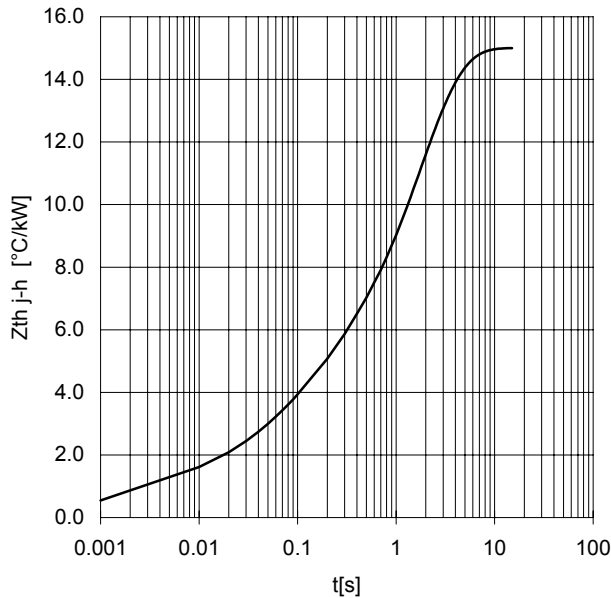
FORWARD CHARACTERISTIC  
T<sub>J</sub> = 190 °C



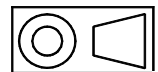
SURGE CHARACTERISTIC  
T<sub>J</sub> = 190 °C



TRANSIENT THERMAL IMPEDANCE  
DOUBLE SIDE COOLED



Dimensions  
in mm



All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink, surfaces with flatness < 0.03 mm and roughness < 2  $\mu\text{m}$ .

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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