

**FAST RECOVERY DIODE**

# ARF676

Repetitive voltage up to	<b>4800 V</b>
Mean forward current	<b>1514 A</b>
Surge current	<b>18 kA</b>

**FINAL SPECIFICATION**

June 17 - Issue: 5

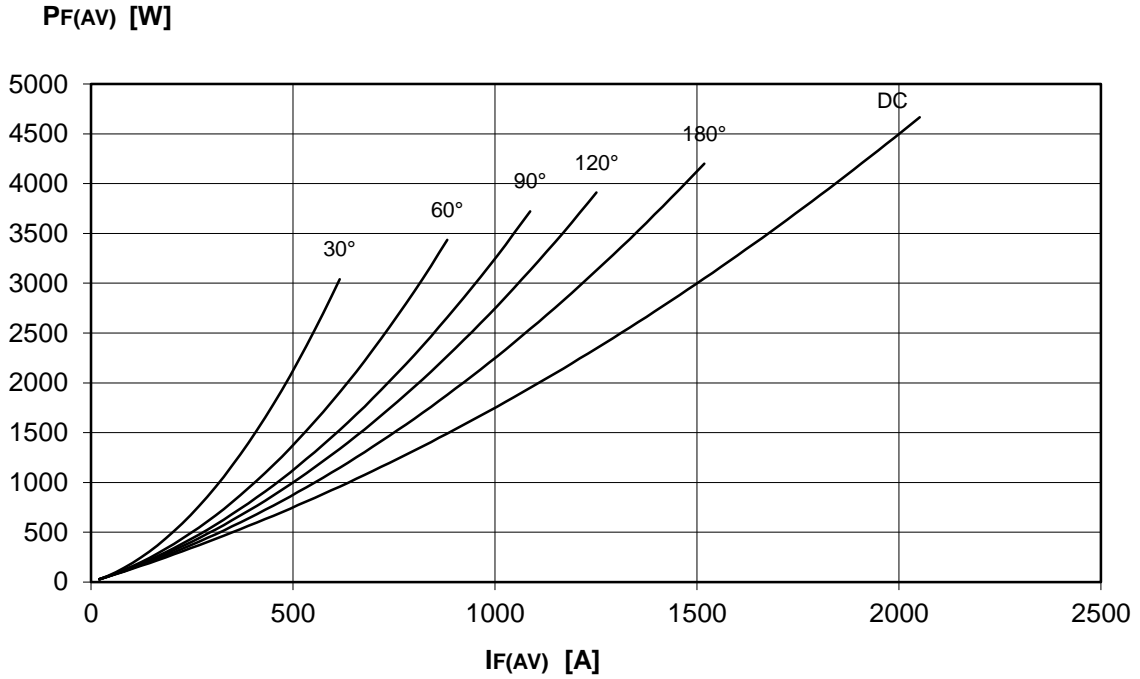
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		140	4800	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		140	4900	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=VRRM	140	100	mA
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		1514	A
I <sub>F(AV)</sub>	Mean forward current	180°square, 50 Hz, Th=55°C, double side cooled		1527	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms riapped reverse voltage up to 50% VRSM	140	18	kA
I <sup>2</sup> t	I <sup>2</sup> t			1620 x 10 <sup>3</sup>	A <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current = 1570 A	25	2,40	V
V <sub>F(TO)</sub>	Threshold voltage		140	1,25	V
r <sub>F</sub>	Forward slope resistance		140	0,500	mohm
<b>SWITCHING</b>					
t <sub>rr</sub>	Reverse recovery time	IF= 1000A di/dt= 250 A/μs VR= 100V	140	6	μs
Q <sub>rr</sub>	Reverse recovery charge			2000	μC
I <sub>rr</sub>	Peak reverse recovery current			800	A
s	Softness (s-factor), min			0,5	
V <sub>FR</sub>	Peak forward recovery	di/dt = 400 A/μs	150	40	V
<b>MOUNTING</b>					
R <sub>th(j-h)</sub>	Thermal impedance, DC	Junction to heatsink, double side cooled		18,0	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		6,0	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 140	°C
F	Mounting force			22.0 / 24.5	kN
	Mass			300	g

**ORDERING INFORMATION : ARF676 S 48**

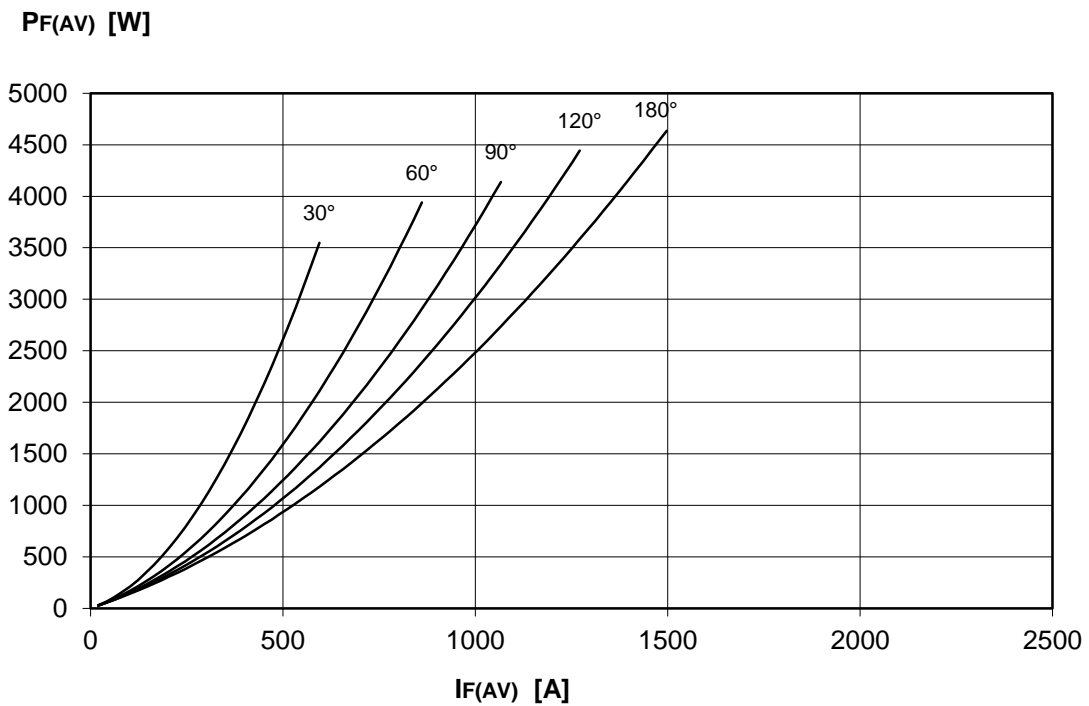
 standard specification   VRRM/100

**DISSIPATION CHARACTERISTICS**

**SQUARE WAVE (50Hz)**



**SINE WAVE (50Hz)**

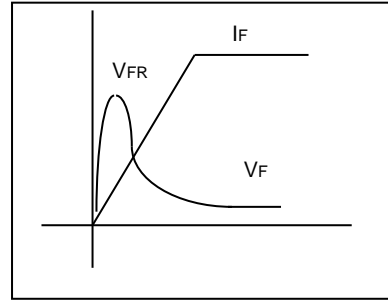
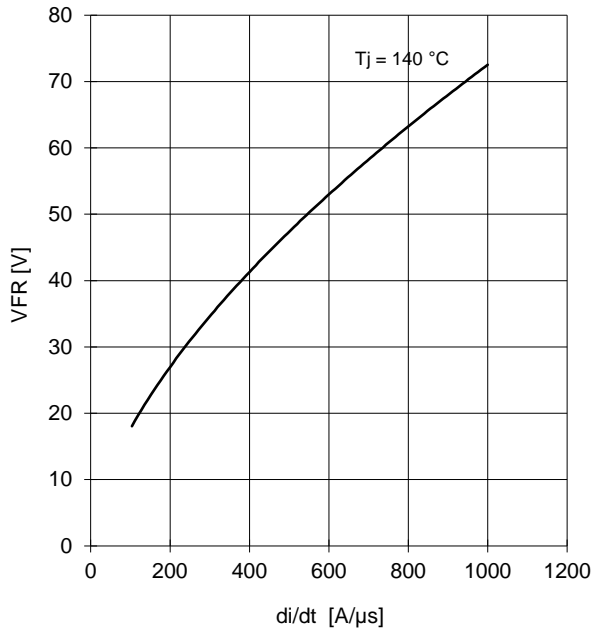


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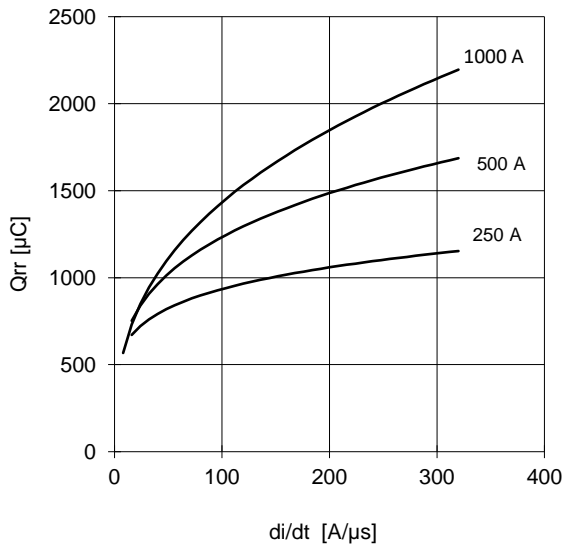


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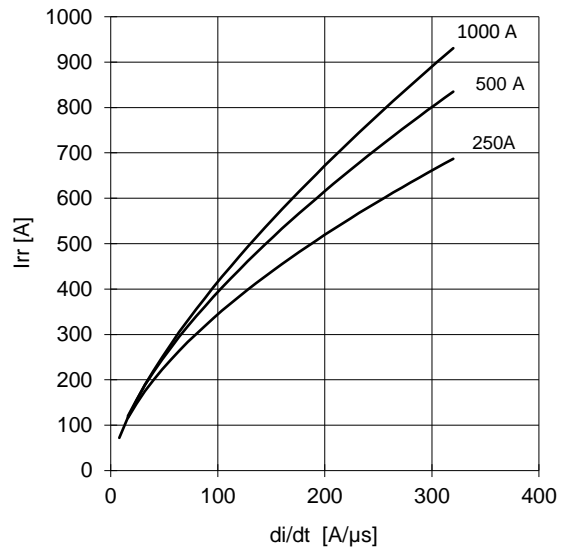
## FORWARD RECOVERY VOLTAGE



## REVERSE RECOVERY CHARGE Tj = 140 °C



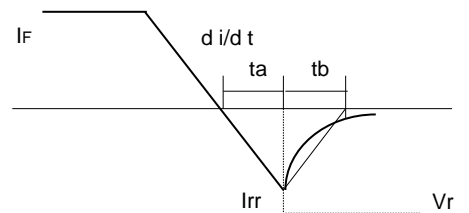
## REVERSE RECOVERY CURRENT Tj = 140 °C



$$t_a = I_{rr} / (di/dt) \quad t_b = t_{rr} - t_a$$

$$\text{Softness (s factor)} \quad s = t_b / t_a$$

$$\text{Energy dissipation during recovery } E_r = V_r \cdot (Q_{rr} - I_{rr} \cdot t_a / 2)$$

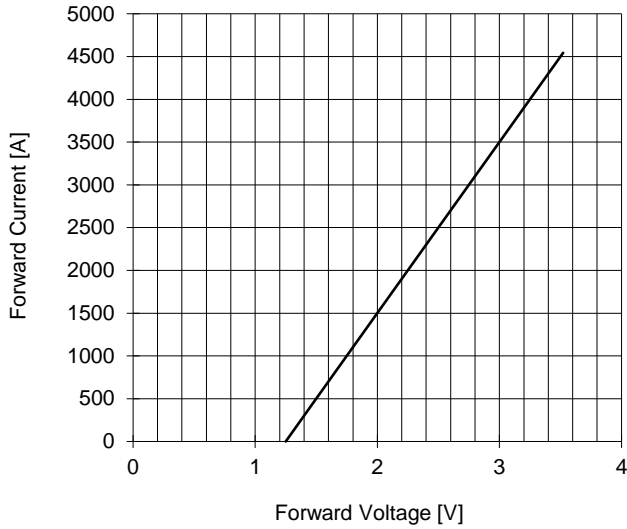


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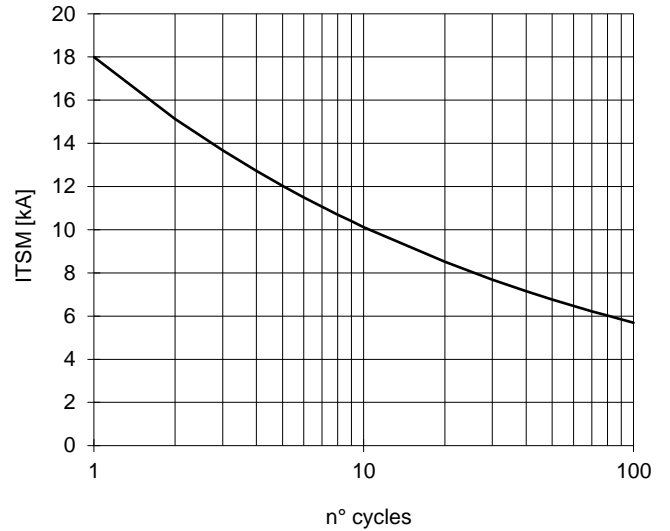


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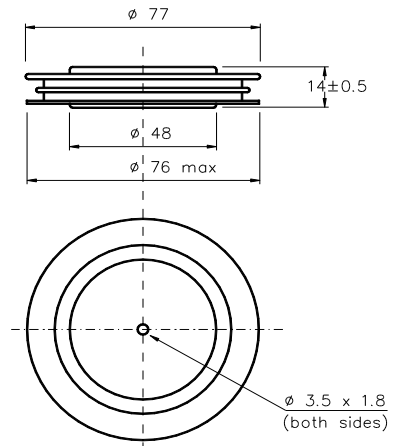
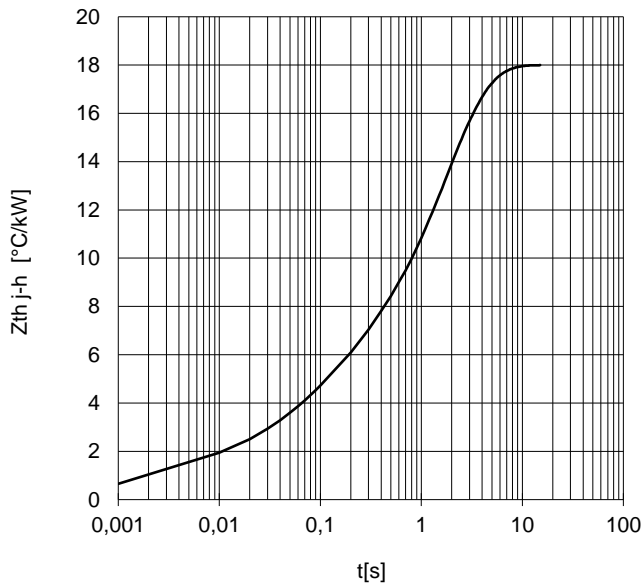
FORWARD CHARACTERISTIC  
T<sub>j</sub> = 140 °C



SURGE CHARACTERISTIC  
T<sub>j</sub> = 140 °C



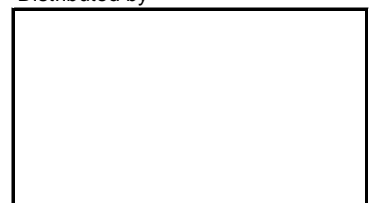
TRANSIENT THERMAL IMPEDANCE  
DOUBLE SIDE COOLED



Dimensions  
in mm



Distributed by



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.