

## FAST RECOVERY DIODE

# ARF671

**FOR IGBT, IEGT, GCT APPLICATIONS**  
**SNUBBERLESS OPERATION**  
**LOW LOSSES SOFT RECOVERY**

Repetitive voltage up to  
Mean forward current  
Surge current

**4500 V**  
**790 A**  
**15 kA**

### TARGET SPECIFICATION

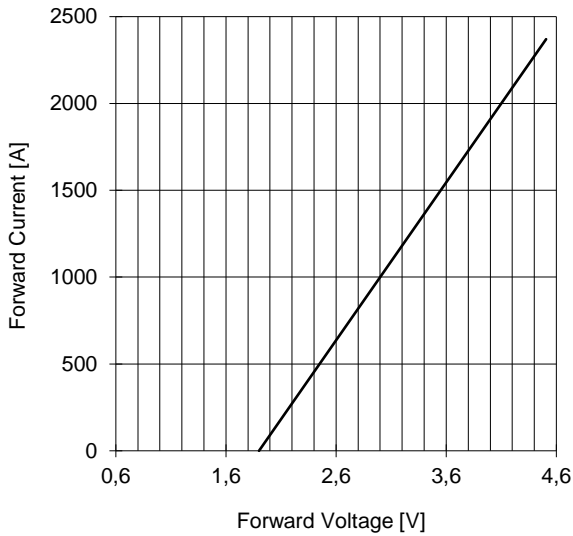
mar 08 - ISSUE : 04

Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	4500	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		125	4600	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=V <sub>RRM</sub>	125	80	mA
V <sub>DC LINK</sub>	Permanent DC voltage		125	2800	V
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		790	A
I <sub>F(AV)</sub>	Mean forward current	180° square, 50 Hz, Th=55°C, double side cooled		820	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms	125	15	kA
I <sup>2</sup> t	I <sup>2</sup> t	reapplied reverse voltage up to 50% VRSM		1125 x1E3	A <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current =2500 A	125	4,65	V
V <sub>F(TO)</sub>	Threshold voltage		125	1,90	V
r <sub>F</sub>	Forward slope resistance		125	1,100	mohm
<b>SWITCHING</b>					
Q <sub>rr</sub>	Reverse recovery charge	I <sub>F</sub> = 1000 A    di/dt= 250 A/μs VR = 100 V	125	1000	μC
I <sub>rr</sub>	Peak reverse recovery current		125	525	A
t <sub>rr</sub>	Reverse recovery time	I <sub>F</sub> = 1000 A di/dt= 1000 A/μs VR = 1800 V	125		μs
Q <sub>rr</sub>	Reverse recovery charge			2500	μC
I <sub>rr</sub>	Peak reverse recovery current			1400	A
s	Softness (s-factor), min				
E <sub>OFF</sub>	Turn off energy dissipation			3,8	J
V <sub>FR</sub>	Peak forward recovery	di/dt= 400 A/μs	125	70	V
<b>MOUNTING</b>					
R <sub>th(j-h)</sub>	Thermal impedance	Junction to heatsink, double side cooled		21	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		6	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 125	°C
F	Mounting force			22.0 / 24.5	kN
	Mass			520	g

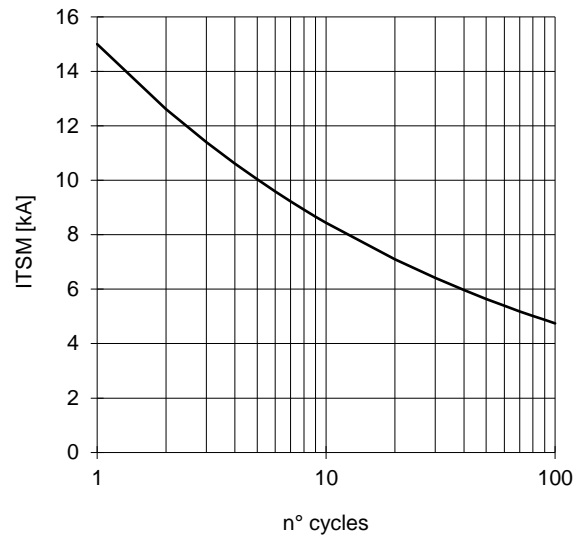
**ORDERING INFORMATION : ARF671 S 45**

standard specification   VRRM/100

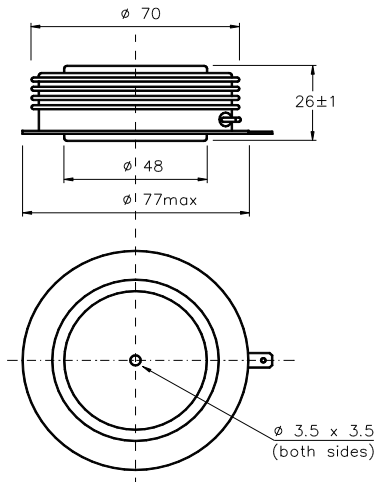
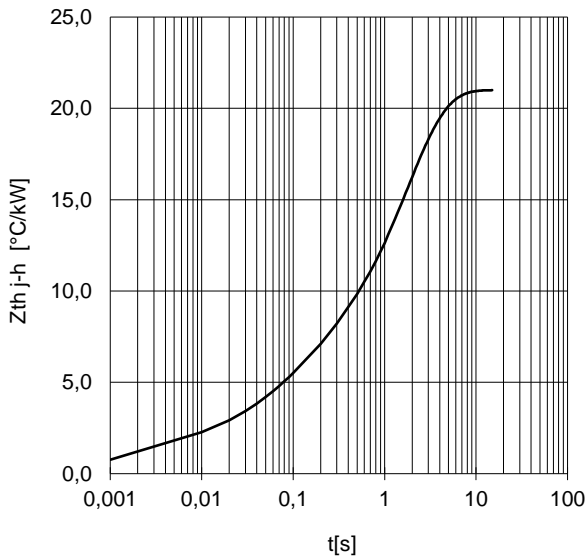
FORWARD CHARACTERISTIC  
T<sub>j</sub> = 125 °C



SURGE CHARACTERISTIC  
T<sub>j</sub> = 125 °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 < .03 mm and roughness < 2 μm.  
In the interest of product improvement ANSALDO 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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