

## FAST RECOVERY DIODE

# ARF771LT

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

Repetitive voltage up to  
Mean forward current  
Surge current

**4500 V**  
**1650 A**  
**28 kA**

### TARGET SPECIFICATION

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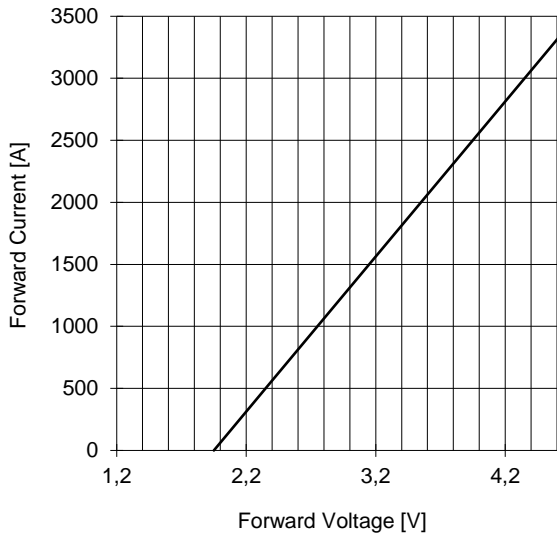
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		140	4500	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		140	4600	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=VRRM	140	150	mA
V <sub>DC LINK</sub>	Permanent DC voltage		140	2800	V
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		1650	A
I <sub>F(AV)</sub>	Mean forward current	180° square, 50 Hz, Th=55°C, double side cooled		1725	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms	140	28	kA
I <sup>2</sup> t	I <sup>2</sup> t	reapplied reverse voltage up to 50% VRSM		3920 x1E3	A <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current = 2500 A	140	3,95	V
V <sub>F(TO)</sub>	Threshold voltage		140	1,95	V
r <sub>F</sub>	Forward slope resistance		140	0,800	mohm
<b>SWITCHING</b>					
Q <sub>rr</sub>	Reverse recovery charge	I <sub>F</sub> = 2500 A    di/dt= 250 A/μs VR = 100 V	140	1400	μC
I <sub>rr</sub>	Peak reverse recovery current		140		A
t <sub>rr</sub>	Reverse recovery time	I <sub>F</sub> = 2500 A			μs
Q <sub>rr</sub>	Reverse recovery charge	di/dt= 1000 A/μs VR = 2800 V		3500	μC
I <sub>rr</sub>	Peak reverse recovery current		140	1500	A
s	Softness (s-factor), min				
E <sub>OFF</sub>	Turn off energy dissipation				J
V <sub>FR</sub>	Peak forward recovery	di/dt= 500 A/μs	140	65	V
<b>MOUNTING</b>					
R <sub>th(j-h)</sub>	Thermal impedance	Junction to heatsink, double side cooled		9,5	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		2,0	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 140	°C
F	Mounting force			46.0 / 54.0	kN
	Mass			1150	g

ORDERING INFORMATION : ARF771LT S 45

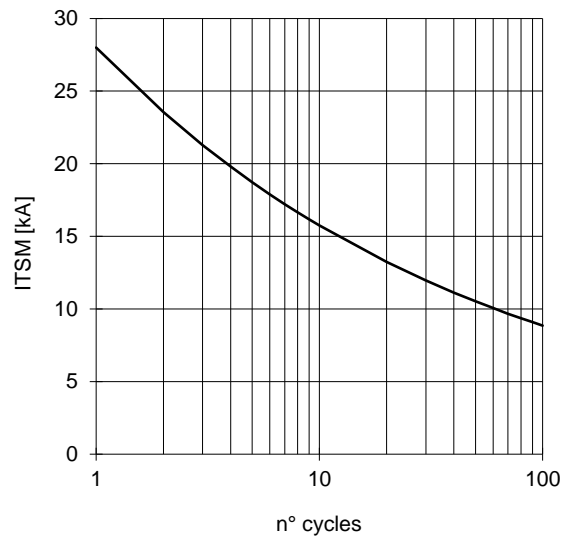
standard specification   VRRM/100

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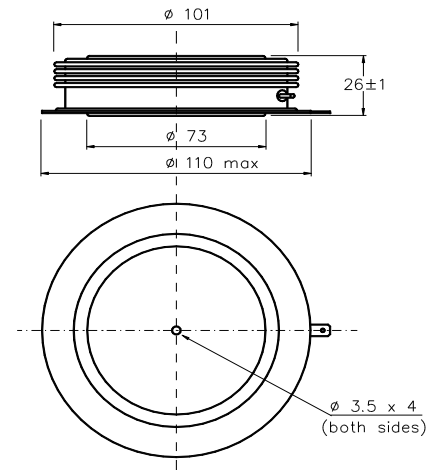
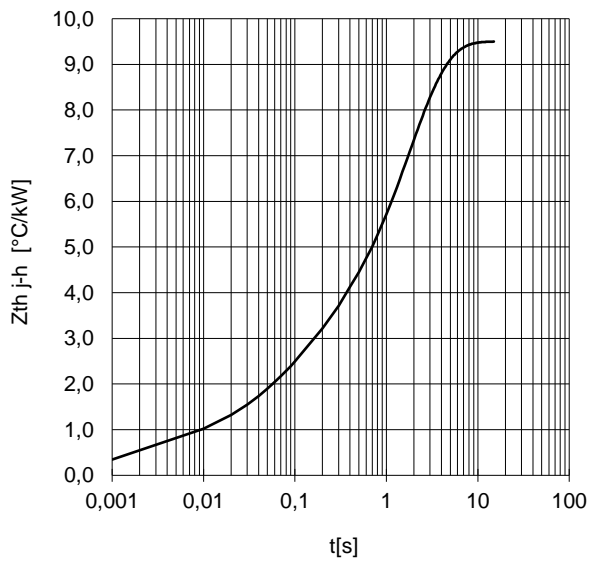
FORWARD CHARACTERISTIC  
 $T_j = 140\text{ }^\circ\text{C}$



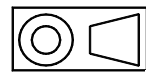
SURGE CHARACTERISTIC  
 $T_j = 140\text{ }^\circ\text{C}$



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  $\mu\text{m}$ .  
 In the interest of product improvement POSEICO 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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