

## FAST RECOVERY DIODE

# ARF694

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

Repetitive voltage up to  
Mean forward current  
Surge current

**6000 V**  
**645 A**  
**10 kA**

### TARGET SPECIFICATION

lug 08 - ISSUE : 03

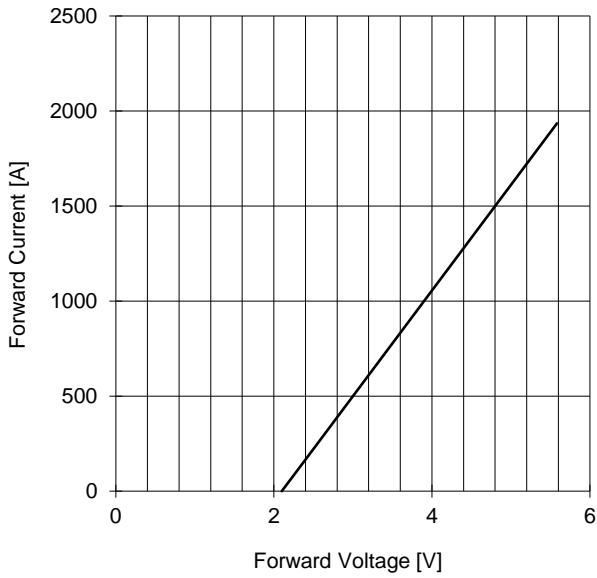
Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		120	6000	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		120	6100	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=VRRM	120		mA
V <sub>DC LINK</sub>	Permanent DC voltage		120	3200	V
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		645	A
I <sub>F(AV)</sub>	Mean forward current	180° square, 50 Hz, Th=55°C, double side cooled		675	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms	120	10	kA
I <sup>2</sup> t	I <sup>2</sup> t	reapplied reverse voltage up to 50% VRSM		500 x1E3	A <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current = 1570 A	25	4,8	V
V <sub>F(TO)</sub>	Threshold voltage		120	2,10	V
r <sub>F</sub>	Forward slope resistance		120	1,80	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	120		μC
I <sub>rr</sub>	Peak reverse recovery current		120		A
t <sub>rr</sub>	Reverse recovery time	I <sub>F</sub> = 1000 A			μs
Q <sub>rr</sub>	Reverse recovery charge	di/dt= 500 A/μs VR = V		2000	μC
I <sub>rr</sub>	Peak reverse recovery current		120	1150	A
s	Softness (s-factor), min				
E <sub>OFF</sub>	Turn off energy dissipation				J
V <sub>FR</sub>	Peak forward recovery	di/dt= 1000 A/μs	125	370	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		3	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 120	°C
F	Mounting force			22.0 / 24.5	kN
	Mass			520	g

**ORDERING INFORMATION : ARF694 S 60**

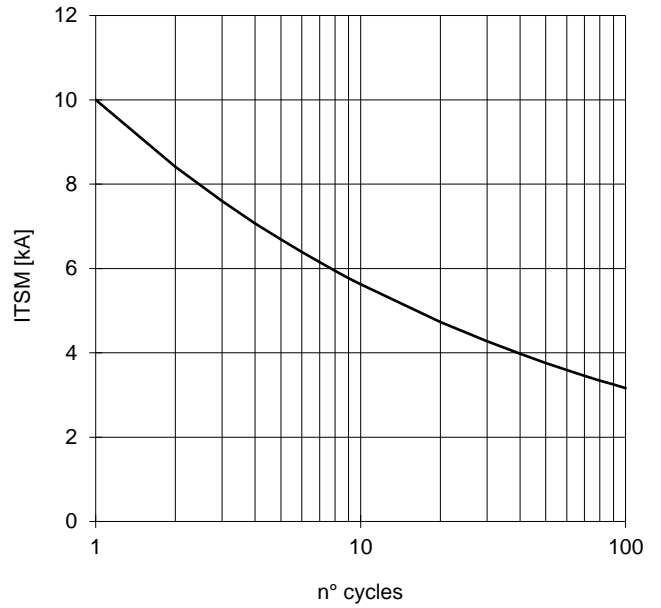
standard specification   VRRM/100

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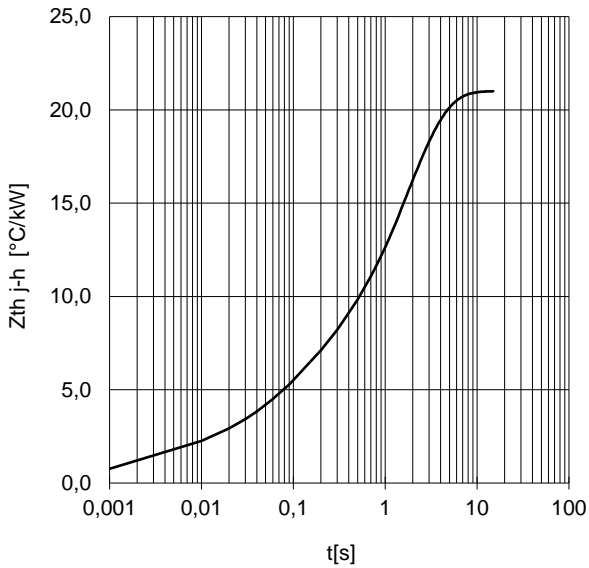
FORWARD CHARACTERISTIC  
T<sub>j</sub> = 120 °C



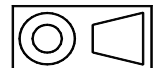
SURGE CHARACTERISTIC  
T<sub>j</sub> = 120 °C



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 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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