

FAST RECOVERY DIODE

ARF774

Repetitive voltage up to

4500 V

Mean forward current

2327 A

Surge current

26 kA
FINAL SPECIFICATION

June 17 - Issue: 5

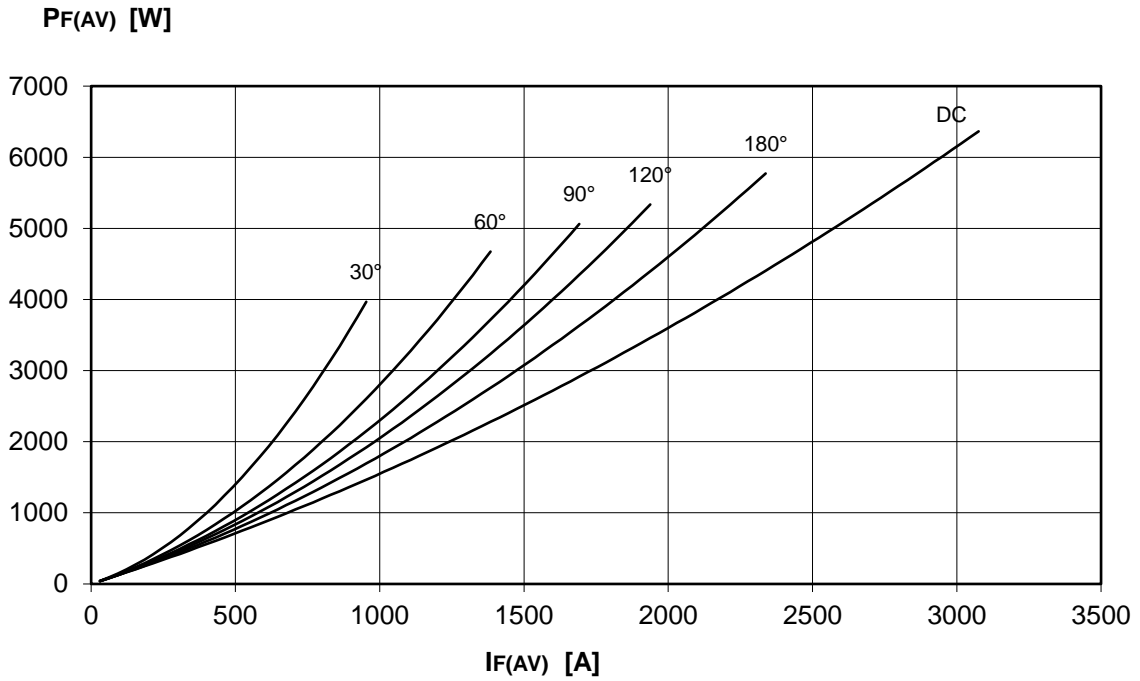
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	4500	V
V _{RSM}	Non-repetitive peak reverse voltage		125	4600	V
I _{RRM}	Repetitive peak reverse current	V=VRRM	125	150	mA
CONDUCTING					
I _{F(AV)}	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		2327	A
I _{F(AV)}	Mean forward current	180°square, 50 Hz, Th=55°C, double side cooled		2340	A
I _{FSM}	Surge forward current	Sine wave, 10 ms riapped reverse voltage up to 50% VRSM	125	26	kA
I ² t	I ² t			3380 x 10 ³	A ² s
V _{FM}	Forward voltage	Forward current = 2000 A	25	1,80	V
V _{F(TO)}	Threshold voltage		125	1,30	V
r _F	Forward slope resistance		125	0,250	mohm
SWITCHING					
t _{rr}	Reverse recovery time	IF= 1000A di/dt= 60 A/μs VR= 50V	125	8,6	μs
Q _{rr}	Reverse recovery charge			1500	μC
I _{rr}	Peak reverse recovery current			350	A
s	Softness (s-factor), min			0,5	
V _{FR}	Peak forward recovery	di/dt = 400 A/μs	150	31	V
MOUNTING					
R _{th(j-h)}	Thermal impedance, DC	Junction to heatsink, double side cooled		11,0	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		2,0	°C/kW
T _j	Operating junction temperature			-30 / 125	°C
F	Mounting force			46.0 / 54.0	kN
	Mass			1700	g

ORDERING INFORMATION : ARF774 S 45

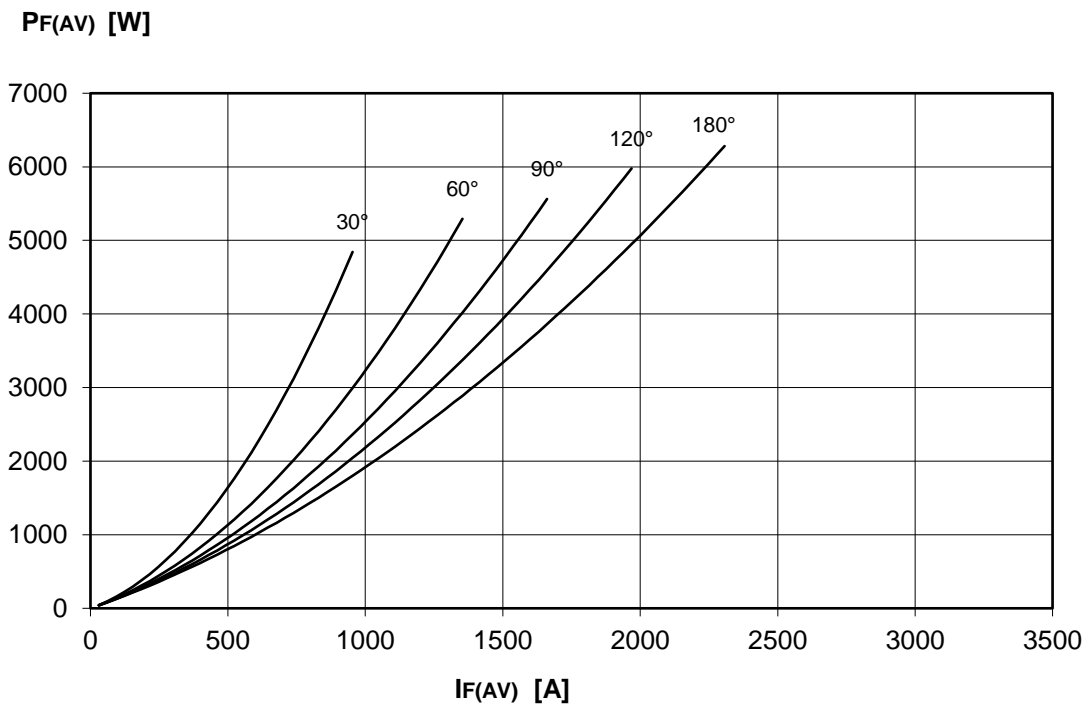
 standard specification VRRM/100

DISSIPATION CHARACTERISTICS

SQUARE WAVE (50Hz)



SINE WAVE (50Hz)

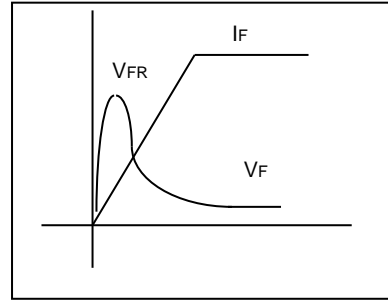
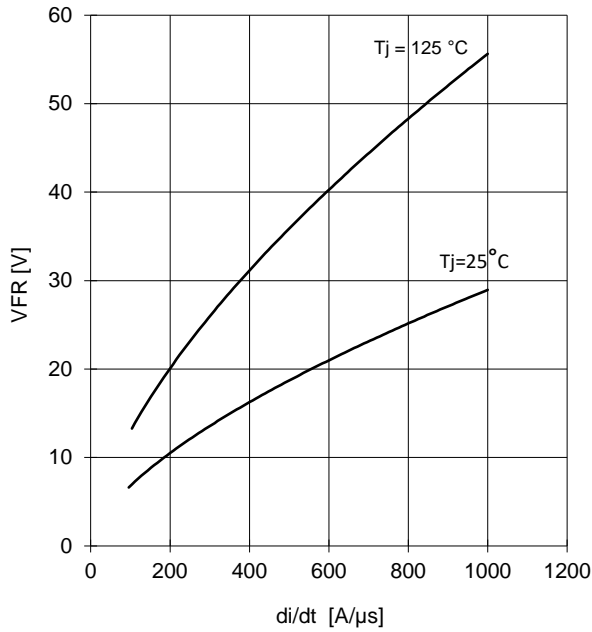


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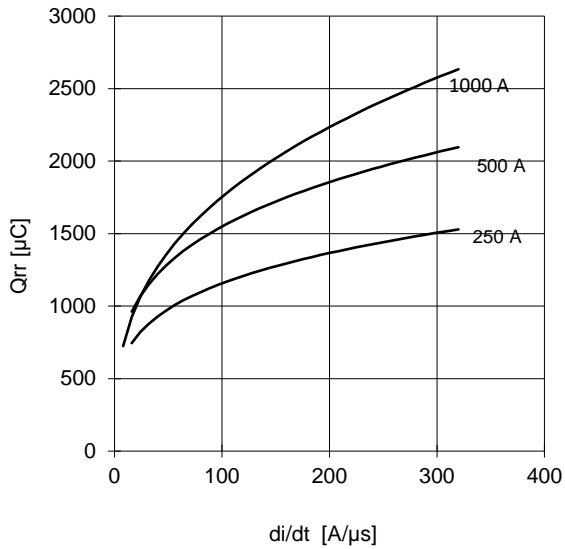
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FORWARD RECOVERY VOLTAGE



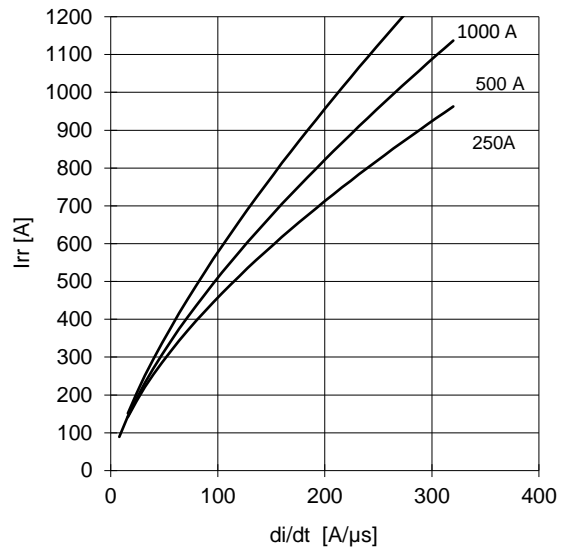
REVERSE RECOVERY CHARGE

Tj = 140 °C



REVERSE RECOVERY CURRENT

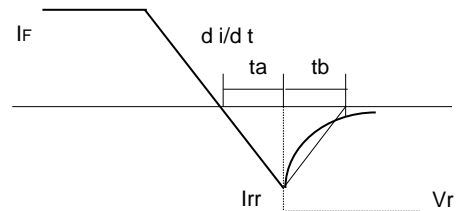
Tj = 140 °C



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

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

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

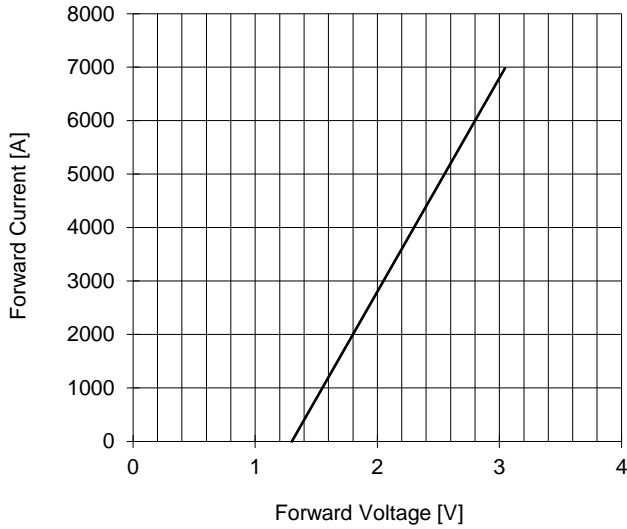


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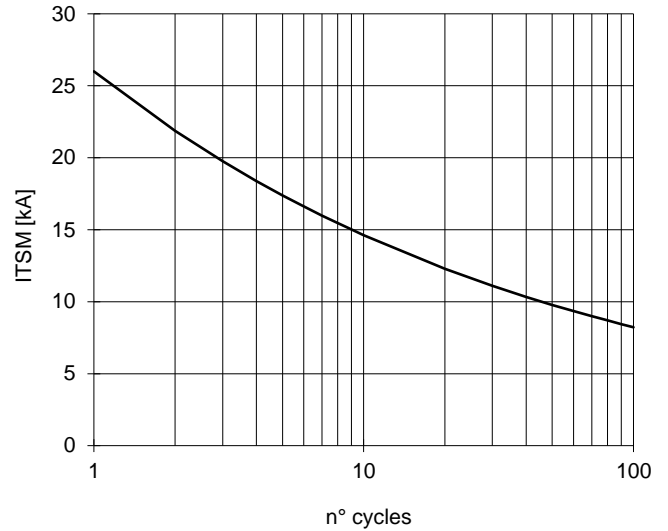


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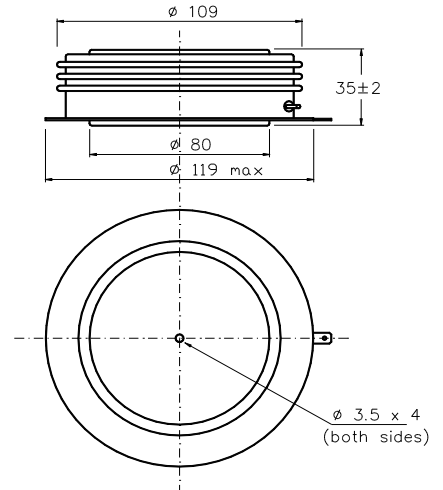
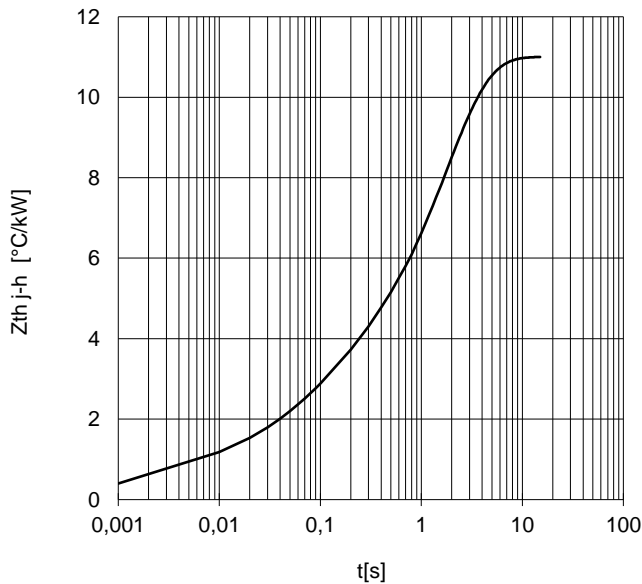
FORWARD CHARACTERISTIC
T_j = 125 °C



SURGE CHARACTERISTIC
T_j = 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 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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