

FAST RECOVERY DIODE

ARF744

Repetitive voltage up to

2500 V

Mean forward current

3723 A

Surge current

48 kA
FINAL SPECIFICATION

June 17 - Issue: 5

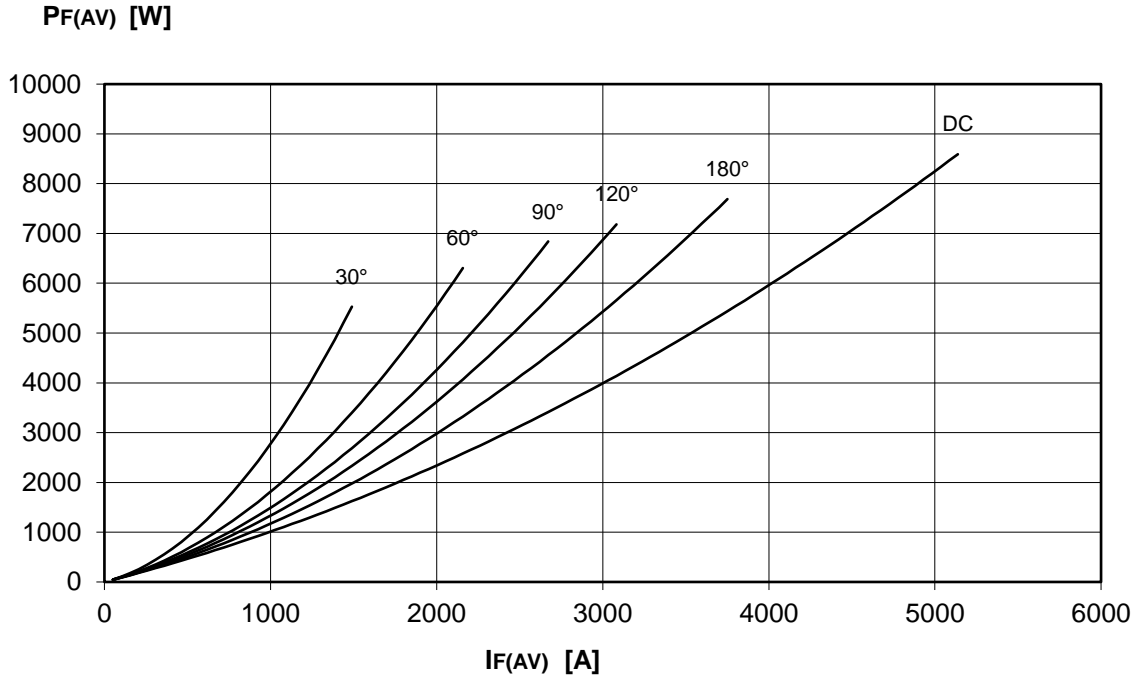
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		150	2500	V
V _{RSM}	Non-repetitive peak reverse voltage		150	2600	V
I _{RRM}	Repetitive peak reverse current	V=VRRM	150	150	mA
CONDUCTING					
I _{F(AV)}	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		3723	A
I _{F(AV)}	Mean forward current	180°square, 50 Hz, Th=55°C, double side cooled		3786	A
I _{FSM}	Surge forward current	Sine wave, 10 ms riapped reverse voltage up to 50% VRSM	150	48	kA
I ² t	I ² t			11520 x 10 ³	A ² s
V _{FM}	Forward voltage	Forward current = 2000 A	25	1,35	V
V _{F(TO)}	Threshold voltage		150	0,85	V
r _F	Forward slope resistance		150	0,160	mohm
SWITCHING					
t _{rr}	Reverse recovery time	IF= 1000A di/dt= 60 A/μs VR= 50V	150	5	μs
Q _{rr}	Reverse recovery charge			500	μC
I _{rr}	Peak reverse recovery current			200	A
s	Softness (s-factor), min			0,5	
V _{FR}	Peak forward recovery	di/dt = 400 A/μs		10	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 / 150	°C
F	Mounting force			46.0 / 54.0	kN
	Mass			1700	g

ORDERING INFORMATION : ARF744 S 25

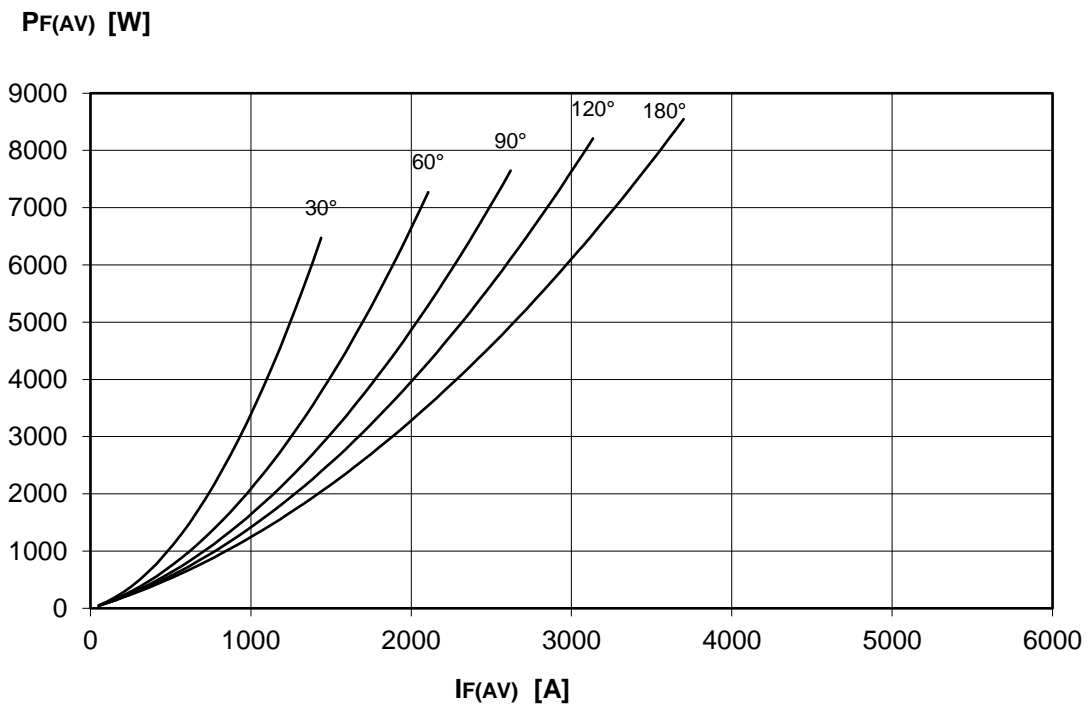
 standard specification VRRM/100

DISSIPATION CHARACTERISTICS

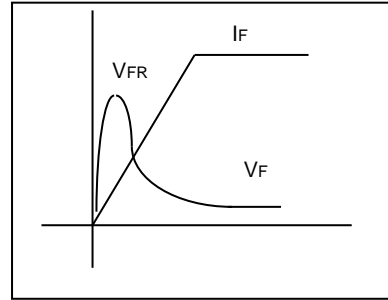
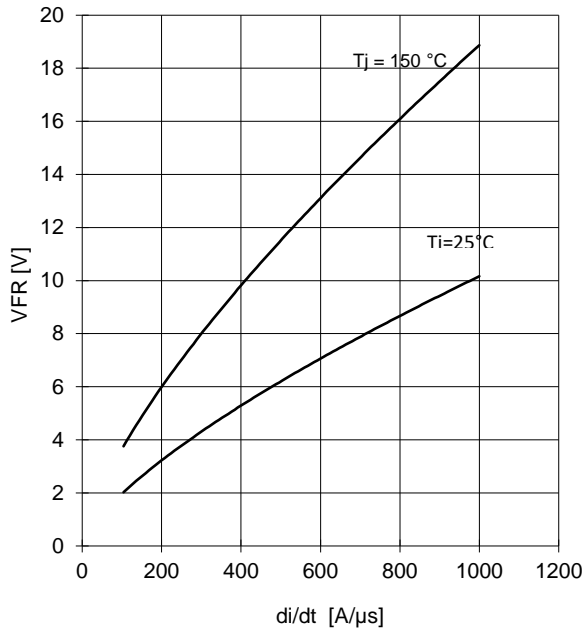
SQUARE WAVE (50Hz)



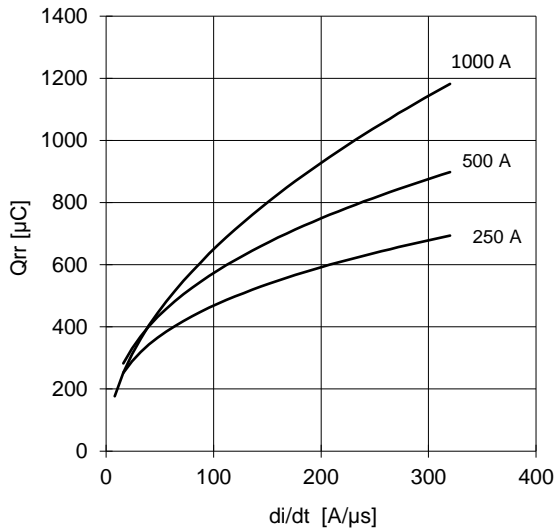
SINE WAVE (50Hz)



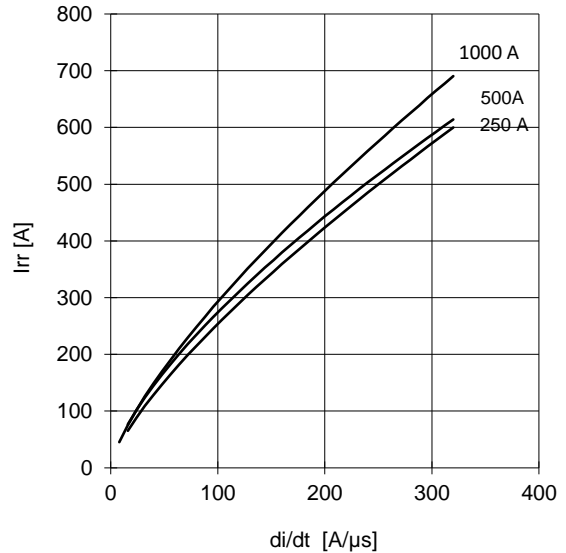
FORWARD RECOVERY VOLTAGE



REVERSE RECOVERY CHARGE Tj = 150 °C



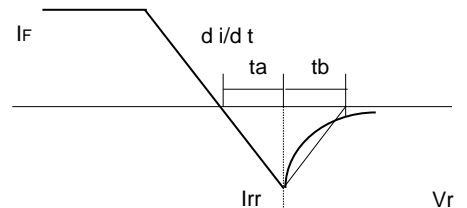
REVERSE RECOVERY CURRENT Tj = 150 °C



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

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

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

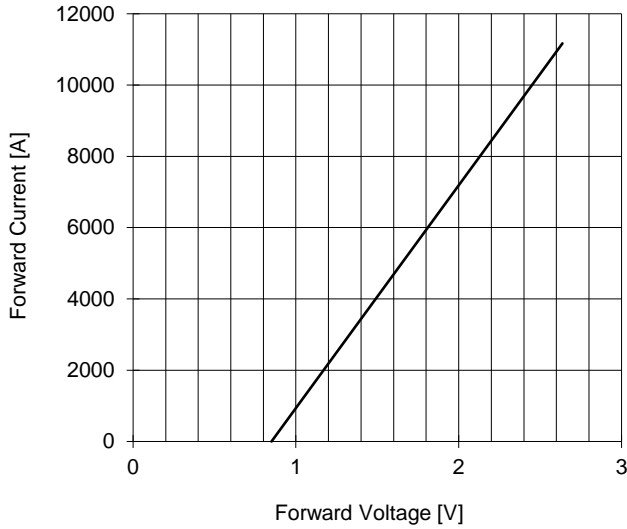


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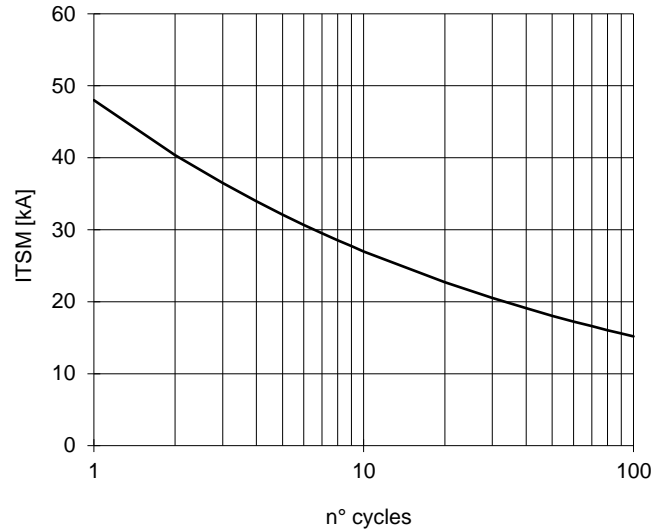


FINAL SPECIFICATION June 17 - Issue: 5

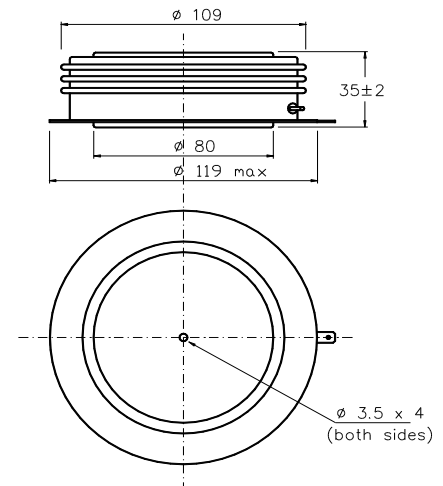
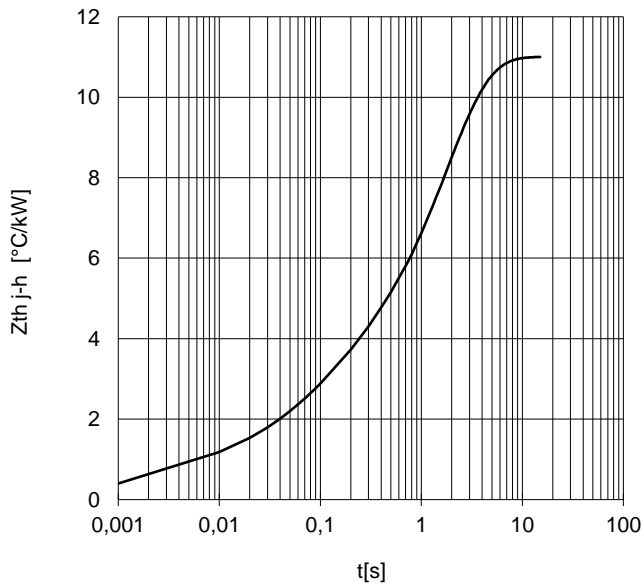
FORWARD CHARACTERISTIC
T_j = 150 °C



SURGE CHARACTERISTIC
T_j = 150 °C



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED



Dimensions
in mm



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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.

