

FAST RECOVERY DIODE

ARF2012

Repetitive voltage up to

2600 V

Mean forward current

1527 A

Surge current

16 kA
FINAL SPECIFICATION

June 17 - Issue: 6

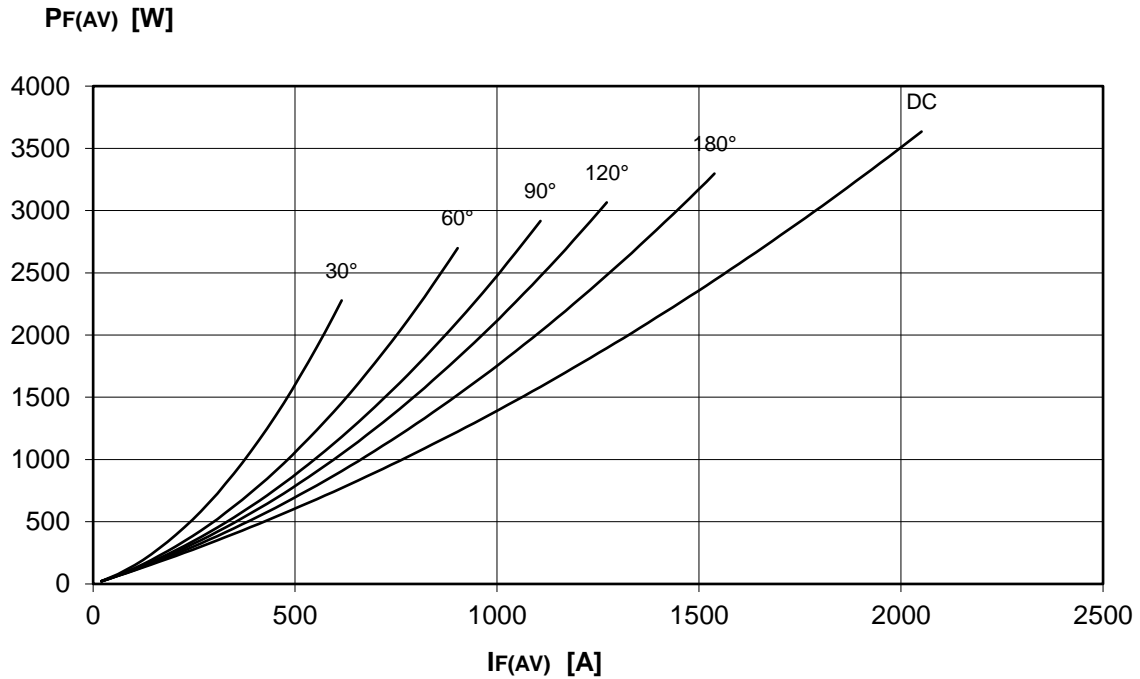
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		150	2600	V
V _{RSM}	Non-repetitive peak reverse voltage		150	2700	V
I _{RRM}	Repetitive peak reverse current	V=VRRM	150	50	mA
CONDUCTING					
I _{F(AV)}	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		1527	A
I _{F(AV)}	Mean forward current	180°square, 50 Hz, Th=55°C, double side cooled		1539	A
I _{FSM}	Surge forward current	Sine wave, 10 ms without reverse voltage	150	16	kA
I ² t	I ² t			1280 x 10 ³	A ² s
V _{FM}	Forward voltage	Forward current = 3400 A	25	2,50	V
V _{F(TO)}	Threshold voltage		150	1,03	V
r _F	Forward slope resistance		150	0,362	mohm
SWITCHING					
t _{rr}	Reverse recovery time	IF= 1000A	150	4,6	μs
Q _{rr}	Reverse recovery charge	di/dt= 100 A/μs		800	μC
I _{rr}	Peak reverse recovery current	VR= 100V		345	A
s	Softness (s-factor), min			0,4	
V _{FR}	Peak forward recovery	di/dt = 400 A/μs	150	13	V
MOUNTING					
R _{th(j-h)}	Thermal impedance, DC	Junction to heatsink, double side cooled		26,0	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		6,0	°C/kW
T _j	Operating junction temperature			-30 / 150	°C
F	Mounting force			18.0 / 20.0	kN
	Mass			500	g

ORDERING INFORMATION : ARF2012 S 26

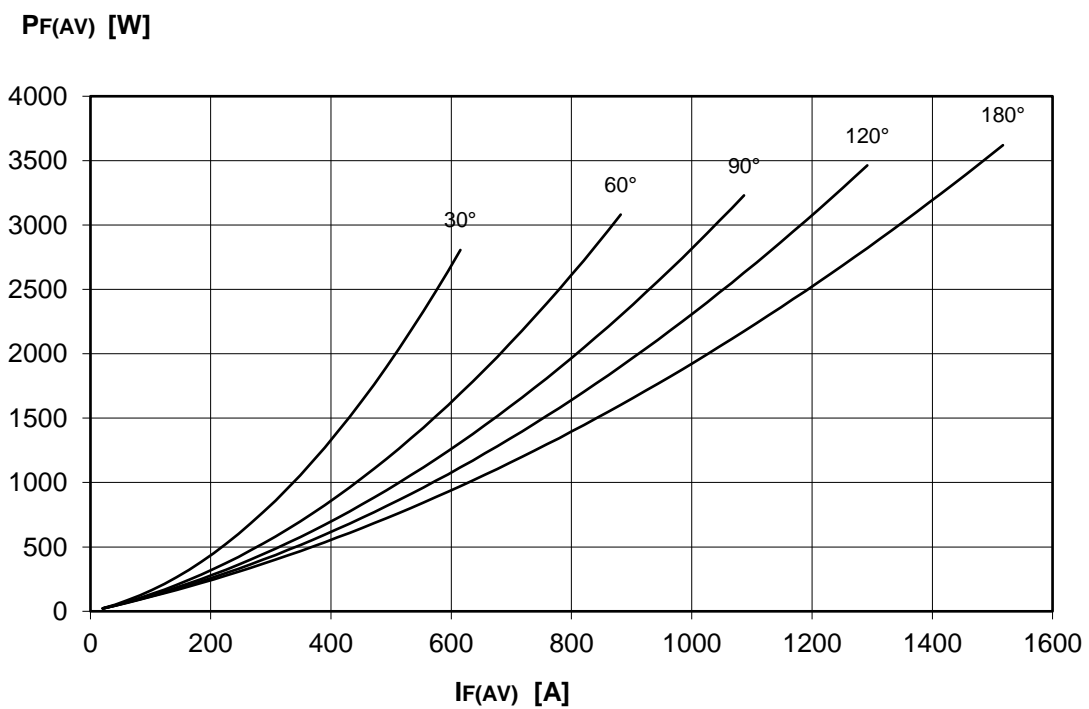
 standard specification VRRM/100

DISSIPATION CHARACTERISTICS

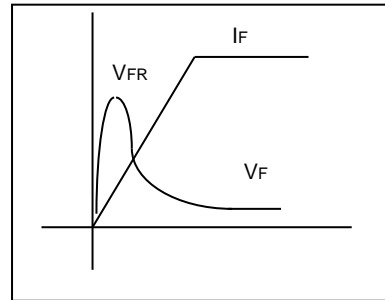
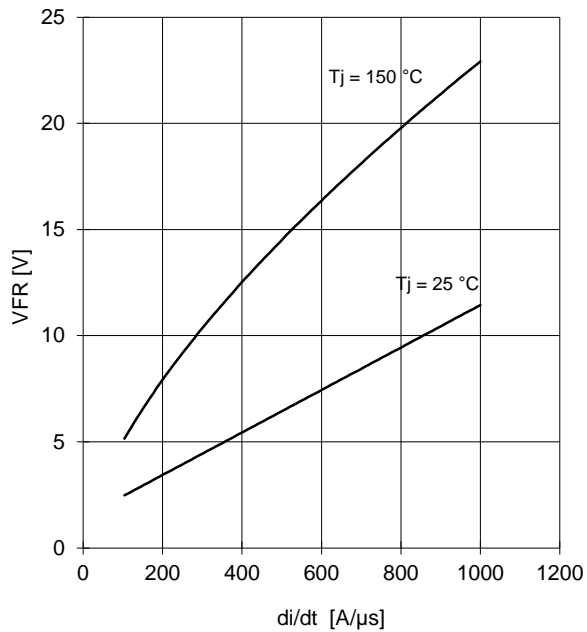
SQUARE WAVE (50Hz)



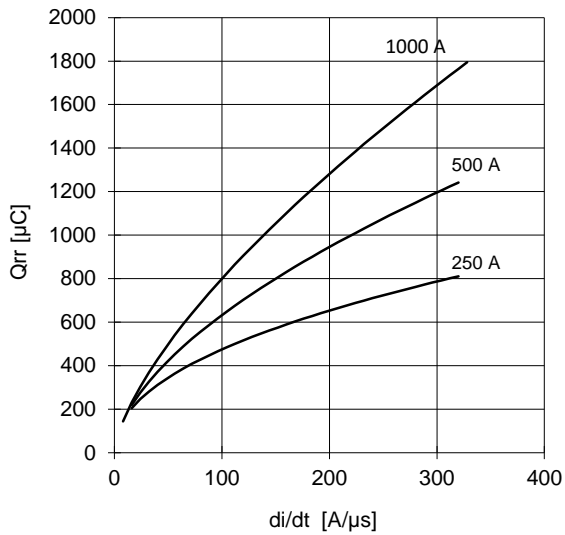
SINE WAVE (50Hz)



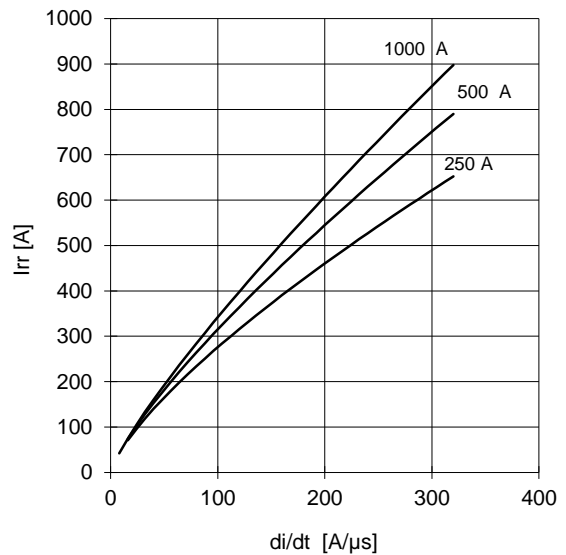
FORWARD RECOVERY VOLTAGE



REVERSE RECOVERY CHARGE Tj = 150 °C



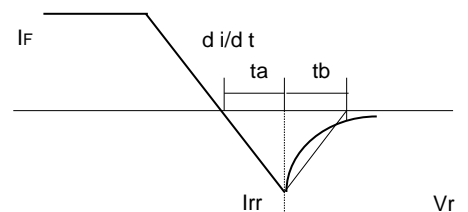
REVERSE RECOVERY CURRENT Tj = 150 °C



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

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

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

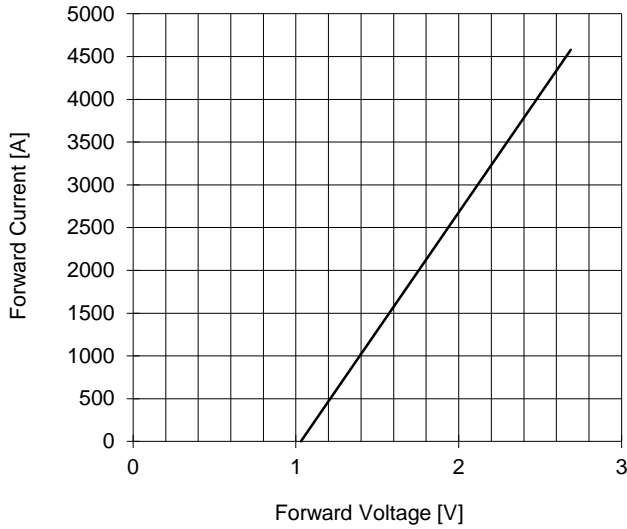


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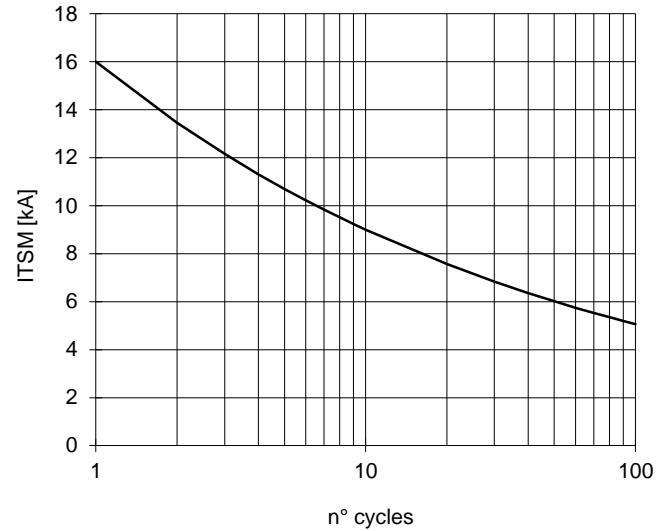


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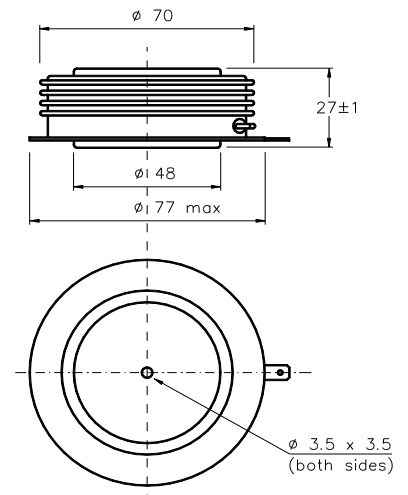
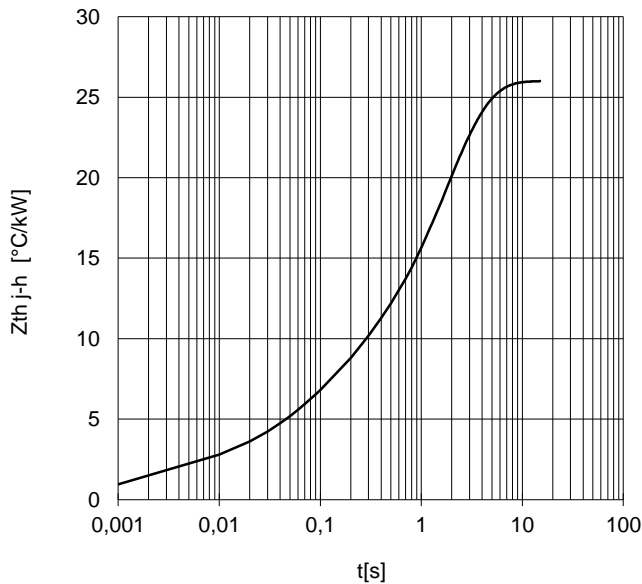
FORWARD CHARACTERISTIC
T_j = 150 °C



SURGE CHARACTERISTIC
T_j = 150 °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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