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FAST RECOVERY DIODE

ARF463

Repetitive voltage up to	**4500 V**
Mean forward current	**732 A**
Surge current	**10 kA**

FINAL SPECIFICATION

June 17 - Issue: 6

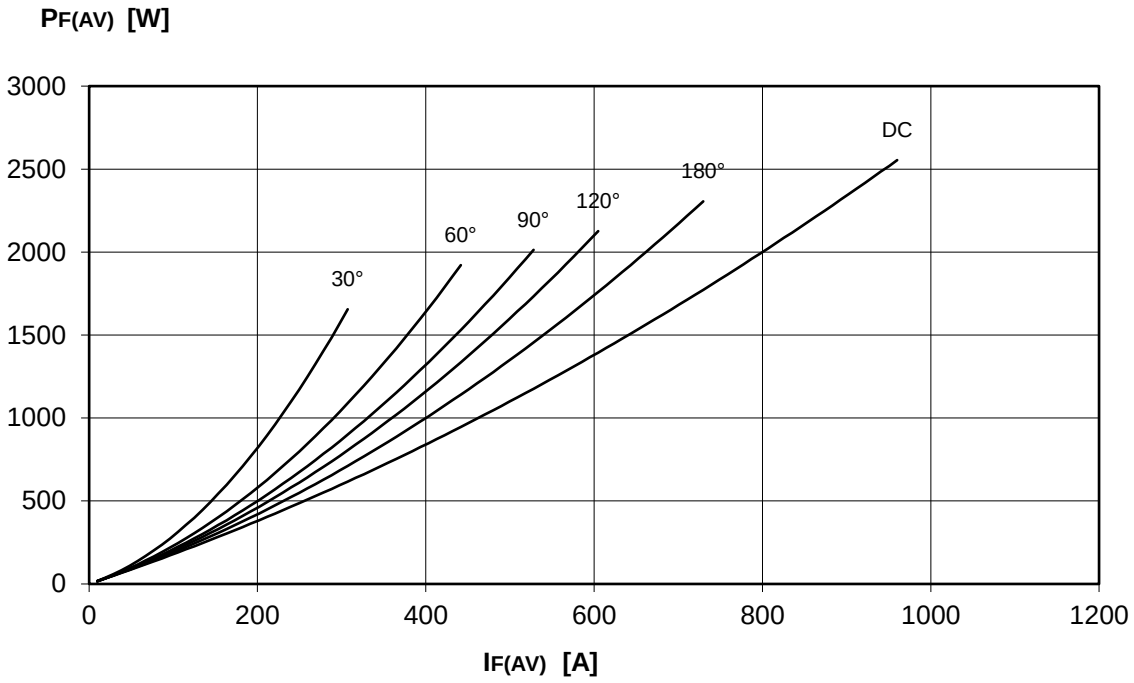
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		150	4500	V
V_{RSM}	Non-repetitive peak reverse voltage		150	4600	V
I_{RRM}	Repetitive peak reverse current	V=VRRM	150	50	mA
CONDUCTING					
$I_{F(AV)}$	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		732	A
$I_{F(AV)}$	Mean forward current	180°square, 50 Hz, Th=55°C, double side cooled		733	A
I_{FSM}	Surge forward current	Sine wave, 10 ms	150	10	kA
I^2t	I^2t	riappled reverse voltage up to 50% VRSM		500 x 10^3	A^2s
V_{FM}	Forward voltage	Forward current = 1800 A	25	2,50	V
$V_{F(TO)}$	Threshold voltage		150	1,70	V
r_F	Forward slope resistance		150	1,000	mohm
SWITCHING					
t_{rr}	Reverse recovery time	IF= 600A	150	5,2	µs
Q_{rr}	Reverse recovery charge	di/dt= 80 A/µs		650	µC
I_{rr}	Peak reverse recovery current	VR= 100V		250	A
s	Softness (s-factor), min			0,5	
V_{FR}	Peak forward recovery	di/dt = 400 A/µs		60	V
MOUNTING					
$R_{th(j-h)}$	Thermal impedance, DC	Junction to heatsink, double side cooled		37,0	°C/kW
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		7,0	°C/kW
T_j	Operating junction temperature			-30 / 150	°C
F	Mounting force			11.8 / 13.2	kN
	Mass			280	g

ORDERING INFORMATION : ARF463 S 45

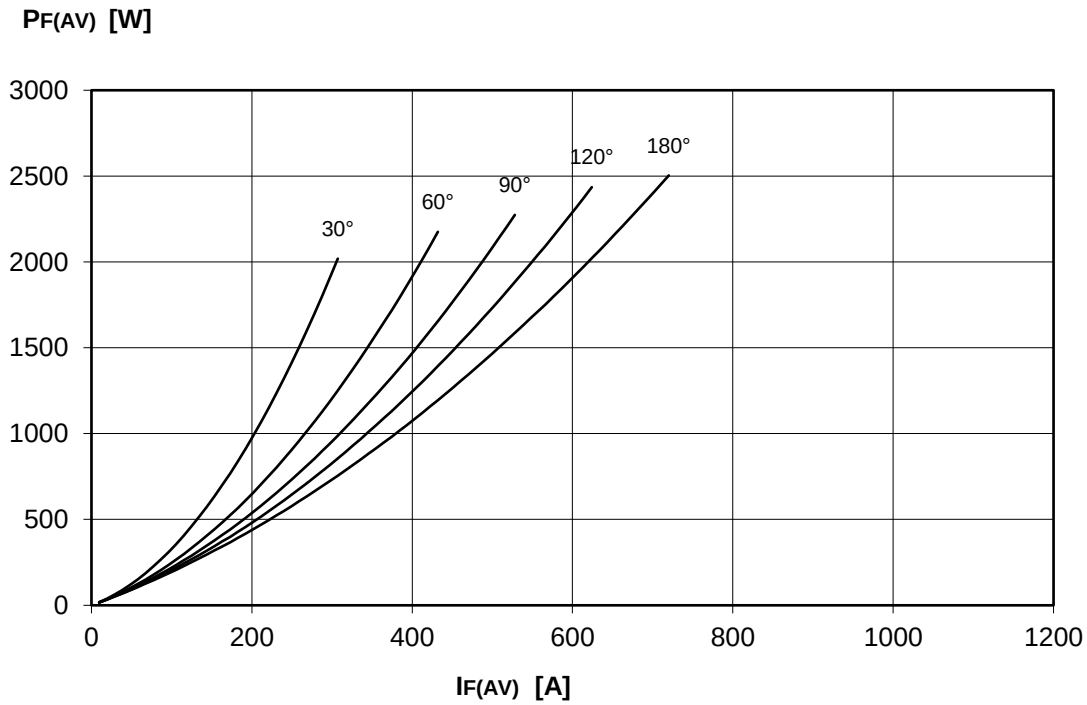
standard specification — VRRM/100

DISSIPATION CHARACTERISTICS

SQUARE WAVE (50Hz)



SINE WAVE (50Hz)



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POSEICO POWER ELECTRONICS

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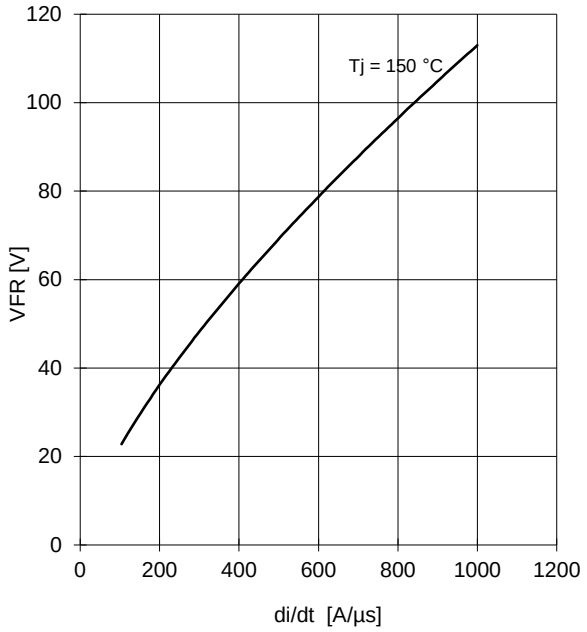
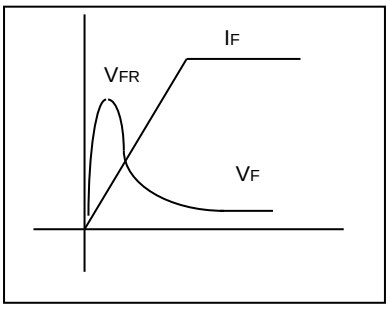
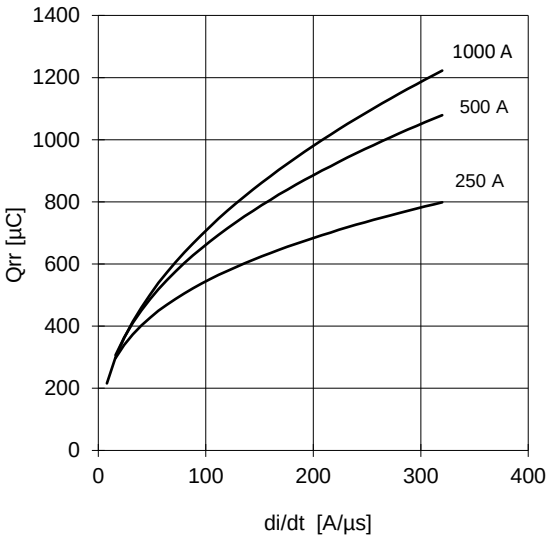
FORWARD RECOVERY VOLTAGE

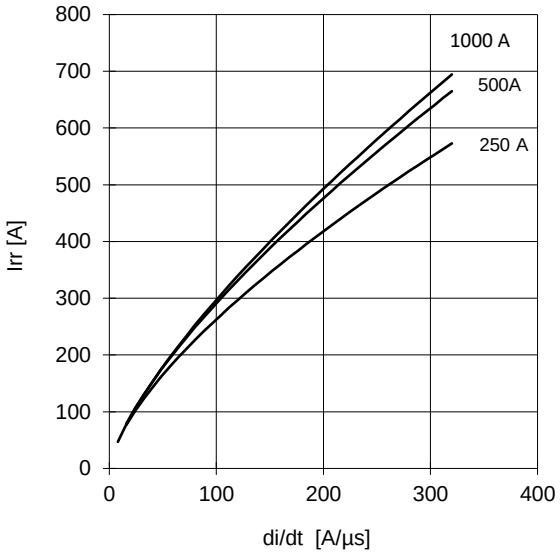




REVERSE RECOVERY CHARGE
Tj = 150 °C



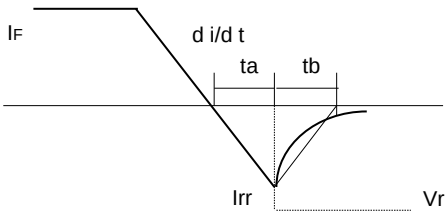
REVERSE RECOVERY CURRENT
Tj = 150 °C



ta = Irr / (di/dt) tb = trr - ta

Softness (s factor) s = tb / ta

Energy dissipation during recovery Er = Vr ·(Qrr - Irr ·ta / 2)



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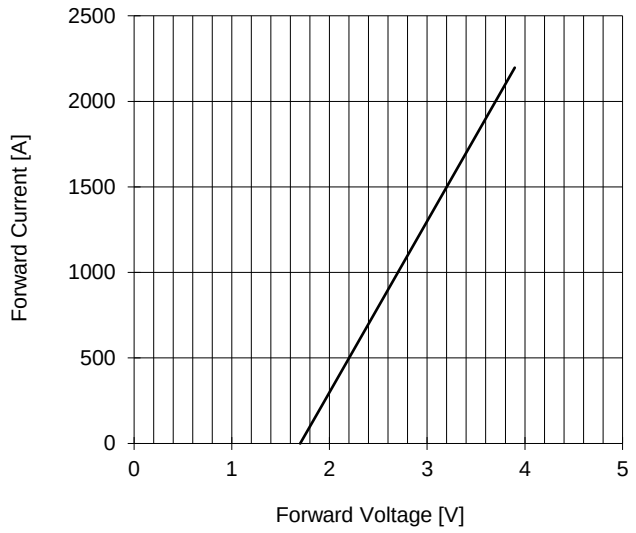
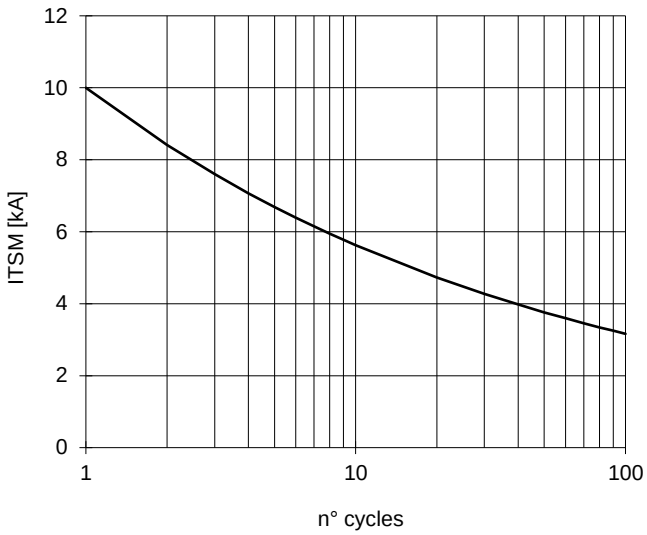
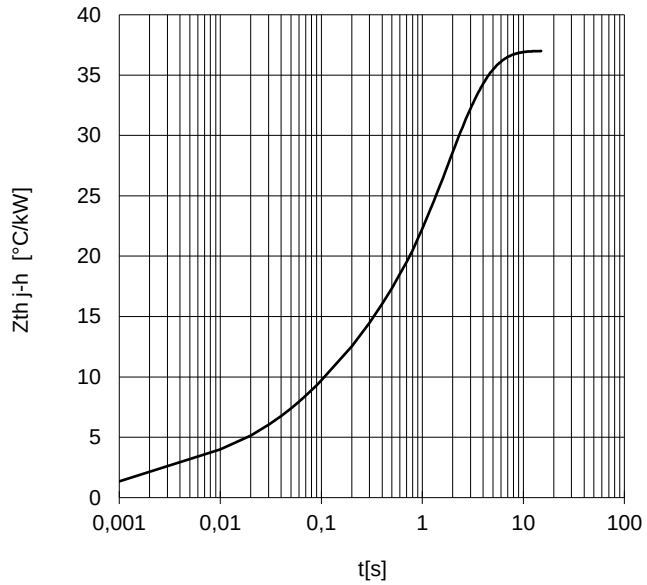
FORWARD CHARACTERISTIC
Tj = 150 °C

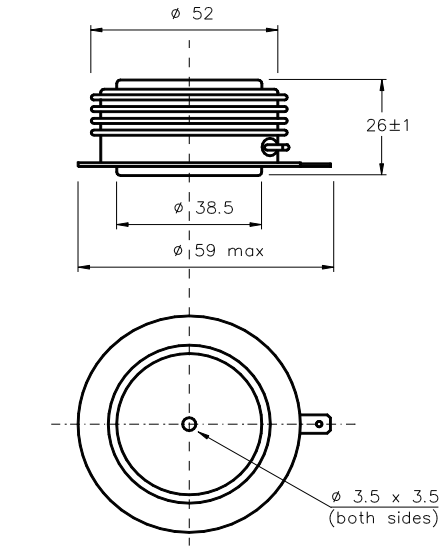


SURGE CHARACTERISTIC
Tj = 150 °C



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 (simbols over shaded background) and characteristics is reported.

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