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FAST RECOVERY DIODE

ARF220

Repetitive voltage up to	**1400 V**
Mean forward current	**444 A**
Surge current	**4,5 kA**

FINAL SPECIFICATION

May 17 - Issue: 4

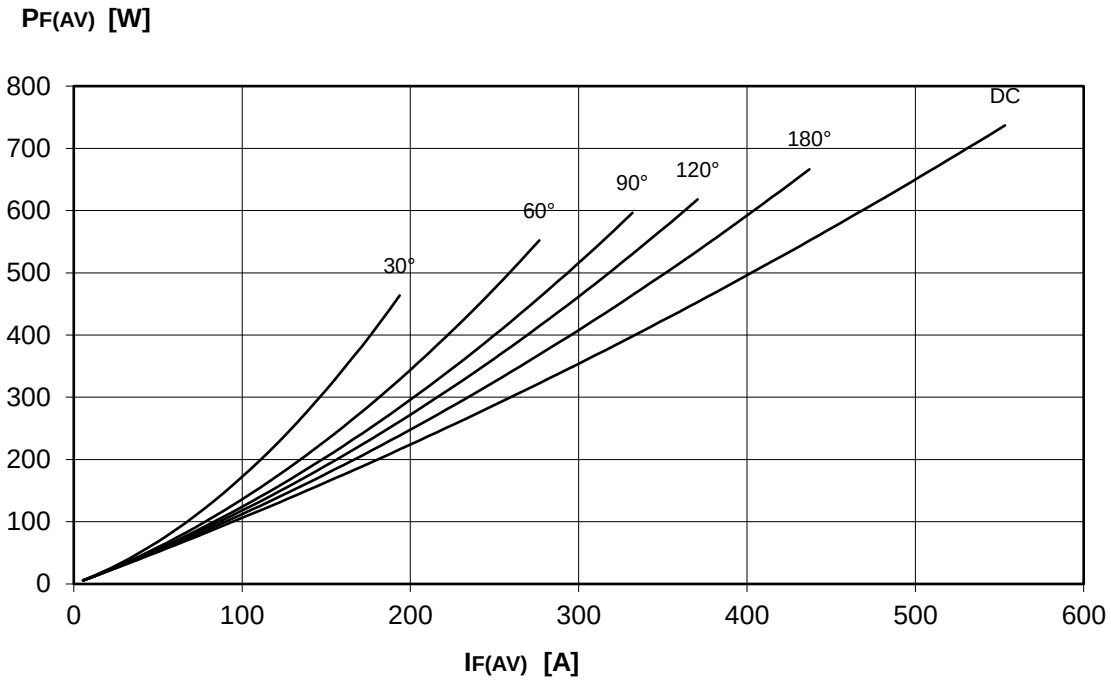
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	1400	V
V_{RSM}	Non-repetitive peak reverse voltage		125	1500	V
I_{RRM}	Repetitive peak reverse current	V=VRRM	125	50	mA
CONDUCTING					
$I_{F(AV)}$	Mean forward current	180° sin, 50 Hz, Th=55°C, double side cooled		444	A
$I_{F(AV)}$	Mean forward current	180°square, 50 Hz, Th=55°C, double side cooled		439	A
I_{FSM}	Surge forward current	Sine wave, 10 ms without reverse voltage	125	4,5	kA
I^2t	I^2t			101 x 10^3	A^2s
V_{FM}	Forward voltage	Forward current = 300 A	25	1,18	V
$V_{F(TO)}$	Threshold voltage		125	1,00	V
r_F	Forward slope resistance		125	0,600	mohm
SWITCHING					
t_{rr}	Reverse recovery time	IF= 200A	125	2,5	µs
Q_{rr}	Reverse recovery charge	di/dt= 40 A/µs		80	µC
I_{rr}	Peak reverse recovery current	VR= 50V		70	A
s	Softness (s-factor), min			0,4	
V_{FR}	Peak forward recovery	di/dt = 400 A/µs	125	15	V
MOUNTING					
$R_{th(j-h)}$	Thermal impedance, DC	Junction to heatsink, double side cooled		95,0	°C/kW
$R_{th(c-h)}$	Thermal impedance	Case to heatsink, double side cooled		20,0	°C/kW
T_j	Operating junction temperature			-30 / 125	°C
F	Mounting force			4.5 / 5.0	kN
	Mass			55	g

ORDERING INFORMATION : ARF220 S 14

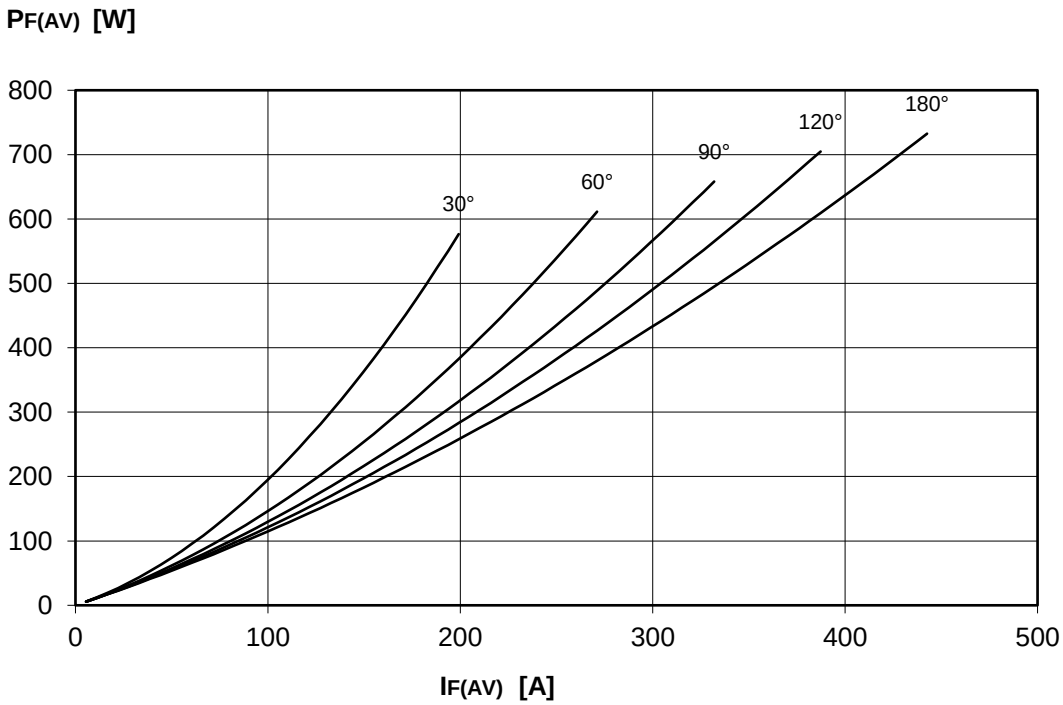
standard specification — VRRM/100

DISSIPATION CHARACTERISTICS

SQUARE WAVE (50Hz)



SINE WAVE (50Hz)

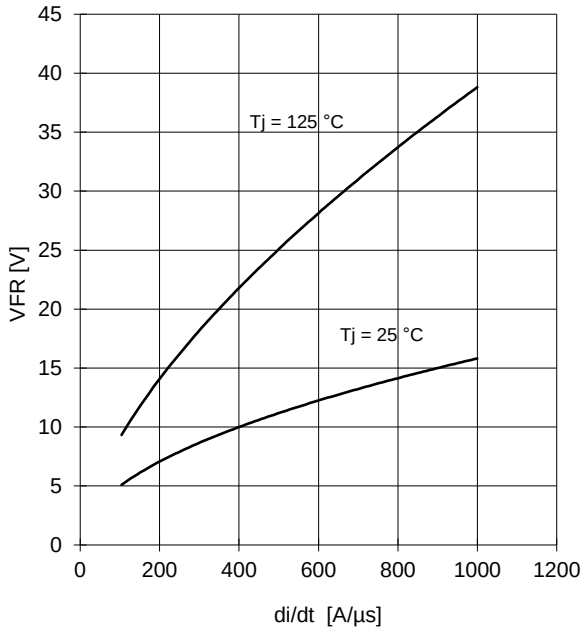


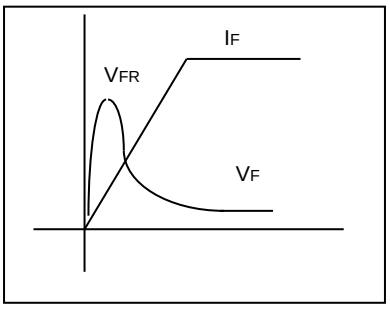
ARF220 FAST RECOVERY DIODE

POSEICO POWER ELECTRONICS

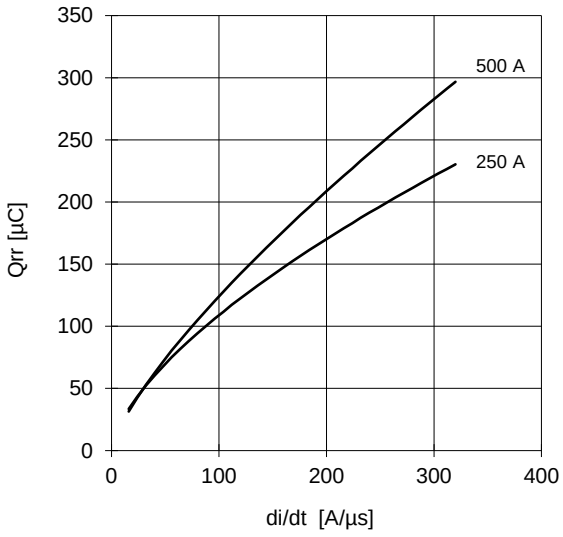
FINAL SPECIFICATION May 17 - Issue: 4

FORWARD RECOVERY VOLTAGE

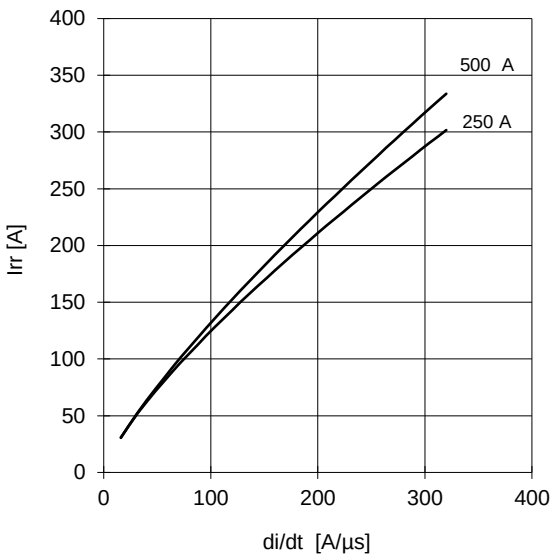




REVERSE RECOVERY CHARGE
Tj = 125 °C



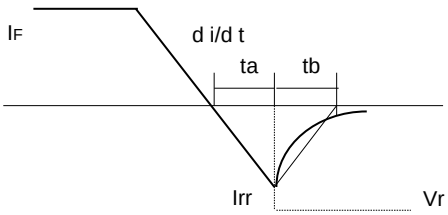
REVERSE RECOVERY CURRENT
Tj = 125 °C



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

Softness (s factor) s = tb / ta

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



ARF220 FAST RECOVERY DIODE

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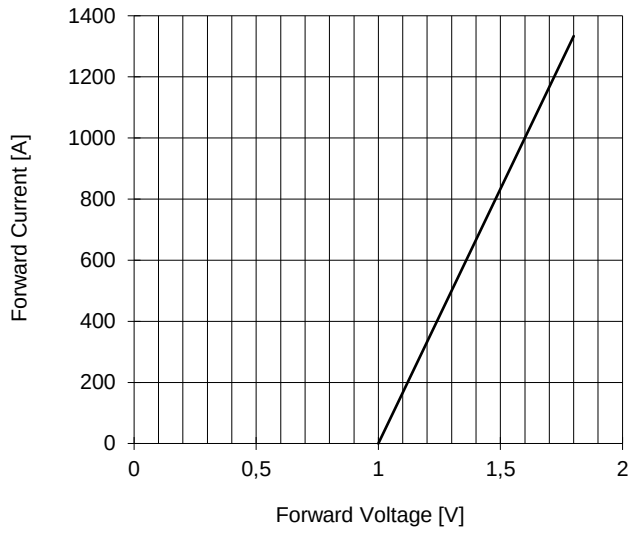
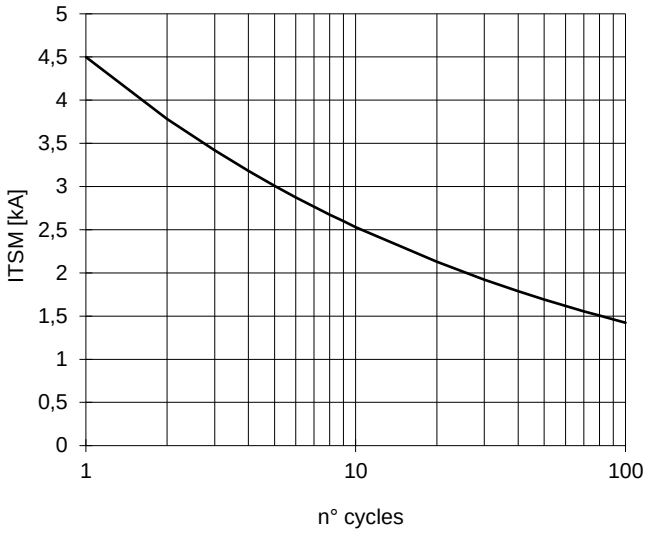
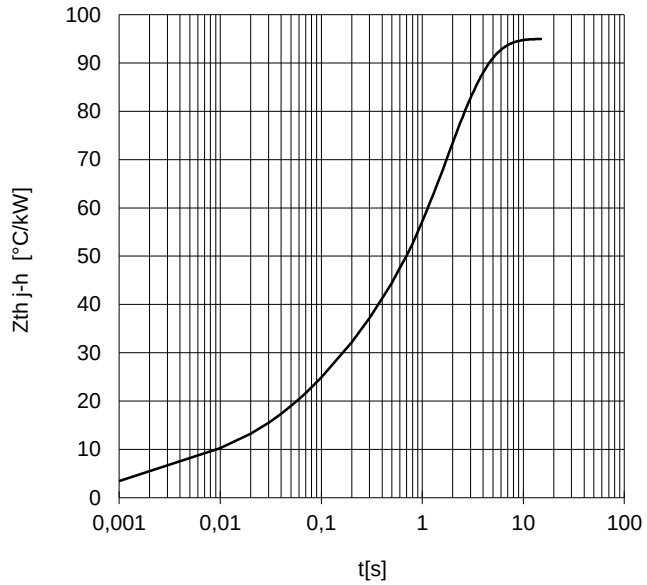
FORWARD CHARACTERISTIC
Tj = 125 °C

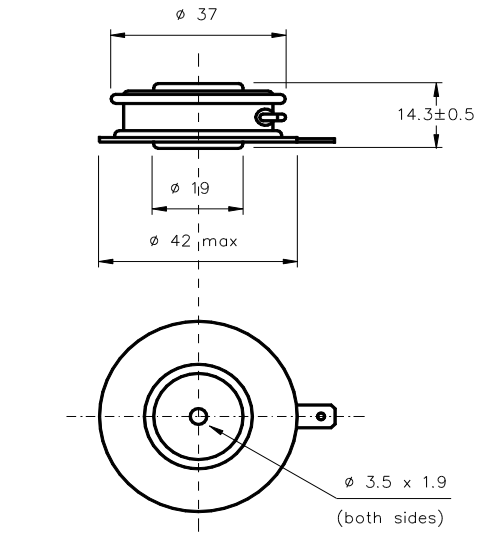


SURGE CHARACTERISTIC
Tj = 125 °C



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 (simbols over shaded background) and characteristics is reported.

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