POSEICO
POSEICO SPA
POwer SEmiconductors Italian COrporation

POSEICO SPA
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FAST RECOVERY DIODE

ARF370

Repetitive voltage up to **4500 V**
Mean forward current **485 A**
Surge current **4 kA**

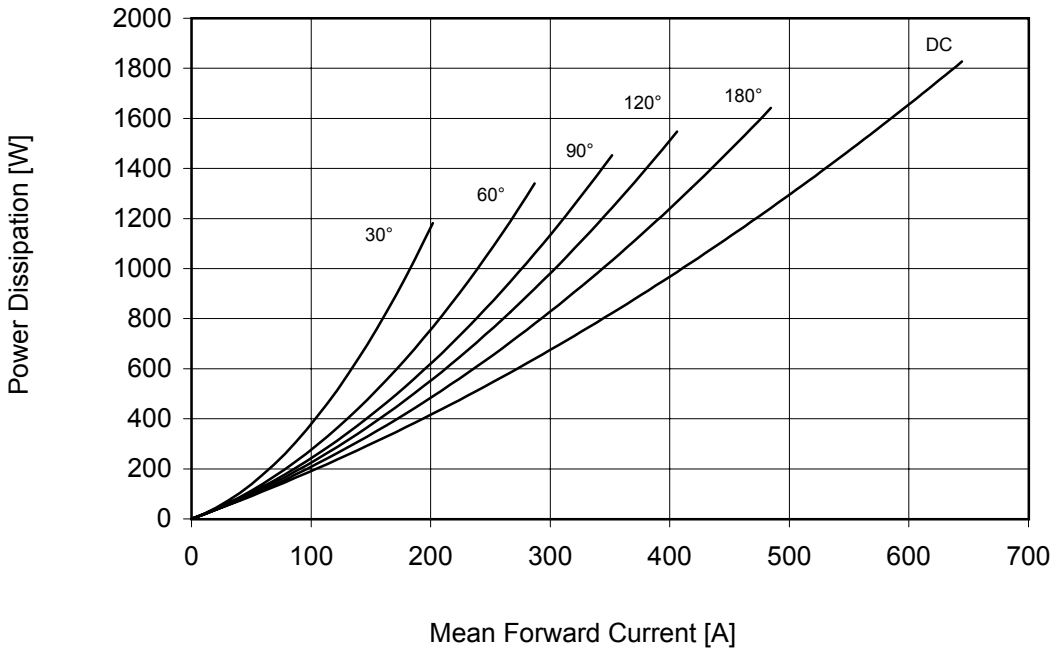
FINAL SPECIFICATION
feb 97 - ISSUE : 04

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		485	A
$I_{F(AV)}$	Mean forward current	180° square,50 Hz,Th=55°C,double side cooled		490	A
I_{FSM}	Surge forward current	Sine wave, 10 ms reapplied reverse voltage up to 50% VRSM	150	4	kA
I^2t	I^2t			80 x1E3	A^2s
V_{FM}	Forward voltage	Forward current = 1200 A	25	3.4	V
$V_{F(TO)}$	Threshold voltage		150	1.74	V
r_F	Forward slope resistance		150	1.700	mohm
SWITCHING					
t_{rr}	Reverse recovery time	I F = 1000 A di/dt= 100 A/µs VR = 100 V	150	5	µs
Q_{rr}	Reverse recovery charge			700	µC
I_{rr}	Peak reverse recovery current			280	A
s	Softness (s-factor), min			0.5	
V_{FR}	Peak forward recovery	di/dt= 400 A/µs	150	80	V
MOUNTING					
$R_{th(j-h)}$	Thermal impedance	Junction to heatsink, double side cooled		52	°C/kW
T_j	Operating junction temperature			-30 / 150	°C
F	Mounting force			8.4 / 9.4	kN
	Mass			280	g

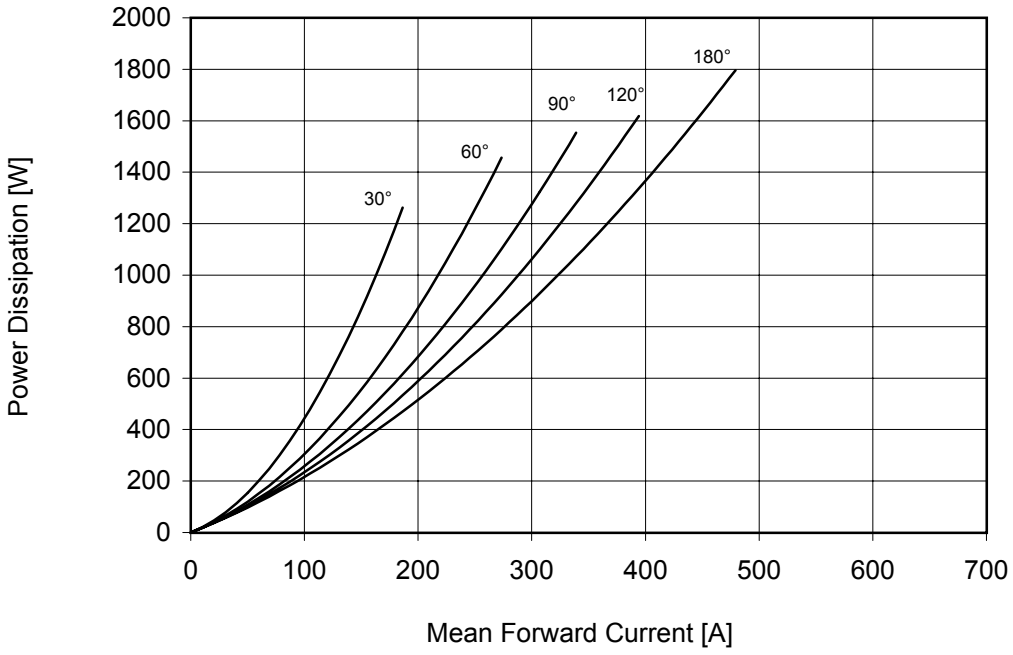
ORDERING INFORMATION : ARF370 S 45
standard specification — VRRM/100

DISSIPATION CHARACTERISTICS

SQUARE WAVE



SINE WAVE



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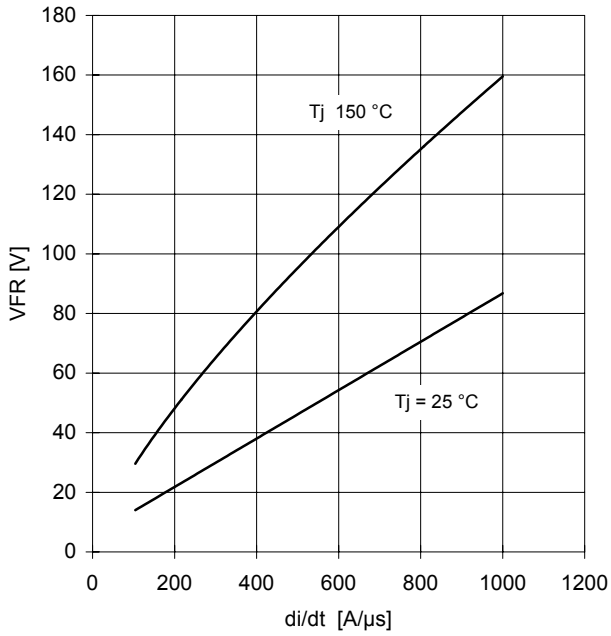
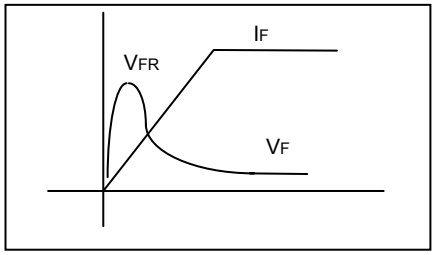
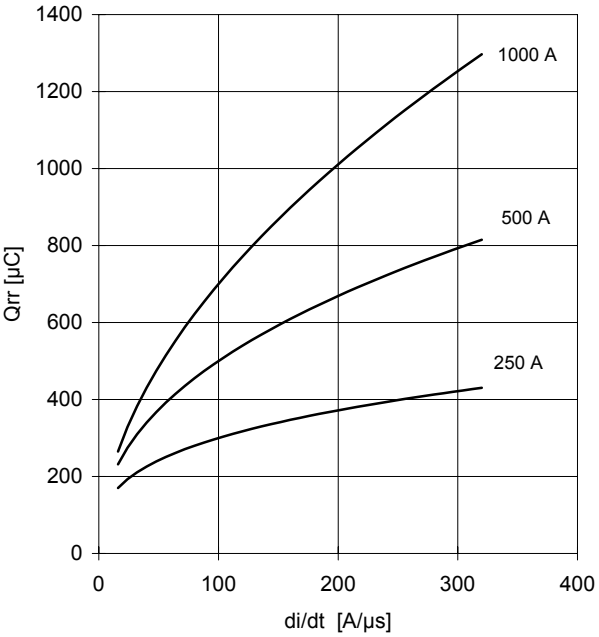
SWITCHING CHARACTERISTICS

FORWARD RECOVERY VOLTAGE

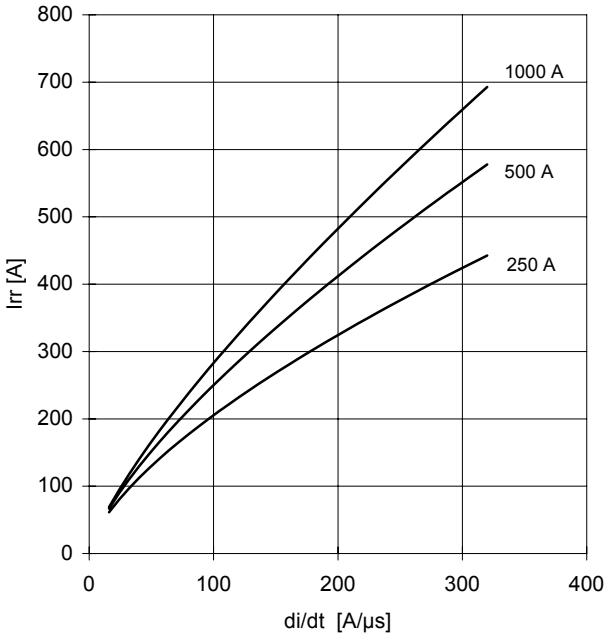




REVERSE RECOVERY CHARGE - Tj = 150°



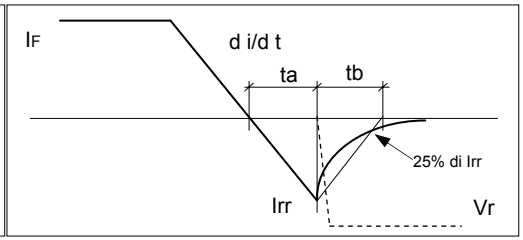
REVERSE RECOVERY CURRENT - Tj = 150°



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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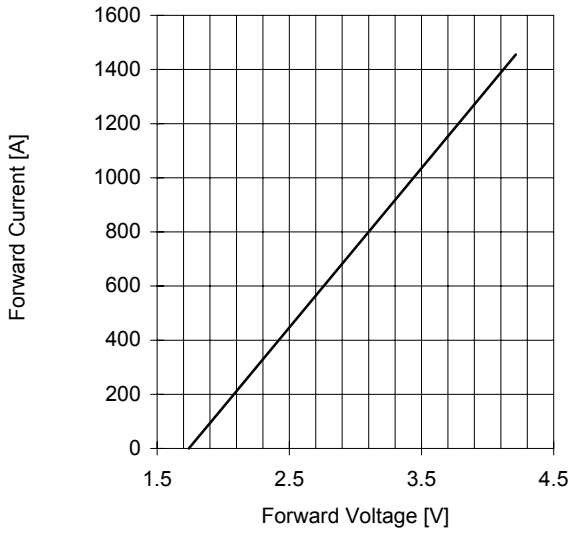
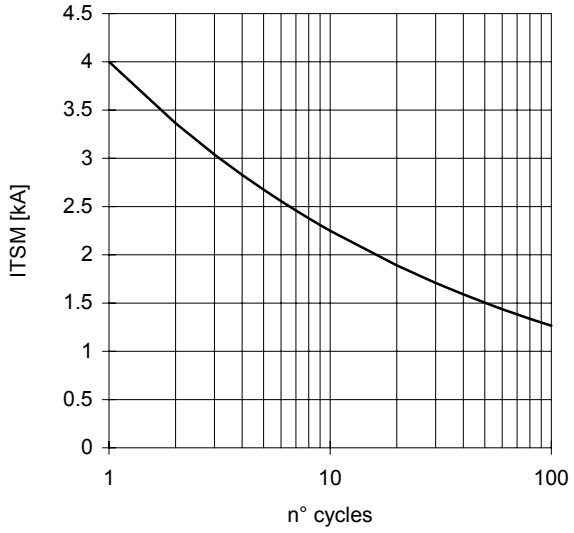
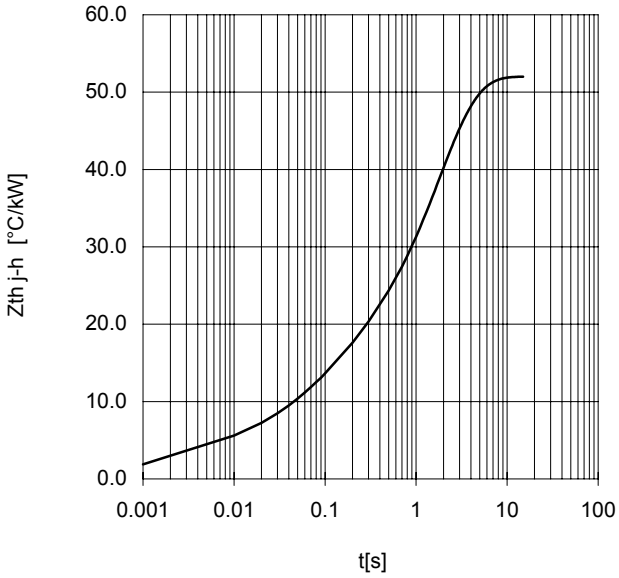
FORWARD CHARACTERISTIC
Tj = 150 °C

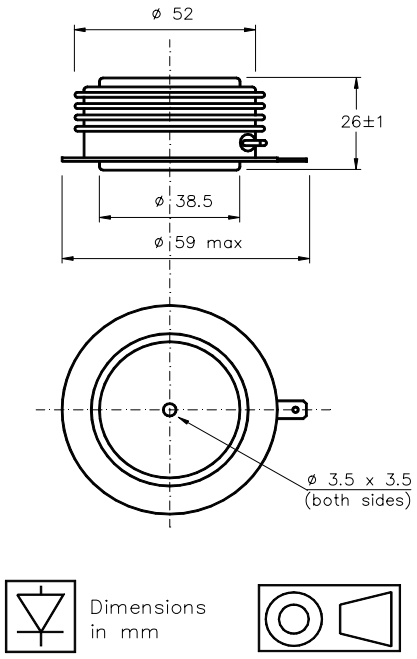


SURGE CHARACTERISTIC
Tj = 150 °C



TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLED





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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