POSEICO
POSEICO SPA
POwer SEmiconductors Italian COrporation

POSEICO SPA
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FAST RECOVERY DIODE

ARF674

Repetitive voltage up to **4500 V**
Mean forward current **945 A**
Surge current **15 kA**

FINAL SPECIFICATION
feb 97 - ISSUE : 03

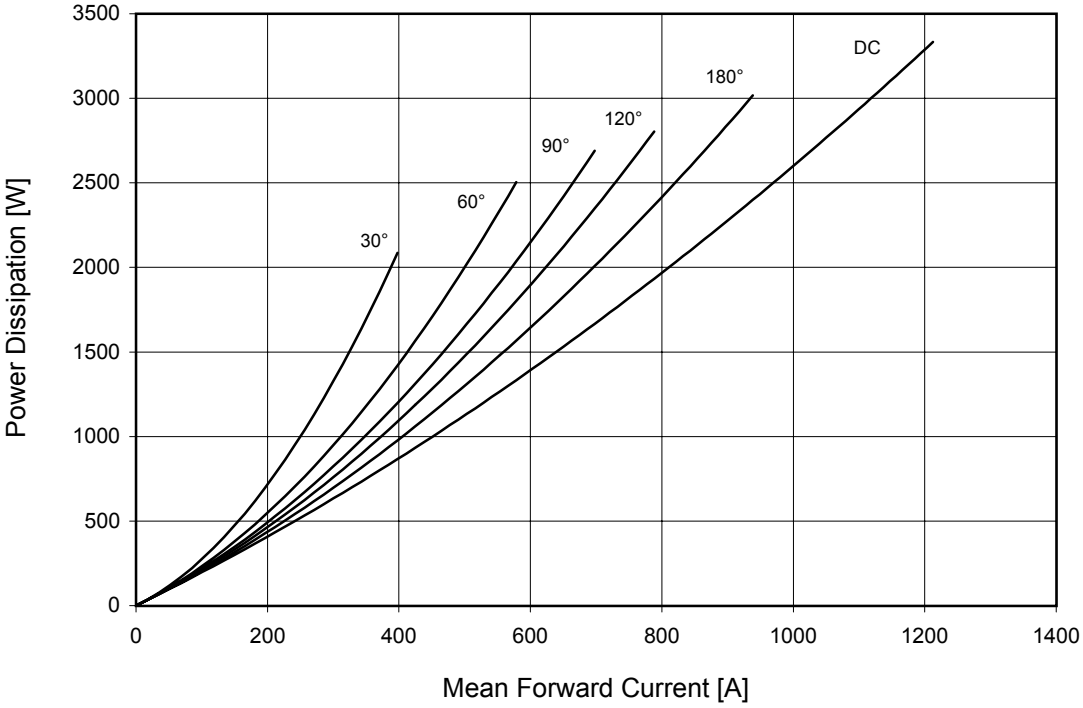
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V_{RRM}	Repetitive peak reverse voltage		125	4500	V
V_{RSM}	Non-repetitive peak reverse voltage		125	4600	V
I_{RRM}	Repetitive peak reverse current	V=VRRM	125	80	mA
CONDUCTING					
$I_{F(AV)}$	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		945	A
$I_{F(AV)}$	Mean forward current	180° square,50 Hz,Th=55°C,double side cooled		940	A
I_{FSM}	Surge forward current	Sine wave, 10 ms reapplied reverse voltage up to 50% VRSM	125	15	kA
I^2t	I^2t			1125 x1E3	A^2s
V_{FM}	Forward voltage	Forward current = 1570 A	25	3	V
$V_{F(TO)}$	Threshold voltage		125	1.90	V
r_F	Forward slope resistance		125	0.700	mohm
SWITCHING					
t_{rr}	Reverse recovery time	I F = 500 A di/dt= 30 A/µs VR = 100 V	125	8	µs
Q_{rr}	Reverse recovery charge			600	µC
I_{rr}	Peak reverse recovery current			150	A
s	Softness (s-factor), min			0.4	
V_{FR}	Peak forward recovery	di/dt= 400 A/µs		42	V
MOUNTING					
$R_{th(j-h)}$	Thermal impedance	Junction to heatsink, double side cooled		21	°C/kW
T_j	Operating junction temperature			-30 / 125	°C
F	Mounting force			22.0 / 24.5	kN
	Mass			520	g

ORDERING INFORMATION : ARF674 S 45

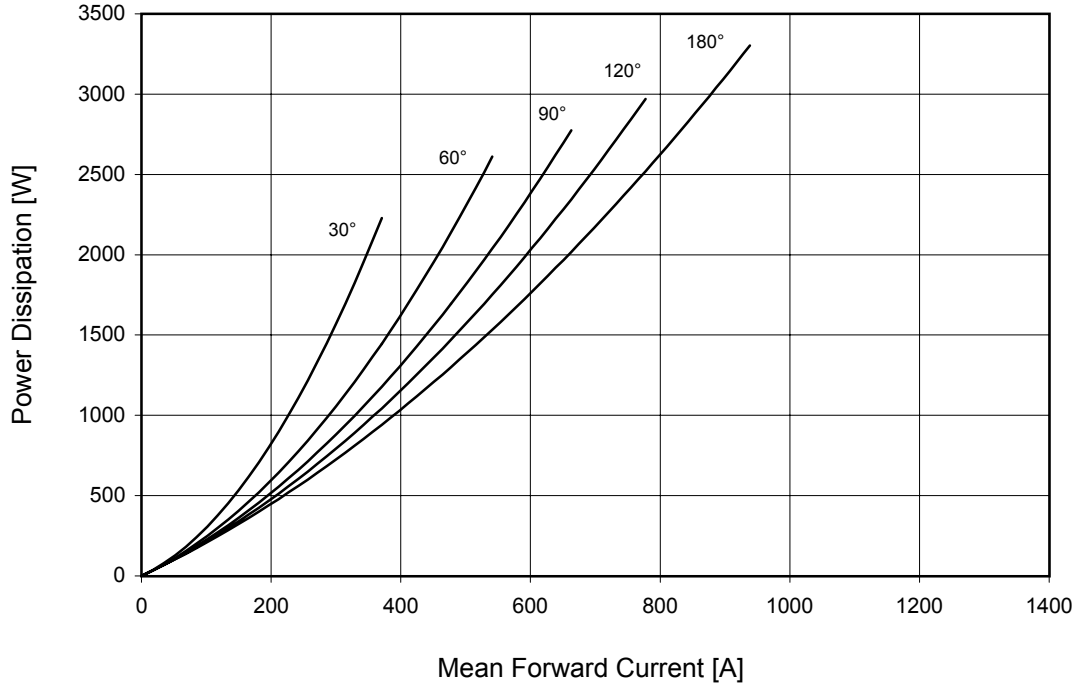
standard specification — VRRM/100

DISSIPATION CHARACTERISTICS

SQUARE WAVE



SINE WAVE



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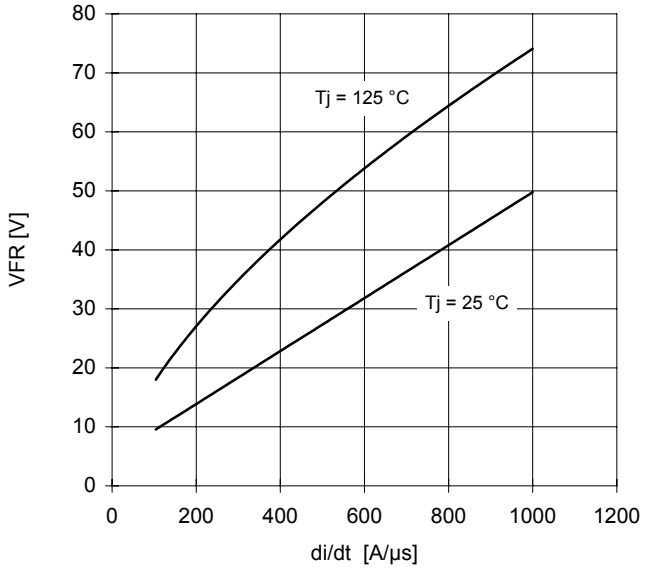
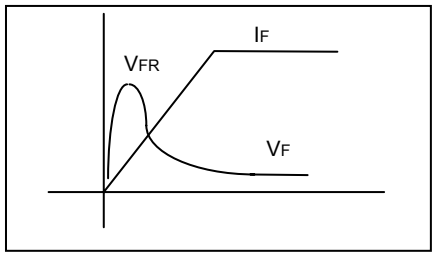
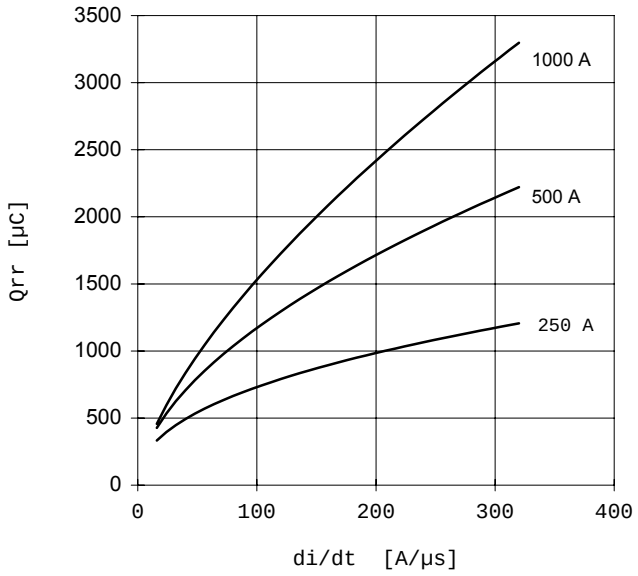
SWITCHING CHARACTERISTICS

FORWARD RECOVERY VOLTAGE

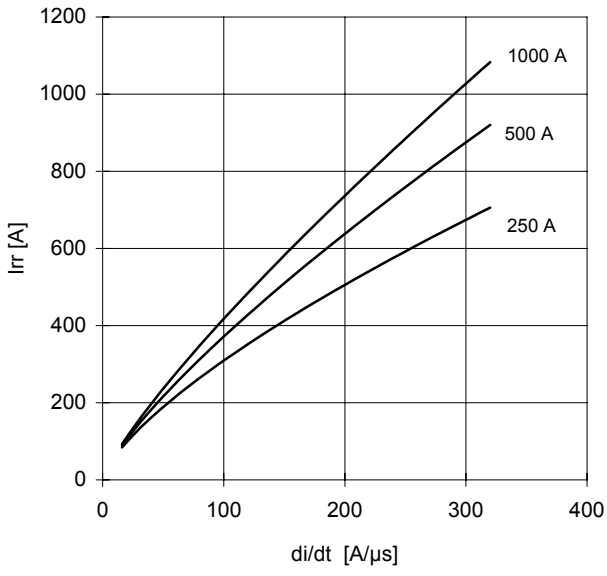




REVERSE RECOVERY CHARGE
Tj = 125 °C



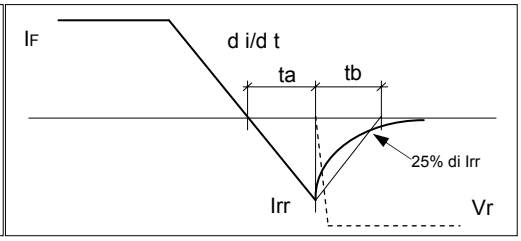
REVERSE RECOVERY CURRENT
Tj = 125 °C



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

Softness (s factor) s = tb / ta

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



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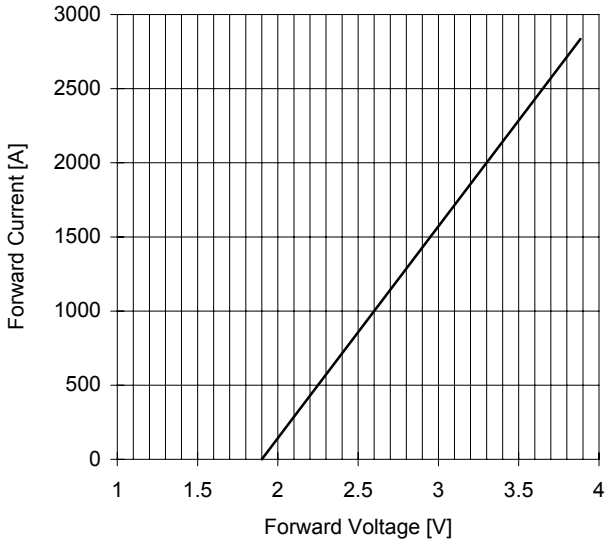
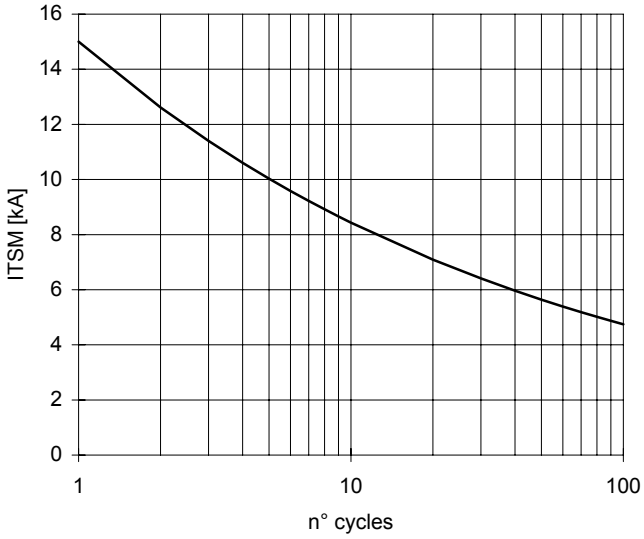
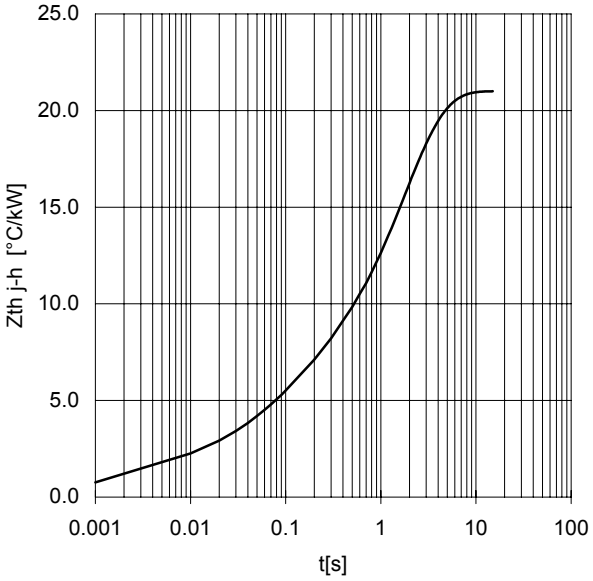
FORWARD CHARACTERISTIC
Tj = 125 °C

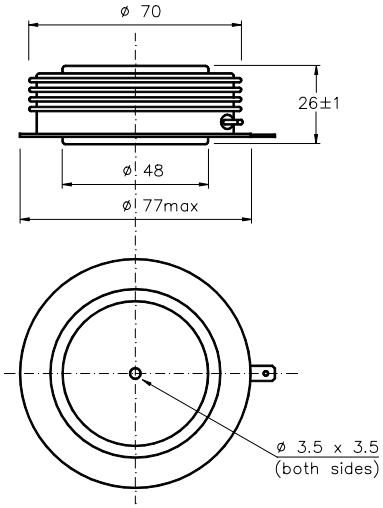


SURGE CHARACTERISTIC
Tj = 125 °C



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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