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Tx 270318 ANSUSE I -**FAST RECOVERY DIODE****ARF744**

Repetitive voltage up to

2500 V

Mean forward current

3725 A

Surge current

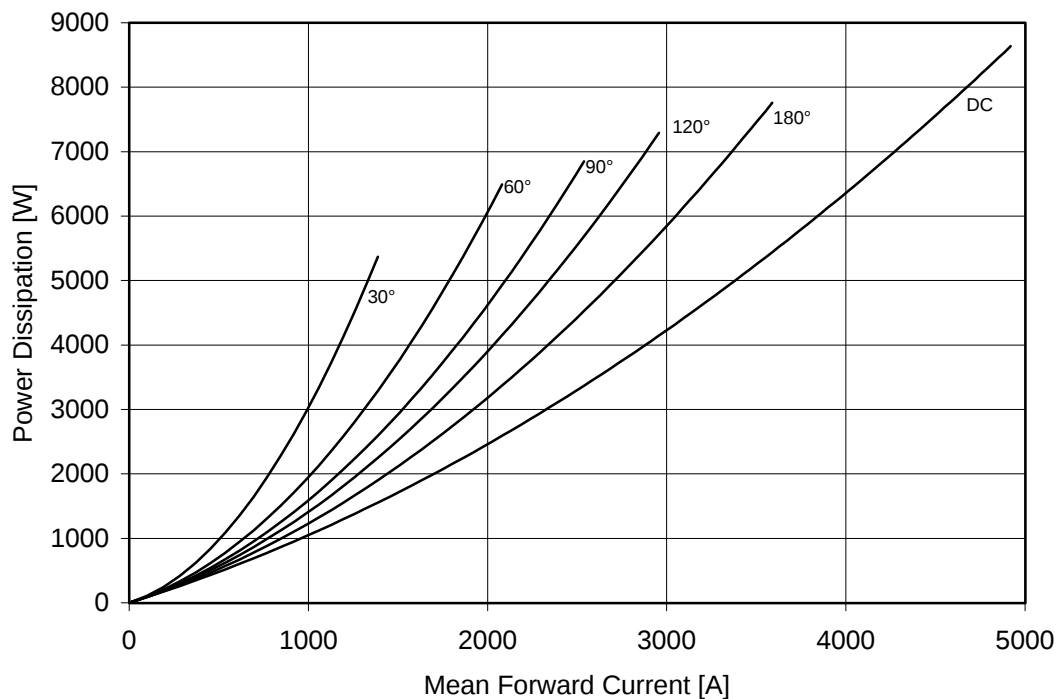
48 kA**FINAL SPECIFICATION**

apr 97 - ISSUE : 02

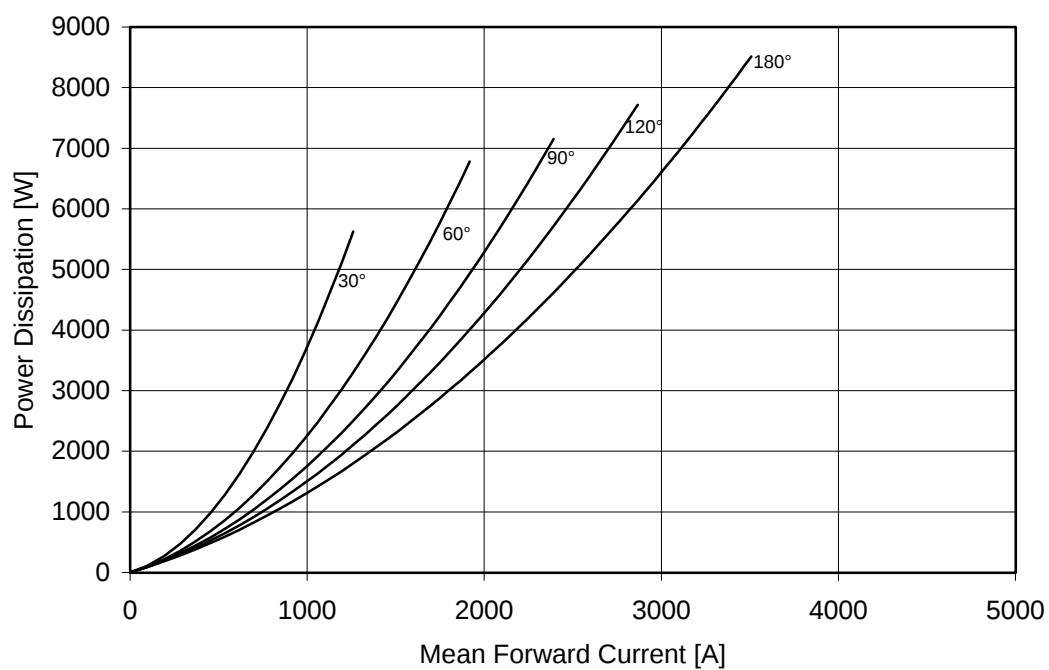
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		150	2500	V
V _{RSM}	Non-repetitive peak reverse voltage		150	2600	V
I _{RRM}	Repetitive peak reverse current	V=V _{RRM}	150	150	mA
CONDUCTING					
I _{F(AV)}	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		3725	A
I _{F(AV)}	Mean forward current	180° square,50 Hz,Th=55°C,double side cooled		3800	A
I _{FSM}	Surge forward current	Sine wave, 10 ms	150	48	kA
I ² t	I ² t	reapplied reverse voltage up to 50% VRSM		11520 x1E3	A ² s
V _{FM}	Forward voltage	Forward current 2000 A	25	1.35	V
V _{F(TO)}	Threshold voltage		150	0.85	V
r _F	Forward slope resistance		150	0.160	mohm
SWITCHING					
t _{rr}	Reverse recovery time	I _F = 1000 A di/dt= 60 A/μs VR = 50 V	150	5	μs
Q _{rr}	Reverse recovery charge			500	μC
I _{rr}	Peak reverse recovery current			200	A
s	Softness (s-factor), min			0.5	
V _{FR}	Peak forward recovery	di/dt= 400 A/μs	150	10	V
MOUNTING					
R _{th(j-h)}	Thermal impedance	Junction to heatsink, double side cooled		11	°C/kW
T _j	Operating junction temperature			-30 / 150	°C
F	Mounting force			46.0 / 54.0	kN
	Mass			1700	g
ORDERING INFORMATION : ARF744 S 25					
standard specification ☐ ☐ VRRM/100					

DISSIPATION CHARACTERISTICS

SQUARE WAVE

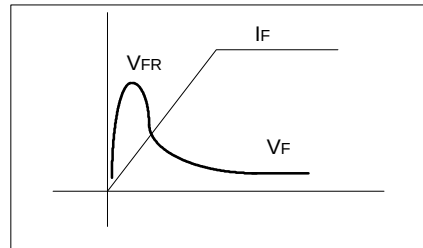
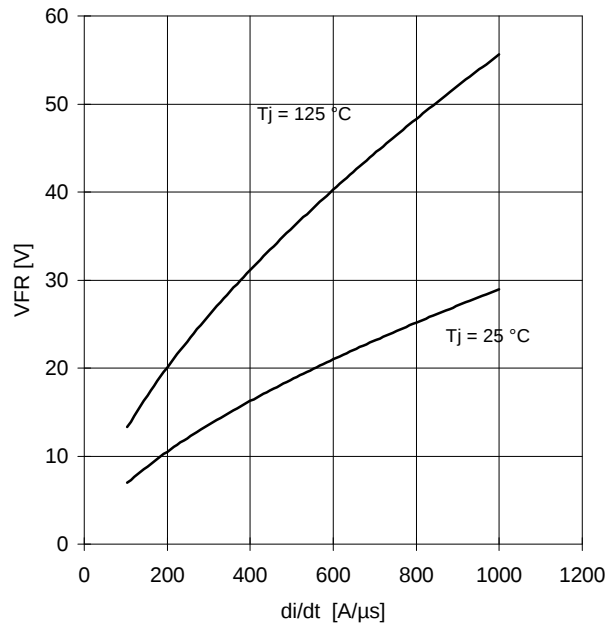


SINE WAVE

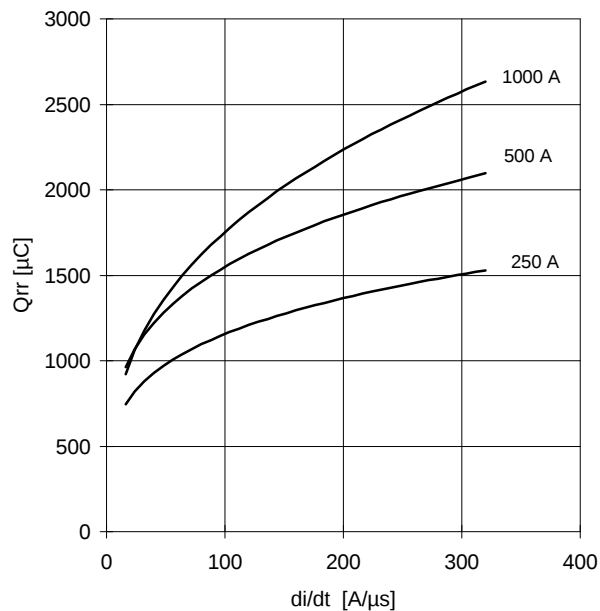


SWITCHING CHARACTERISTICS

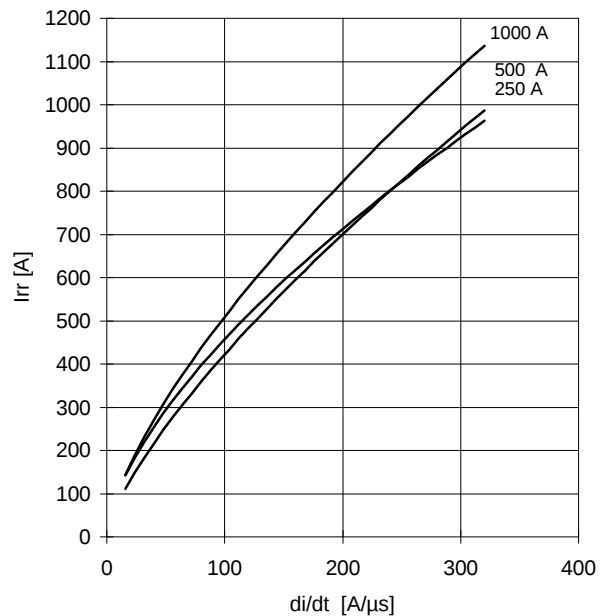
FORWARD RECOVERY VOLTAGE



REVERSE RECOVERY CHARGE $T_j = 125\text{ }^{\circ}\text{C}$



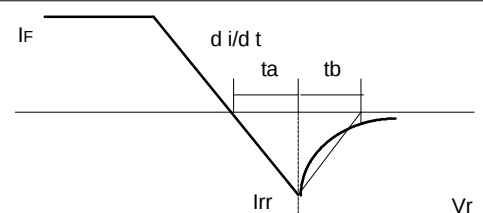
REVERSE RECOVERY CURRENT $T_j = 125\text{ }^{\circ}\text{C}$

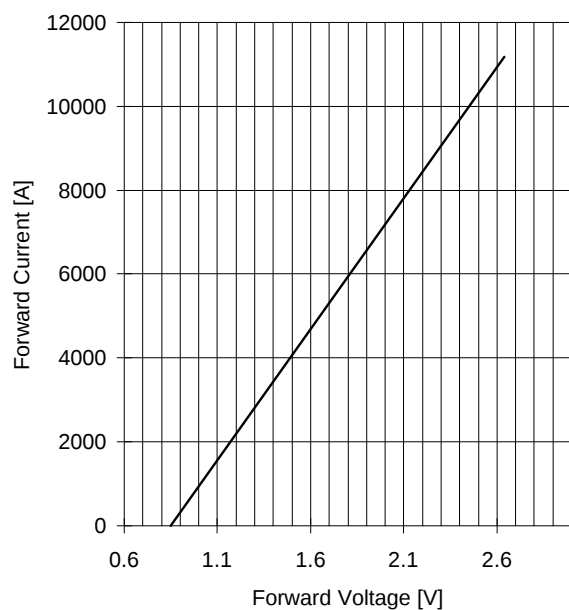
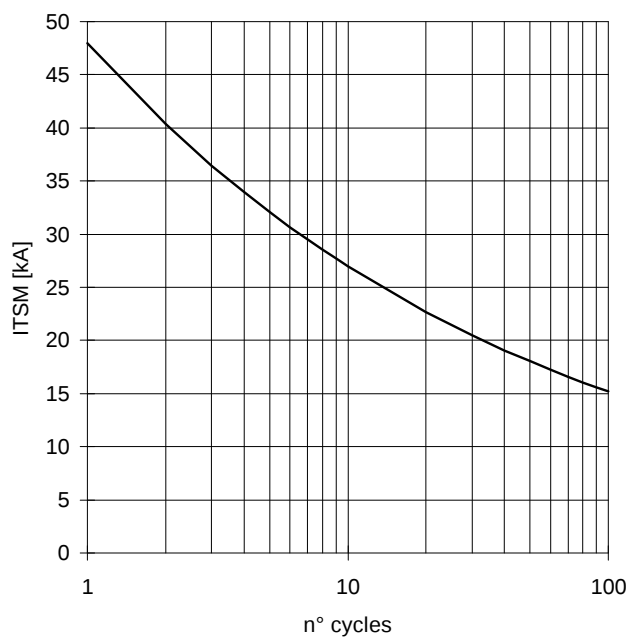
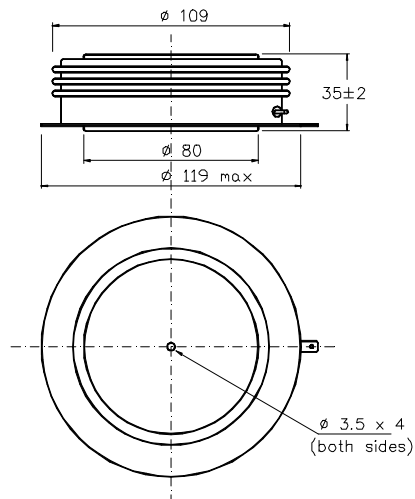
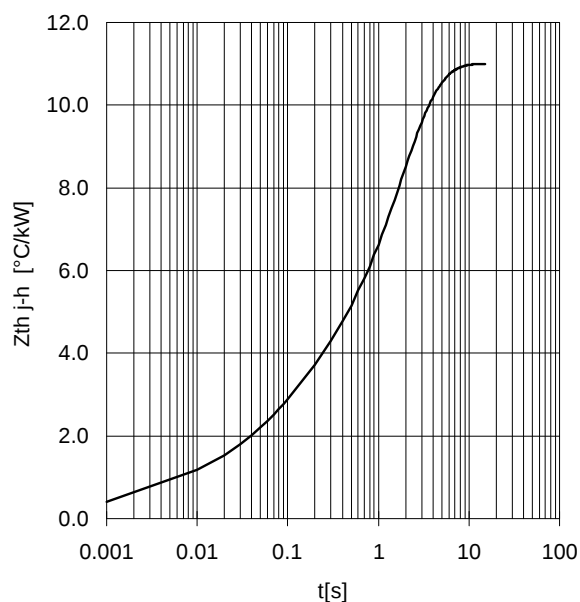


$$t_a = I_{rr} / (di/dt) \quad t_b = t_{rr} - t_a$$

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

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



FORWARD CHARACTERISTIC
 $T_j = 150^\circ\text{C}$ SURGE CHARACTERISTIC
 $T_j = 150^\circ\text{C}$ TRANSIENT THERMAL IMPEDANCE
DOUBLE SIDE COOLEDDimensions
in mm

All the characteristics given in this data sheet are guaranteed only with uniform clamping force, cleaned and lubricated heatsink, surfaces with flatness $< .03\text{ mm}$ and roughness $< 2\text{ }\mu\text{m}$.

In the interest of product improvement ANSALDO 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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