

**FAST RECOVERY DIODE  
INSULATED MODULE**

**AFF300A**

Repetitive voltage up to **2600 V**  
Mean on-state current **252 A**  
Surge current **5 kA**

- \*Full ermetic packaging
- \*Industrial compatible packaging
- \*Insulation using Aln substrate
- \*6kVrms insulation voltage available on request
- \*Contact screws available on request

**FINAL SPECIFICATION**

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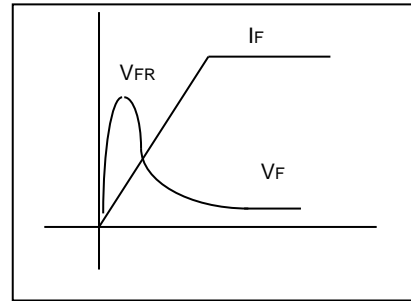
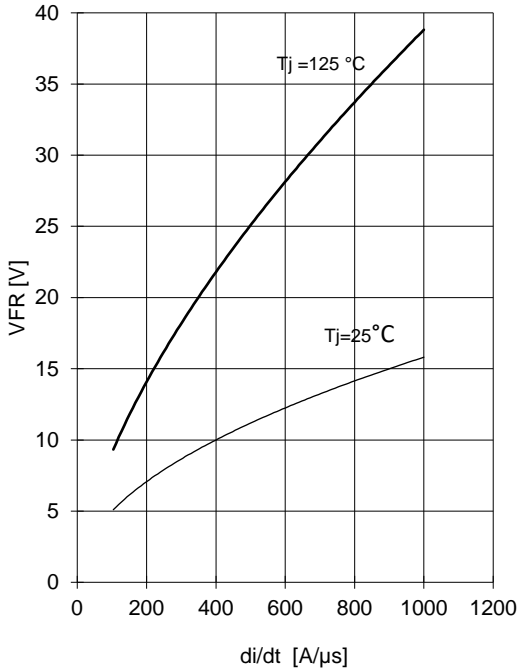
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	2600	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		125	2700	V
I <sub>RRM</sub>	Repetitive peak reverse current		125	50	mA
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean on-state current	180° sin, 50Hz, Tc=70°C		251,7	A
I <sub>F(AV)</sub>	Mean on-state current	180° sin. 50Hz, Tc=55°C		296,6	A
I <sub>FSM</sub>	Surge on-state current	sine wave, 10 ms	125	5,0	kA
I <sup>2</sup> t	I <sup>2</sup> t	without reverse voltage		125 x1E3	A <sup>2</sup> s
V <sub>F</sub>	On-state voltage	On-state current = 600 A	125	2,05	V
V <sub>F(TO)</sub>	Threshold voltage		125	1,15	V
r <sub>F</sub>	On-state slope resistance		125	1,500	mohm
Q <sub>rr</sub>	Reverse recovery charge	I <sub>F</sub> = 200 A	125	120	μC
I <sub>rr</sub>	Peak reverse recovery current	di/dt= 100 A/μs	125	140	A
t <sub>rr</sub>	Reverse recovery time	VR = 50 V	125		μs
<b>MOUNTING</b>					
R <sub>th(j-c)</sub>	Thermal impedance	Junction to case, per element		105	°C/kW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, per element		20	°C/kW
T <sub>j</sub>	Operating junction temperature			-30 / 125	°C
V <sub>ins</sub>	RMS insulation voltage	50Hz, circuit to base,all terminal shorted	25	4500	V
T	Mounting tourque	Case to heatsink		4 to 6	Nm
		Busbars to terminals		12 to 18	Nm
	Mass			1500	g

ORDERING INFORMATION : AFF300A S 26  
standard specification  VRRM/100

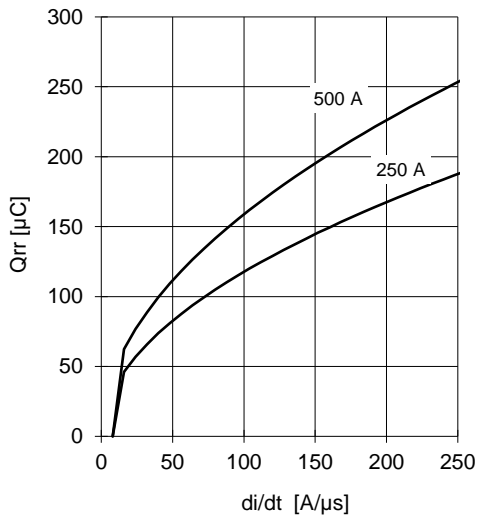
(\*) 6000V available on request.  
Add HVI to the desired code in  
phase of order, i.e. AFF230HVIS26

**SWITCHING CHARACTERISTICS**

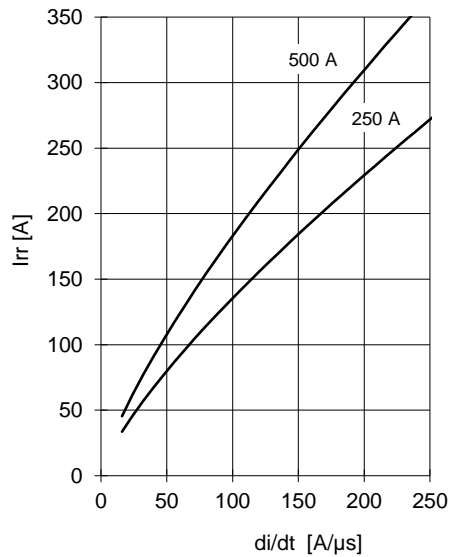
**FORWARD RECOVERY VOLTAGE**



**REVERSE RECOVERY CHARGE**  
Tj = 125 °C



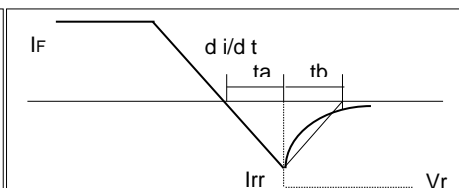
**REVERSE RECOVERY CURRENT**  
Tj = 125 °C



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

Softness (s factor)  $s = t_b / t_a$

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

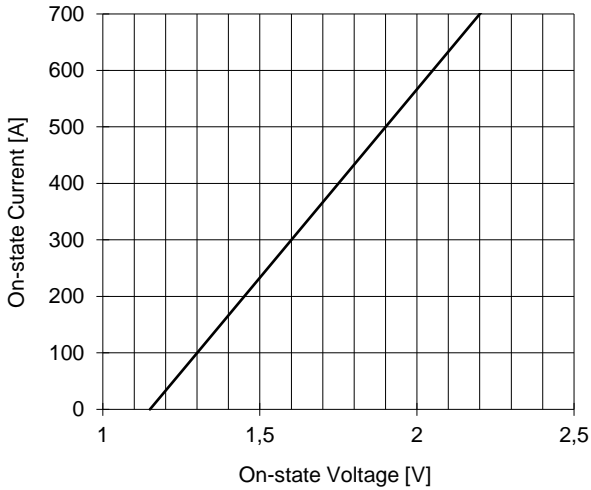


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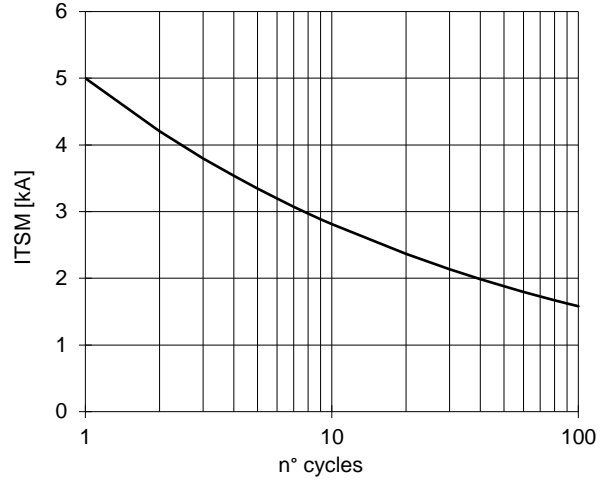


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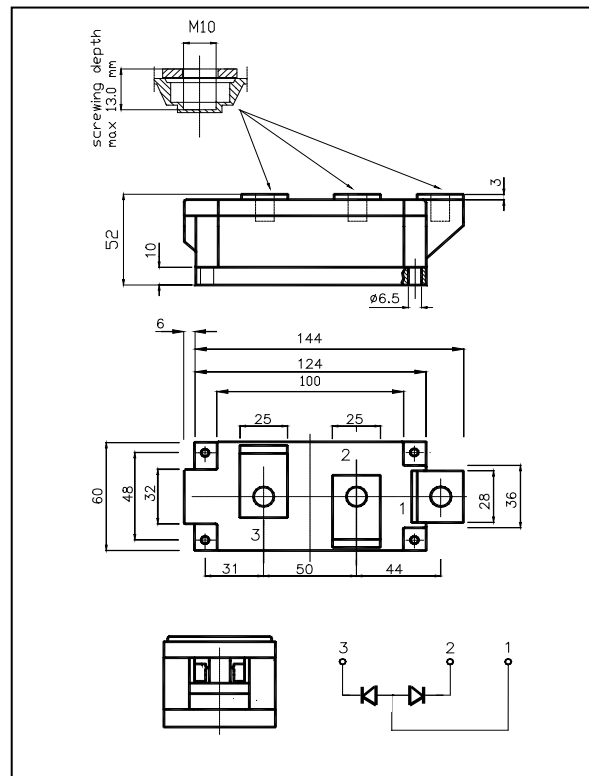
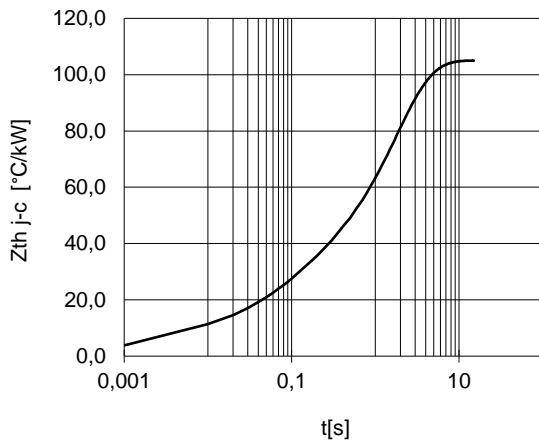
ON-STATE CHARACTERISTIC  
T<sub>j</sub> = 125 °C



SURGE CHARACTERISTIC  
T<sub>j</sub> = 125 °C



TRANSIENT THERMAL IMPEDANCE



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 (symbols over shaded background) and characteristics is reported.

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