

FAST RECOVERY DIODE
INSULATED MODULE

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

AFF300

Repetitive voltage up to

2600 V

Mean on-state current

252 A

Surge current

5 kA
FINAL SPECIFICATION

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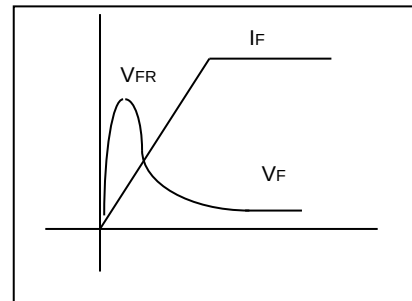
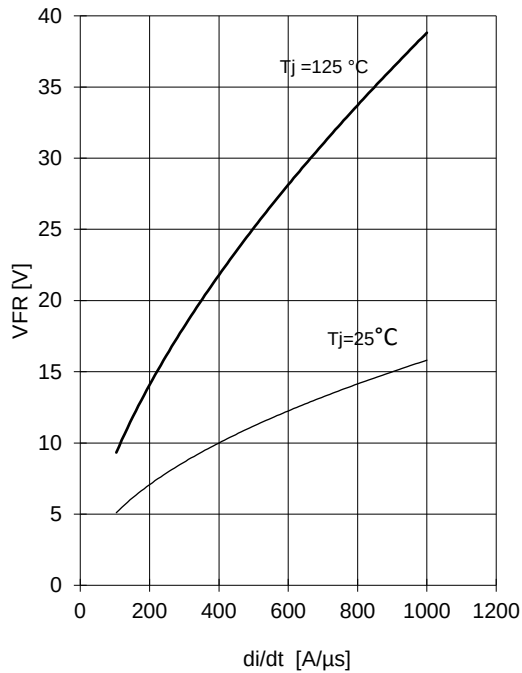
Symbol	Characteristic	Conditions	Tj [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	2600	V
V _{RSM}	Non-repetitive peak reverse voltage		125	2700	V
I _{RRM}	Repetitive peak reverse current		125	50	mA
CONDUCTING					
I _{F (AV)}	Mean on-state current	180° sin, 50Hz, Tc=70°C		251,7	A
I _{F (AV)}	Mean on-state current	180° sin. 50Hz, Tc=55°C		296,6	A
I _{FSM}	Surge on-state current	sine wave, 10 ms	125	5,0	kA
I ² t	I ² t	without reverse voltage		125 x1E3	A²s
V _F	On-state voltage	On-state current = 600 A	125	2,05	V
V _{F(TO)}	Threshold voltage		125	1,15	V
r _F	On-state slope resistance		125	1,500	mohm
Q _{rr}	Reverse recovery charge	I _F = 200 A di/dt= 100 A/μs VR = 50 V	125	120	μC
I _{rr}	Peak reverse recovery current		125	140	A
t _{rr}	Reverse recovery time		125		μs
MOUNTING					
R _{th(j-c)}	Thermal impedance	Junction to case, per element		105	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, per element		20	°C/kW
T _j	Operating junction temperature			-30 / 125	°C
V _{ins}	RMS insulation voltage	50Hz, circuit to base,all terminal shorted	25	4500	V
T	Mounting torque	Case to heatsink		4 to 6	Nm
		Busbars to terminals		12 to 18	Nm
	Mass			1500	g

 ORDERING INFORMATION : AFF300 S 26
 standard specification — VRRM/100

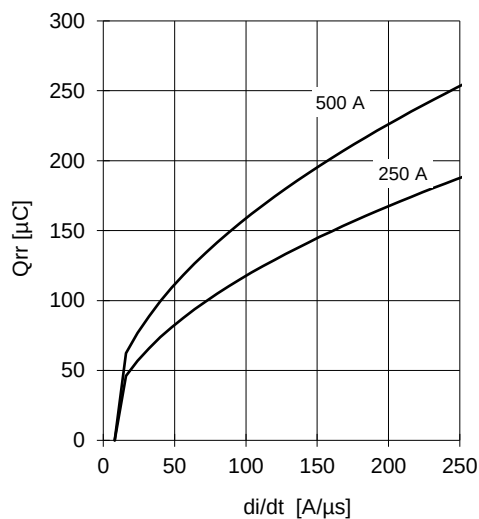
(*) 6000V available on request.
 Add HVI to the desired code in
 phase of order, i.e. AFF230HVIS26

SWITCHING CHARACTERISTICS

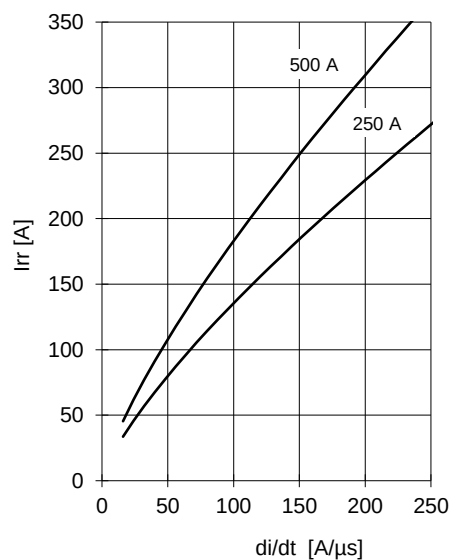
FORWARD RECOVERY VOLTAGE



REVERSE RECOVERY CHARGE Tj = 125 °C



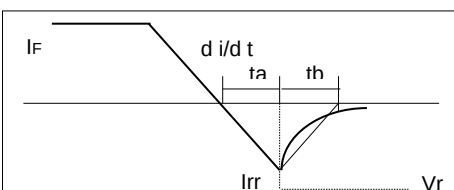
REVERSE RECOVERY CURRENT Tj = 125 °C



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

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

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

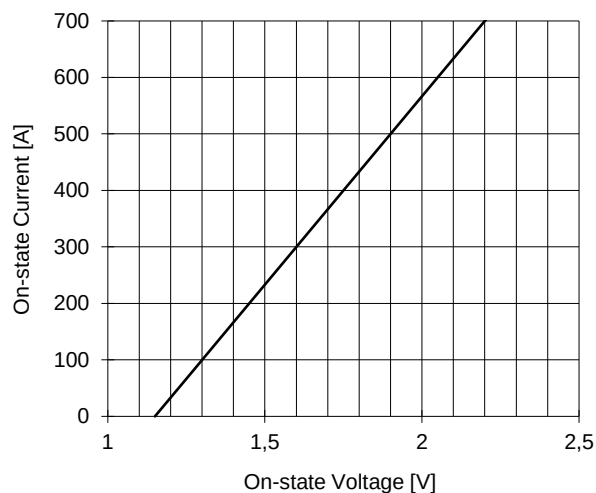


AFF300 FAST RECOVERY DIODE

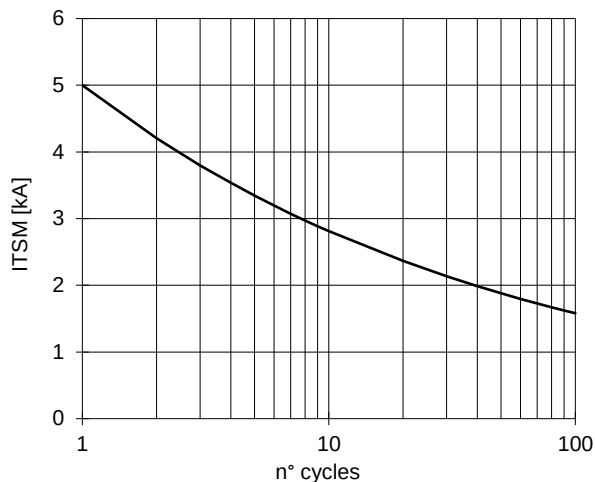


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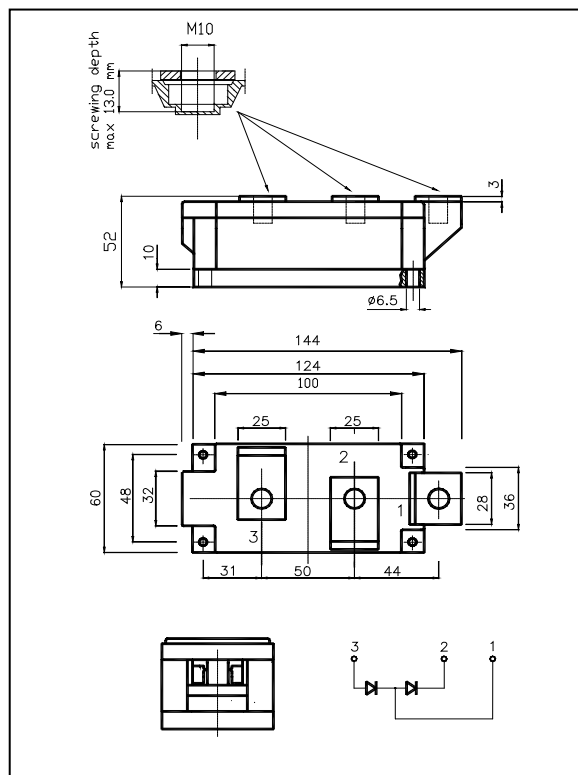
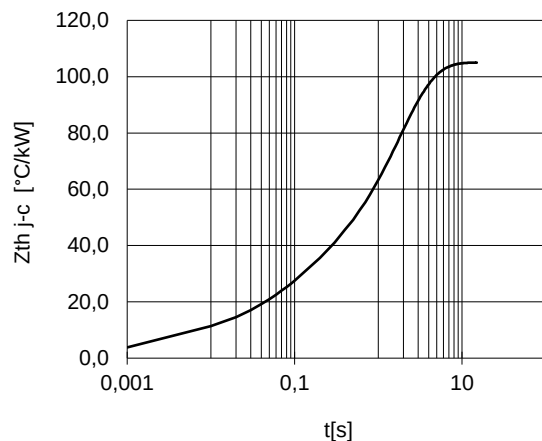
ON-STATE CHARACTERISTIC
 $T_J = 125^\circ\text{C}$



SURGE CHARACTERISTIC
 $T_J = 125^\circ\text{C}$



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 $< .03\text{ mm}$ and roughness $< 2\text{ }\mu\text{m}$. 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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