

**FAST RECOVERY DIODE
INSULATED MODULE**

AFF350A

Repetitive voltage up to **4500 V**
Mean on-state current **356 A**
Surge current **9 kA**

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

FINAL SPECIFICATION

apr 17 - ISSUE : 2

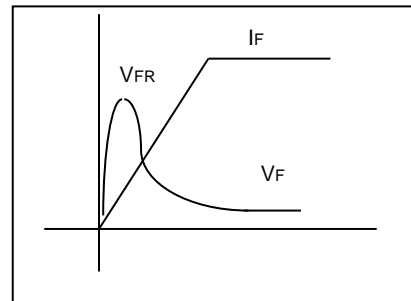
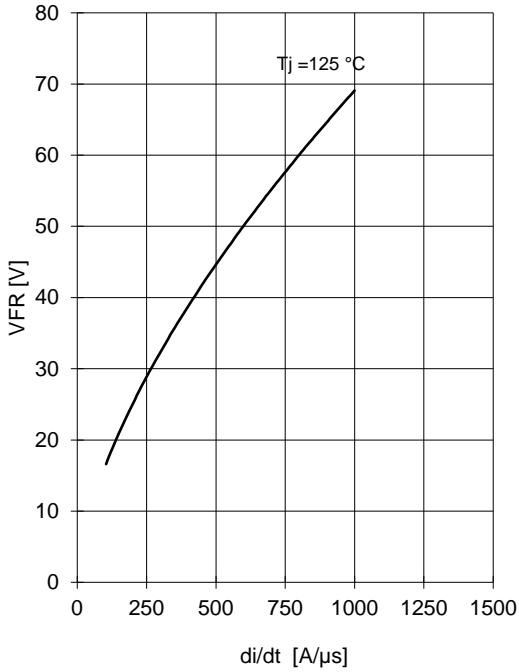
Symbol	Characteristic	Conditions	T _j [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		125	4500	V
V _{RSM}	Non-repetitive peak reverse voltage		125	4600	V
I _{RRM}	Repetitive peak reverse current		125	50	mA
CONDUCTING					
I _{F(AV)}	Mean on-state current	180° sin, 50Hz, T _c =55°C		356,2	A
I _{F(AV)}	Mean on-state current	180° sin, 50Hz, T _c =70°C		295,6	A
I _{FSM}	Surge on-state current	sine wave, 10 ms	125	9,0	kA
I ² t	I ² t	without reverse voltage		405 x1E3	A ² s
V _F	On-state voltage	On-state current = 1000 A	125	4,1	V
V _{F(TO)}	Threshold voltage		125	2,70	V
r _F	On-state slope resistance		125	1,400	mohm
Q _{rr}	Reverse recovery charge	I _F = 1000 A	125	1150	μC
I _{rr}	Peak reverse recovery current	di/dt= 1000 A/μs	125	900	A
t _{rr}	Reverse recovery time	VR = 1800 V	125		μs
V _{FR}	Peak forward recovery	400 A/μs	125	38	V
MOUNTING					
R _{th(j-c)}	Thermal impedance	Junction to case, per element		50	°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 : AFF350A S 45
standard specification ———┐┌ VRRM/100

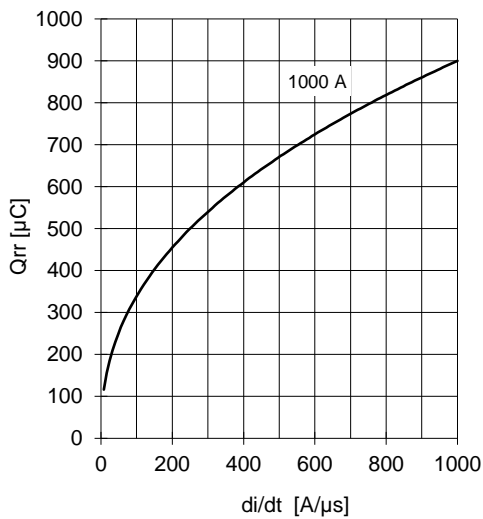
(*) 6000V available on request.
Add HVI to the desired code in
phase of order, i.e. AFF230HVIS26

SWITCHING CHARACTERISTICS

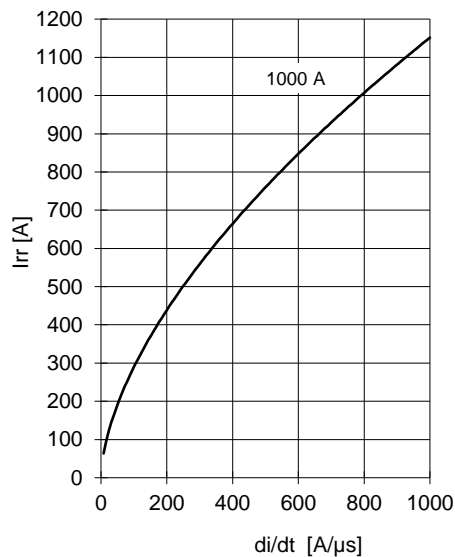
FORWARD RECOVERY VOLTAGE



REVERSE RECOVERY CHARGE
Tj = 125 °C



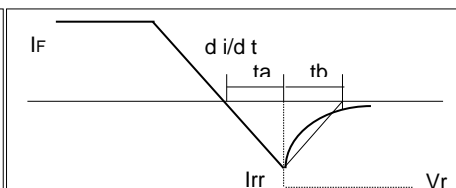
REVERSE RECOVERY CURRENT
Tj = 125 °C



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

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

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

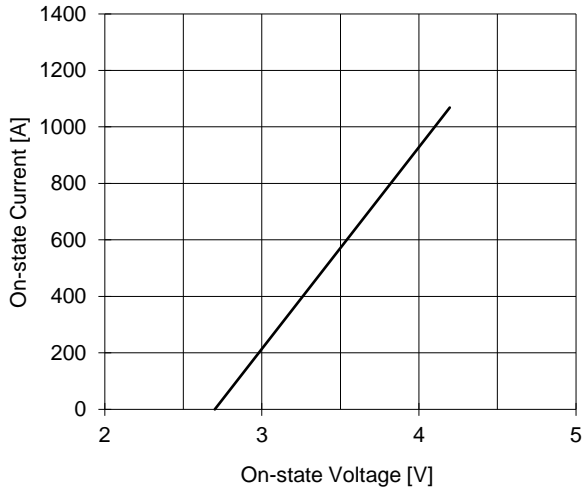


AFF350A FAST RECOVERY DIODE

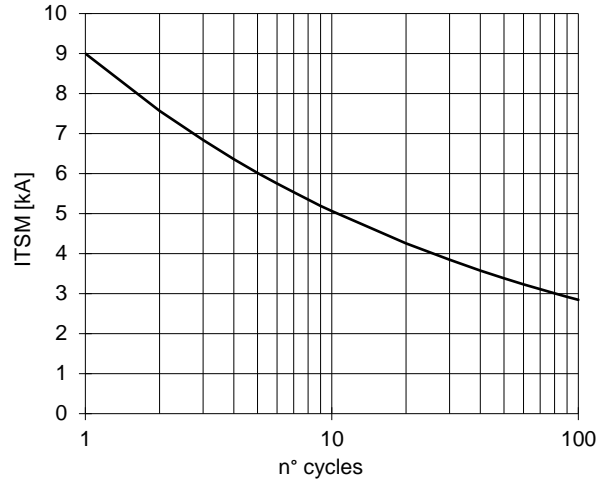


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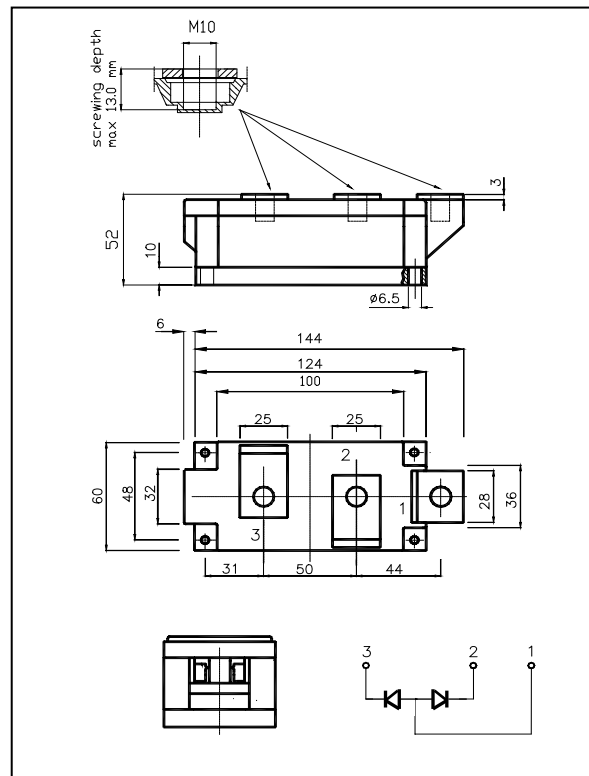
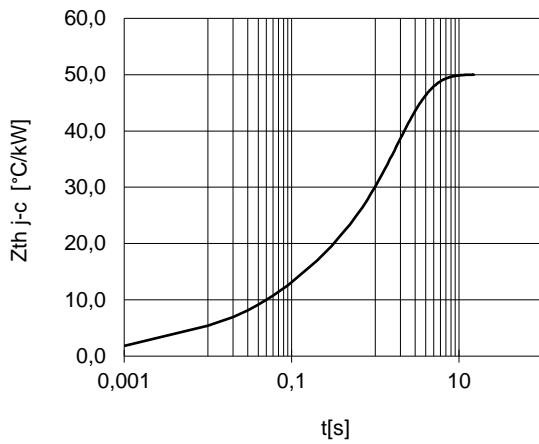
ON-STATE CHARACTERISTIC
T_j = 125 °C



SURGE CHARACTERISTIC
T_j = 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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