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## FAST RECOVERY DIODE

# ARF462

FOR IGBT, IEGT, GCT APPLICATIONS

SNUBBERLESS OPERATION

LOW LOSSES SOFT RECOVERY

Repetitive voltage up to

**4500 V**

Mean forward current

**435 A**

Surge current

**10 kA**

### TARGET SPECIFICATION

giu 00 - ISSUE : 02

Symbol	Characteristic	Conditions	T <sub>j</sub> [°C]	Value	Unit
<b>BLOCKING</b>					
V <sub>RRM</sub>	Repetitive peak reverse voltage		125	4500	V
V <sub>RSM</sub>	Non-repetitive peak reverse voltage		125	4600	V
I <sub>RRM</sub>	Repetitive peak reverse current	V=V <sub>RRM</sub>	125	50	mA
V <sub>DC LINK</sub>	Permanent DC voltage		125	2500	V
<b>CONDUCTING</b>					
I <sub>F(AV)</sub>	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		435	A
I <sub>F(AV)</sub>	Mean forward current	180° square, 50 Hz, Th=55°C, double side cooled		440	A
I <sub>FSM</sub>	Surge forward current	Sine wave, 10 ms	125	10	kA
I <sup>2</sup> t	I <sup>2</sup> t	reapplied reverse voltage up to 50% V <sub>RSM</sub>		500 x1E3	A <sup>2</sup> s
V <sub>FM</sub>	Forward voltage	Forward current = 1800 A	25	5.22	V
V <sub>F(TO)</sub>	Threshold voltage		125	2.70	V
r <sub>F</sub>	Forward slope resistance		125	1.400	mohm
<b>SWITCHING</b>					
Q <sub>rr</sub>	Reverse recovery charge	I <sub>F</sub> = 1000 A    di/dt= 250 A/μs V <sub>R</sub> = 100 V	125	500	μC
I <sub>rr</sub>	Peak reverse recovery current		125	360	A
t <sub>rr</sub>	Reverse recovery time	I <sub>F</sub> = 1000 A			μs
Q <sub>rr</sub>	Reverse recovery charge	di/dt= 1000 A/μs V <sub>R</sub> = 1800 V		1150	μC
I <sub>rr</sub>	Peak reverse recovery current		125	900	A
s	Softness (s-factor), min				
E <sub>OFF</sub>	Turn off energy dissipation				J
V <sub>FR</sub>	Peak forward recovery	di/dt= 400 A/μs	125	38	V
<b>MOUNTING</b>					
R <sub>th(j-h)</sub>	Thermal impedance	Junction to heatsink, double side cooled		37	°C/KW
R <sub>th(c-h)</sub>	Thermal impedance	Case to heatsink, double side cooled		10	°C/KW
T <sub>j</sub>	Operating junction temperature			-30 / 125	°C
F	Mounting force			11.8 / 13.2	kN
	Mass			300	g

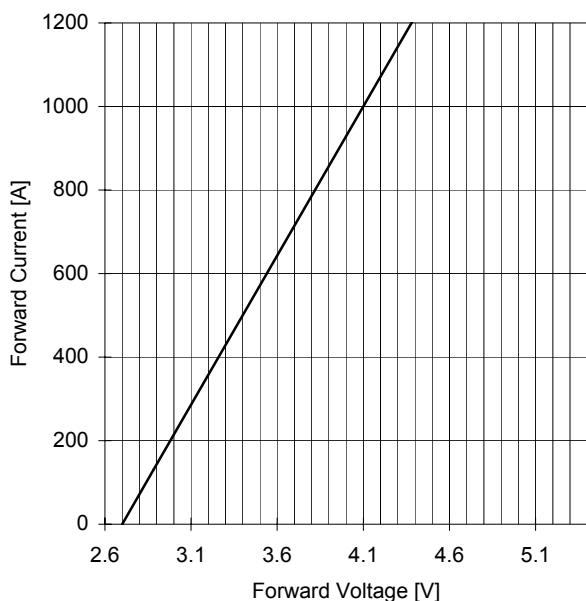
ORDERING INFORMATION : ARF462 S 45

standard specification \_\_\_\_\_ VRRM/100

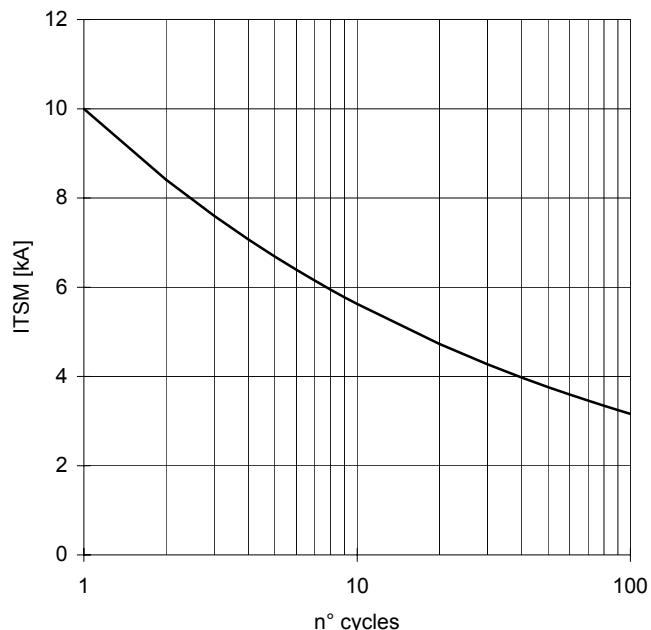
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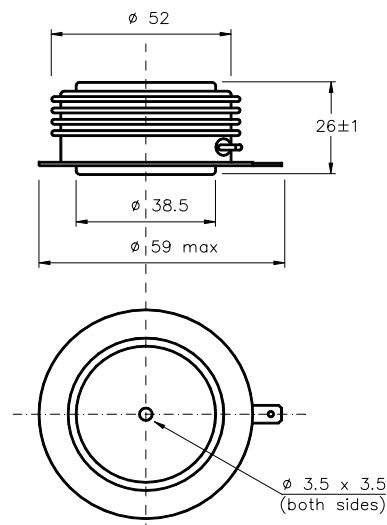
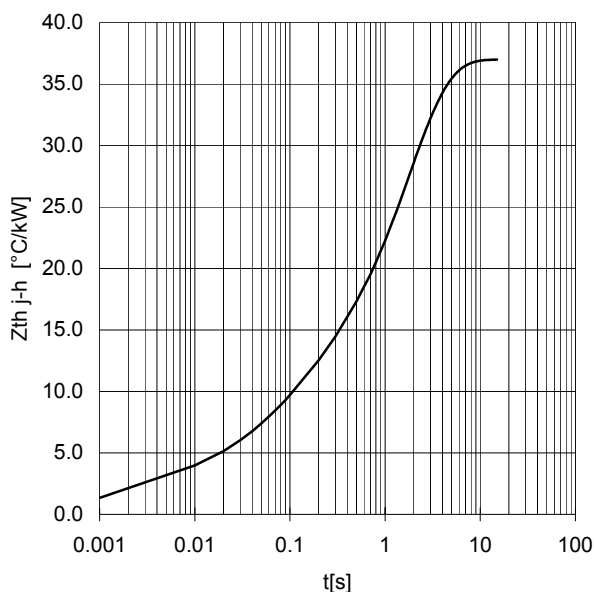
**FORWARD CHARACTERISTIC**  
 $T_j = 125\text{ }^\circ\text{C}$



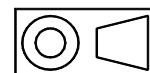
**SURGE CHARACTERISTIC**  
 $T_j = 125\text{ }^\circ\text{C}$



**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  $\mu\text{m}$ .

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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