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Power SEmiconductors Italian COrporation

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RECTIFIER DIODE

AR649

Repetitive voltage up to

2500 V

Mean forward current

4645 A

Surge current

45 kA

TARGET SPECIFICATION

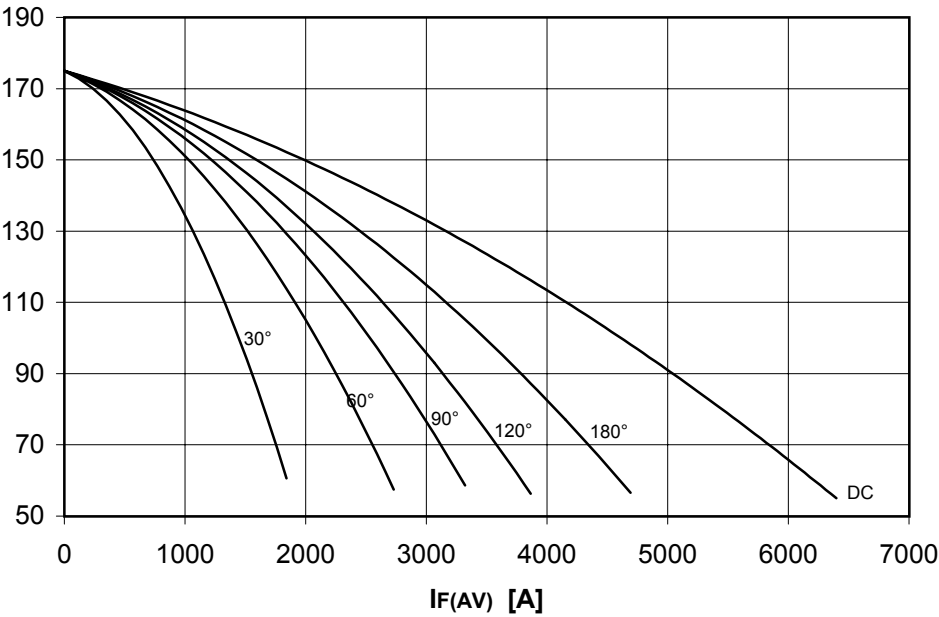
nov 02 - ISSUE : 03

Symbol	Characteristic	Conditions	T _J [°C]	Value	Unit
BLOCKING					
V _{RRM}	Repetitive peak reverse voltage		175	2500	V
V _{RSM}	Non-repetitive peak reverse voltage		175	2600	V
I _{RRM}	Repetitive peak reverse current	V=VRRM	175	100	mA
CONDUCTING					
I _{F (AV)}	Mean forward current	180° sin ,50 Hz, Th=55°C, double side cooled		4645	A
I _{F (AV)}	Mean forward current	180° sin ,50 Hz, Tc=85°C, double side cooled		4515	A
I _{FSM}	Surge forward current	Sine wave, 10 ms without reverse voltage	175	45	kA
I ² t	I ² t			10125 x 1E3	A²s
V _{FM}	Forward voltage	Forward current = 2000 A	175	0.90	V
V _{F(TO)}	Threshold voltage		175	0.70	V
r _F	Forward slope resistance		175	0.100	mohm
SWITCHING					
t _{rr}	Reverse recovery time		175		µs
Q _{rr}	Reverse recovery charge				µC
I _{rr}	Peak reverse recovery current				A
MOUNTING					
R _{th(j-h)}	Thermal impedance, DC	Junction to heatsink, double side cooled		14	°C/kW
R _{th(c-h)}	Thermal impedance	Case to heatsink, double side cooled		3	°C/kW
T _j	Operating junction temperature			-30 / 175	°C
F	Mounting force			35.0 / 40.0	kN
	Mass			850	g
ORDERING INFORMATION : AR649 S 25					
standard specification VRRM/100					

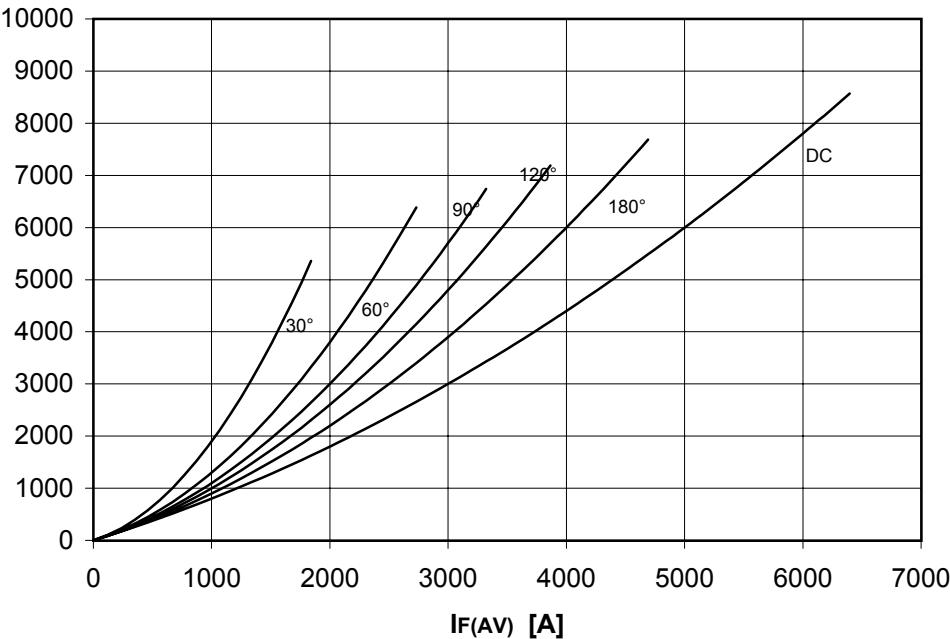
DISSIPATION CHARACTERISTICS

SQUARE WAVE

Th [°C]



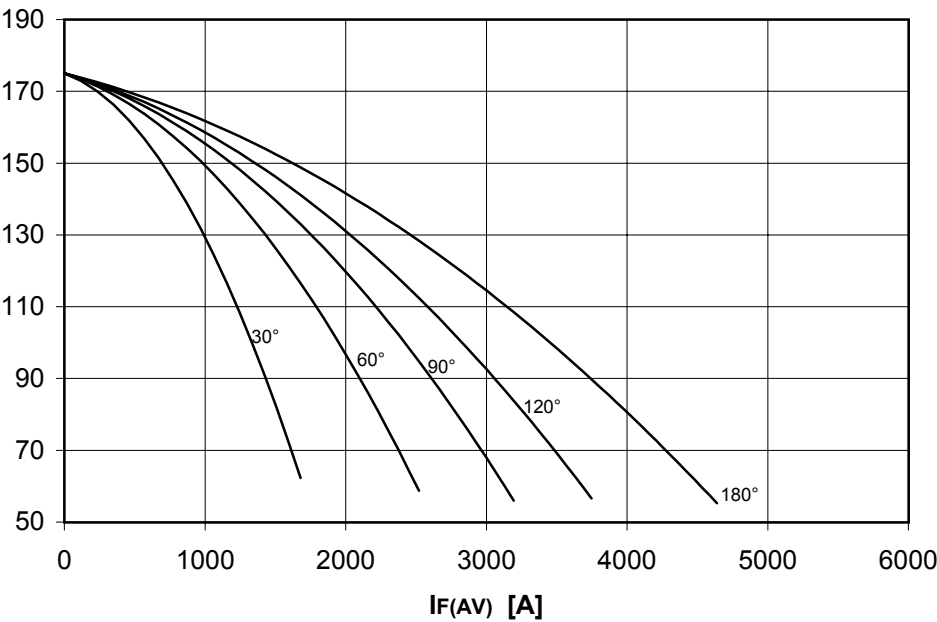
PF(AV) [W]



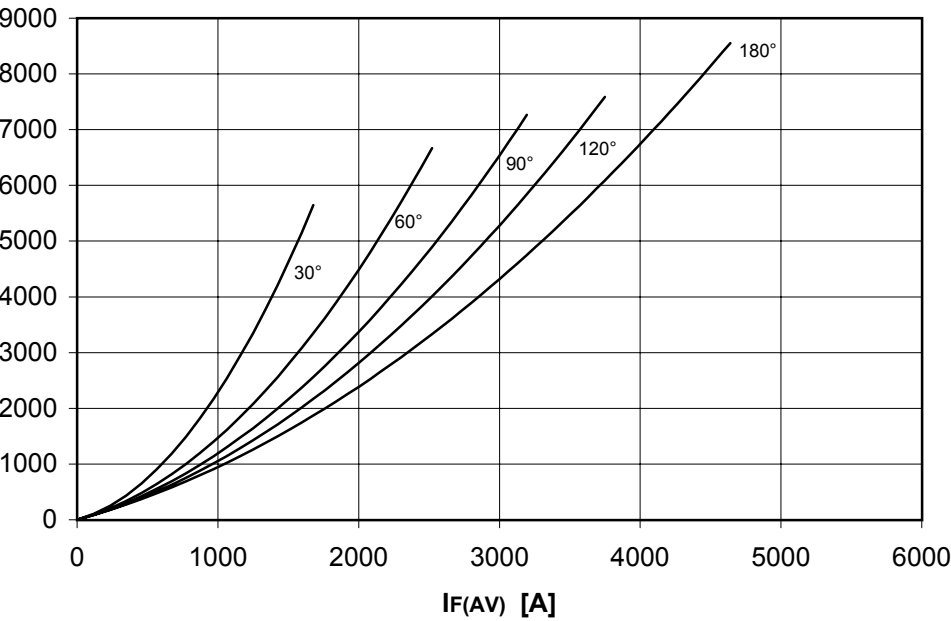
DISSIPATION CHARACTERISTICS

SINE WAVE

Th [°C]



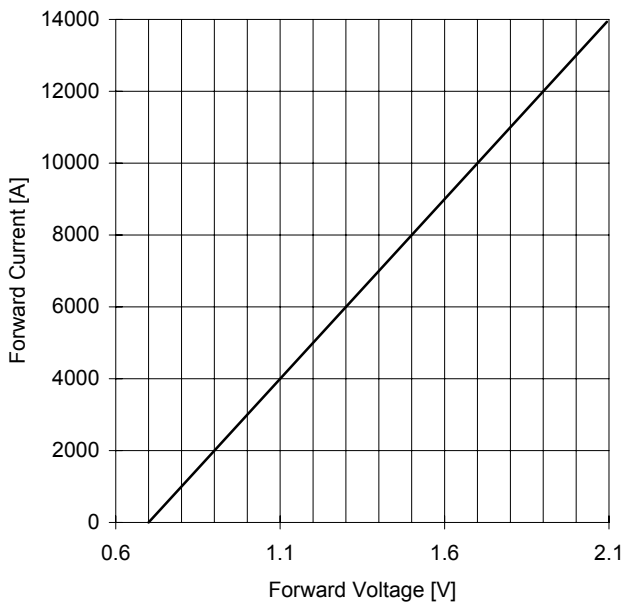
PF(AV) [W]



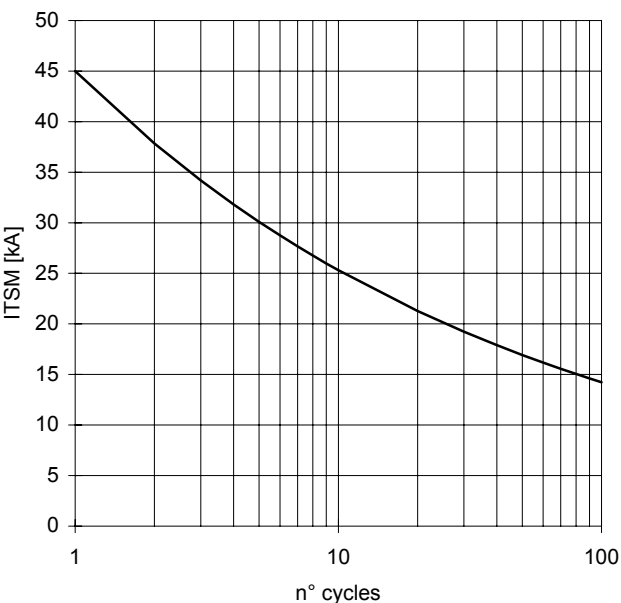
AR649 RECTIFIER DIODE

TARGET SPECIFICATION nov 02 - ISSUE : 03

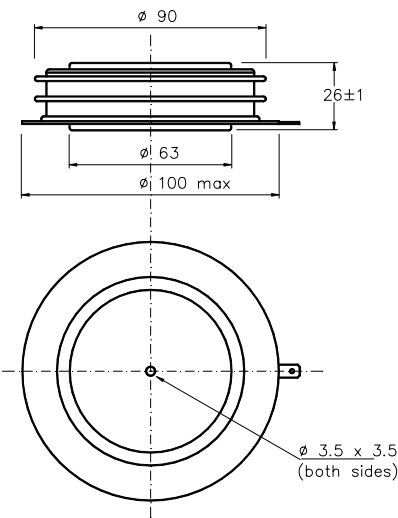
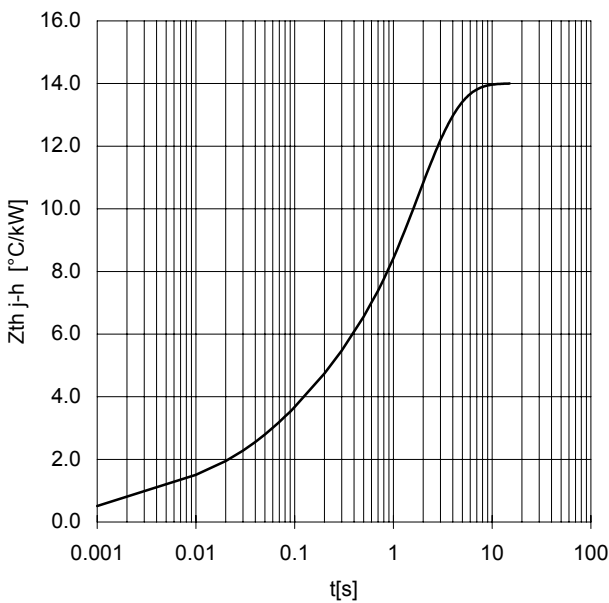
FORWARD CHARACTERISTIC
 $T_J = 175\text{ }^{\circ}\text{C}$



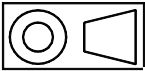
SURGE CHARACTERISTIC
 $T_J = 175\text{ }^{\circ}\text{C}$



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 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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