查询DNB63 12供应商 捷多邦，专业PCB打样工厂，24小时加急出货

DNB63

Rectifier Diode

Replaces January 2000 version, DS4179-5.0

DS4179-6.0 August 2001

APPLICATIONS

- Rectification
- Freewheel Diode
- DC Motor Control
- Power Supplies
- Welding
- Battery Chargers

FEATURES

- Double Side Cooling
- High Surge Capability

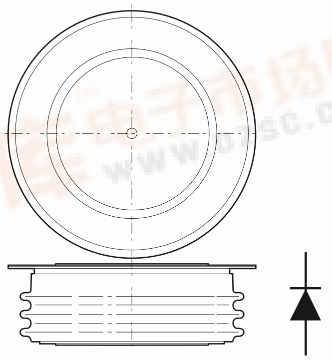
VOLTAGE RATINGS

Type Number	Repetitive Peak Reverse Voltage V_{RRM} V	Conditions
DNB63 15	1500	$V_{RSM} = V_{RRM} + 100V$
DNB63 14	1400	
DNB63 13	1300	
DNB63 12	1200	
DNB63 11	1100	

Lower voltage grades available.

KEY PARAMETERS

V_{RRM}	1500V
$I_{F(AV)}$	5794A
I_{FSM}	57000A



Outline type code: DO200AD
See Package Details for further information.

Fig. 1 Package outline

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CURRENT RATINGS

T_{case} = 75°C unless otherwise stated

Symbol	Parameter	Conditions	Max.	Units
Double Side Cooled				
$I_{F(AV)}$	Mean forward current	Half wave resistive load	5794	A
$I_{F(RMS)}$	RMS value	-	9101	A
I_F	Continuous (direct) forward current	-	7934	A
Single Side Cooled (Anode side)				
$I_{F(AV)}$	Mean forward current	Half wave resistive load	4230	A
$I_{F(RMS)}$	RMS value	-	6645	A
I_F	Continuous (direct) forward current	-	5468	A

T_{case} = 100°C unless otherwise stated

Symbol	Parameter	Conditions	Max.	Units
Double Side Cooled				
$I_{F(AV)}$	Mean forward current	Half wave resistive load, T_{case} = 100°C	4850	A
$I_{F(RMS)}$	RMS value	T_{case} = 100°C	7615	A
I_F	Continuous (direct) forward current	T_{case} = 100°C	6600	A
Single Side Cooled (Anode side)				
$I_{F(AV)}$	Mean forward current	Half wave resistive load, T_{case} = 100°C	3540	A
$I_{F(RMS)}$	RMS value	T_{case} = 100°C	5560	A
I_F	Continuous (direct) forward current	T_{case} = 100°C	4500	A

SURGE RATINGS

Symbol	Parameter	Conditions	Max.	Units
I_{FSM}	Surge (non-repetitive) forward current	10ms half sine; T_{case} = 190°C V_R = 50% V_{RRM} - 1/4 sine	52.0	kA
I^2t	I^2t for fusing		13.5×10^6	A^2s
I_{FSM}	Surge (non-repetitive) forward current	10ms half sine; T_{case} = 190°C V_R = 0	57.0	kA
I^2t	I^2t for fusing		16.2×10^6	A^2s

THERMAL AND MECHANICAL DATA

Symbol	Parameter	Conditions		Min.	Max.	Units
$R_{th(j-c)}$	Thermal resistance - junction to case	Double side cooled	dc	-	0.013	°C/W
		Single side cooled	Anode dc	-	0.021	°C/W
			Cathode dc	-	0.034	°C/W
$R_{th(c-h)}$	Thermal resistance - case to heatsink	Clamping force 45.0kN with mounting compound	Double side	-	0.003	°C/W
			Single side	-	0.006	°C/W
T_{vj}	Virtual junction temperature	Forward (conducting)		-	200	°C
		Reverse (blocking)		-	190	°C
T_{stg}	Storage temperature range			-55	190	°C
-	Clamping force			40.0	48.0	kN

CHARACTERISTICS

Symbol	Parameter	Conditions	Min.	Max.	Units
V_{FM}	Forward voltage	At 3000A peak, T_{case} = 25°C	-	1.05	V
I_{RRM}	Peak reverse current	At V_{RRM}, T_{case} = 190°C	-	60	mA
Q_S	Total stored charge	I_F = 1000A, dI_{RR}/dt = 50A/µs T_{case} = 175°C, V_R = 100V	-	4000	µC
I_{RM}	Peak recovery current		-	600	A
t_{rr}	Reverse recovery time		-	20	µs
V_{TO}	Threshold voltage	At T_{vj} = 190°C	-	0.75	V
r_T	Slope resistance	At T_{vj} = 190°C	-	0.046	mΩ

CURVES

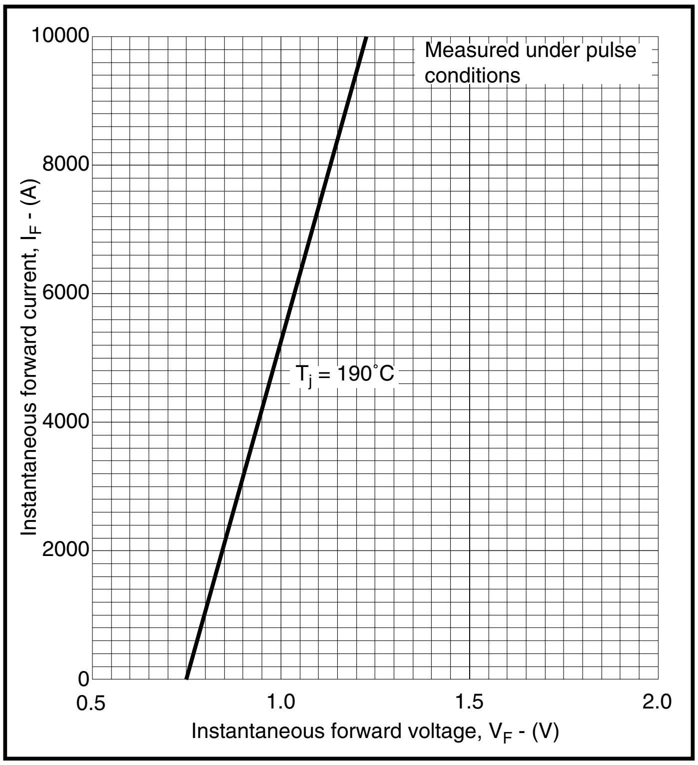


Fig.2 Maximum (limit) forward characteristics

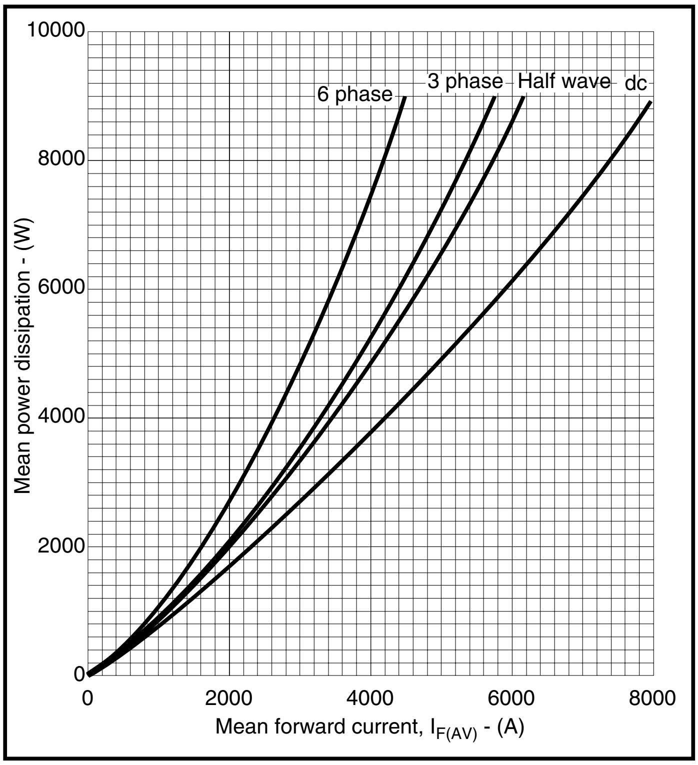


Fig.3 Dissipation curves

V_{FM} Equation:-

$V_{FM} = A + B\ln(I_F) + C.I_F + D.\sqrt{I_F}$

Where
A = 0.517184
B = 0.035583
C = 4.94 x 10^{-5}
D = –0.0011
these values are valid for T_j = 125°C for I_F 500A to 10000A

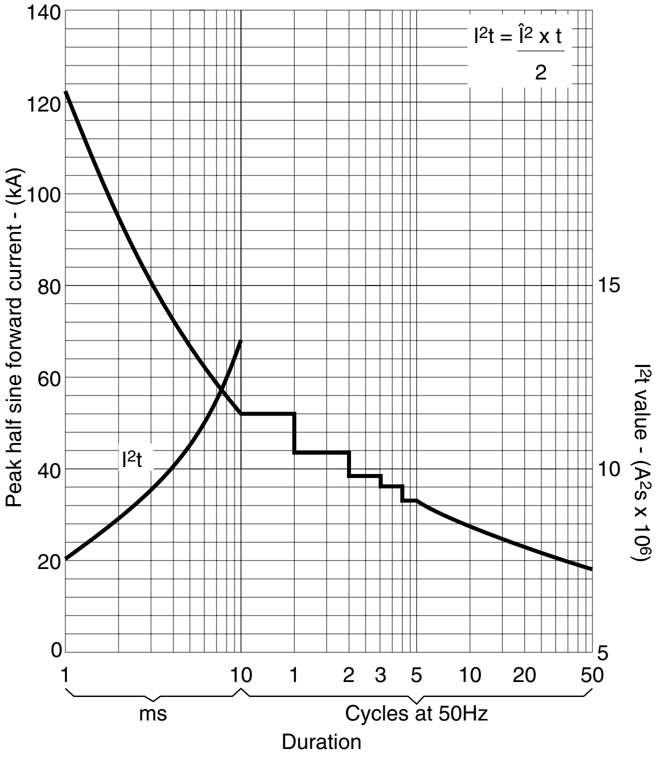
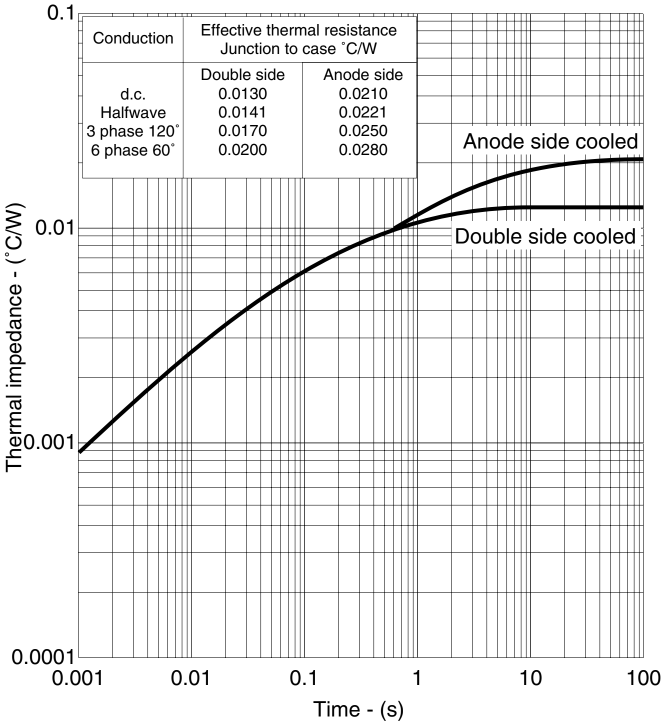


Fig.4 Surge (non-repetitive) forward current vs time (with 50% V_{RRM} at T_{case} 190˚C)

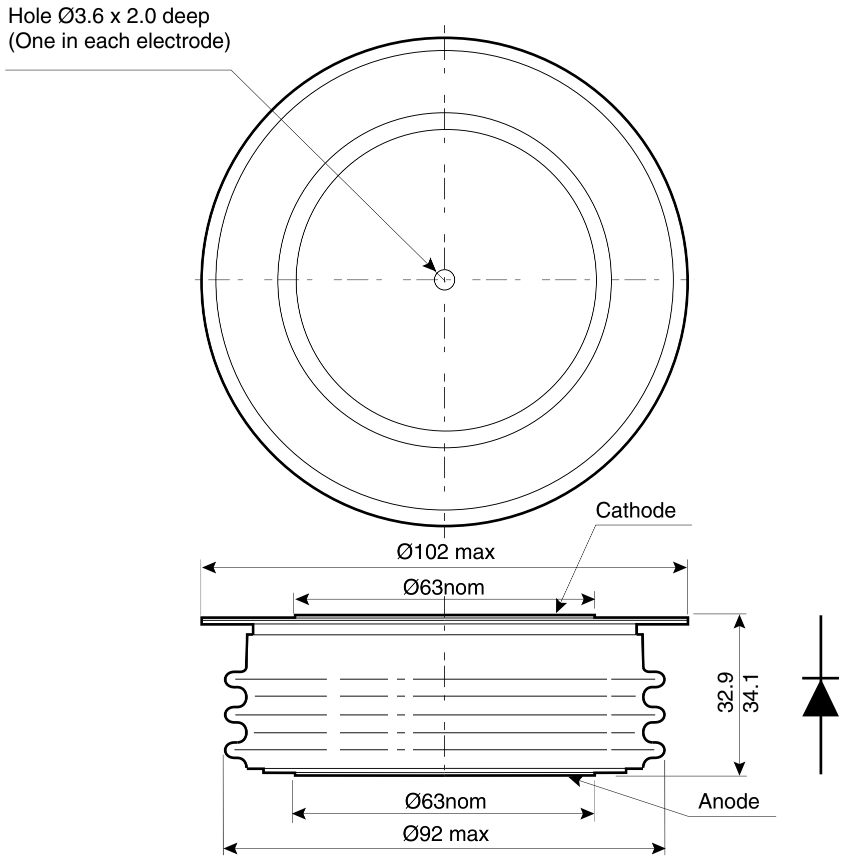


Conduction	Effective thermal resistance Junction to case ˚C/W	
	Double side	Anode side
d.c.	0.0130	0.0210
Halfwave	0.0141	0.0221
3 phase 120˚	0.0170	0.0250
6 phase 60˚	0.0200	0.0280

Fig.5 Maximum (limit) transient thermal impedance - junction to case

PACKAGE DETAILS

For further package information, please contact Customer Services. All dimensions in mm, unless stated otherwise.
DO NOT SCALE.



Nominal weight: 1100g
Clamping force: 45kN ±10%

Package outline type code: DO200AD

Note:

1. Package maybe supplied with pins and/or tags.

POWER ASSEMBLY CAPABILITY

The Power Assembly group was set up to provide a support service for those customers requiring more than the basic semiconductor, and has developed a flexible range of heatsink and clamping systems in line with advances in device voltages and current capability of our semiconductors.

We offer an extensive range of air and liquid cooled assemblies covering the full range of circuit designs in general use today. The Assembly group offers high quality engineering support dedicated to designing new units to satisfy the growing needs of our customers.

Using the latest CAD methods our team of design and applications engineers aim to provide the Power Assembly Complete Solution (PACs).

HEATSINKS

The Power Assembly group has its own proprietary range of extruded aluminium heatsinks which have been designed to optimise the performance of Dynex semiconductors. Data with respect to air natural, forced air and liquid cooling (with flow rates) is available on request.

For further information on device clamps, heatsinks and assemblies, please contact your nearest sales representative or Customer Services.

Stresses above those listed in this data sheet may cause permanent damage to the device. In extreme conditions, as with all semiconductors, this may include potentially hazardous rupture of the package. Appropriate safety precautions should always be followed.

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