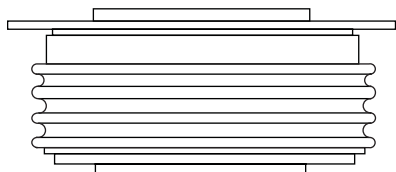


Standard Recovery Diodes (Hockey PUK Version), 2100 A



DO-200AB (B-PUK)

FEATURES

- Wide current range
- High voltage ratings up to 1000 V
- High surge current capabilities
- Diffused junction
- Hockey PUK version
- Case style DO-200AB (B-PUK)
- Lead (Pb)-free


RoHS
COMPLIANT

PRODUCT SUMMARY

$I_{F(AV)}$	2100 A
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TYPICAL APPLICATIONS

- Converters
- Power supplies
- High power drives
- Auxiliary system supplies for traction applications

MAJOR RATINGS AND CHARACTERISTICS

PARAMETER	TEST CONDITIONS	VALUES	UNITS
$I_{F(AV)}$		2100	A
	T_{hs}	55	°C
$I_{F(RMS)}$		3900	A
	T_{hs}	25	°C
I_{FSM}	50 Hz	23 900	A
	60 Hz	25 000	
I^2t	50 Hz	2857	kA ² s
	60 Hz	2608	
V_{RRM}	Range	400 to 1000	V
T_J		- 40 to 180	°C

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS

TYPE NUMBER	VOLTAGE CODE	V_{RRM} , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	I_{RRM} MAXIMUM AT $T_J = 180\text{ °C}$ mA
SD2000C..L	04	400	500	60
	08	800	900	
	10	1000	1100	

Vishay High Power Products Standard Recovery Diodes
(Hockey PUK Version),
2100 A

FORWARD CONDUCTION						
PARAMETER	SYMBOL	TEST CONDITIONS			VALUES	UNITS
Maximum average forward current at heatsink temperature	I _{F(AV)}	180° conduction, half sine wave Double side (single side) cooled			2100 (1040)	A
					55 (85)	°C
Maximum RMS forward current	I _{F(RMS)}	25 °C heatsink temperature double side cooled			3900	A
Maximum peak, one-cycle forward, non-repetitive surge current	I _{FSM}	t = 10 ms	No voltage reapplied	Sinusoidal half wave, initial T _J = T _J maximum	23 900	
		t = 8.3 ms			25 000	
		t = 10 ms	100 % V _{RRM} reapplied		20 100	
		t = 8.3 ms			21 000	
Maximum I ² t for fusing	I ² t	t = 10 ms	No voltage reapplied		2857	kA ² s
		t = 8.3 ms		2608		
		t = 10 ms	100 % V _{RRM} reapplied	2020		
		t = 8.3 ms		1844		
Maximum I ² √t for fusing	I ² √t	t = 0.1 to 10 ms, no voltage reapplied			28 570	kA ² √s
Low level value of threshold voltage	V _{F(TO)1}	(16.7 % × π × I _{F(AV)}) < I < π × I _{F(AV)}), T _J = T _J maximum			0.74	V
High level value of threshold voltage	V _{F(TO)2}	(I > π × I _{F(AV)}), T _J = T _J maximum			0.86	
Low level value of forward slope resistance	r _{f1}	(16.7 % × π × I _{F(AV)}) < I < π × I _{F(AV)}), T _J = T _J maximum			0.13	mΩ
High level value of forward slope resistance	r _{f2}	(I > π × I _{F(AV)}), T _J = T _J maximum			0.12	
Maximum forward voltage drop	V _{FM}	I _{pk} = 6000 A, T _J = T _J maximum, t _p = 10 ms sinusoidal wave			1.55	V

THERMAL AND MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction operating temperature range	T _J		- 40 to 180	°C
Maximum storage temperature range	T _{Stg}		- 55 to 200	
Maximum thermal resistance, junction to heatsink	R _{thJ-hs}	DC operation single side cooled	0.073	K/W
		DC operation double side cooled	0.031	
Mounting force, ± 10 %			14 700 (1500)	N (kg)
Approximate weight			255	g
Case style		See dimensions - link at the end of datasheet	DO-200AB (B-PUK)	

ΔR_{thJ-hs} CONDUCTION						
CONDUCTION ANGLE	SINUSOIDAL CONDUCTION		RECTANGULAR CONDUCTION		TEST CONDITIONS	UNITS
	SINGLE SIDE	DOUBLE SIDE	SINGLE SIDE	DOUBLE SIDE		
180°	0.009	0.009	0.006	0.006	T _J = T _J maximum	K/W
120°	0.011	0.011	0.011	0.011		
90°	0.014	0.014	0.015	0.015		
60°	0.020	0.020	0.021	0.021		
30°	0.036	0.036	0.036	0.036		

Note

- The table above shows the increment of thermal resistance R_{thJ-hs} when devices operate at different conduction angles than DC

Standard Recovery Diodes Vishay High Power Products (Hockey PUK Version), 2100 A

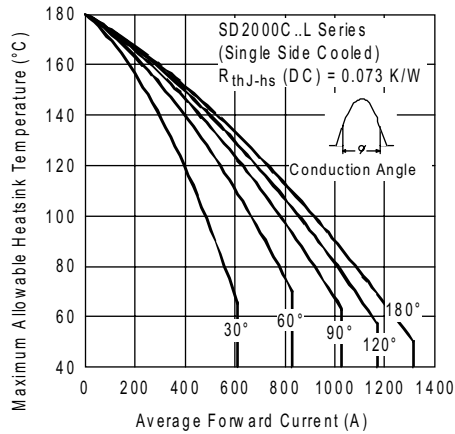


Fig. 1 - Current Ratings Characteristics

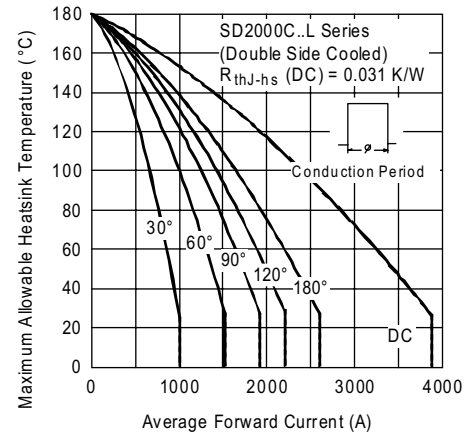


Fig. 4 - Current Ratings Characteristics

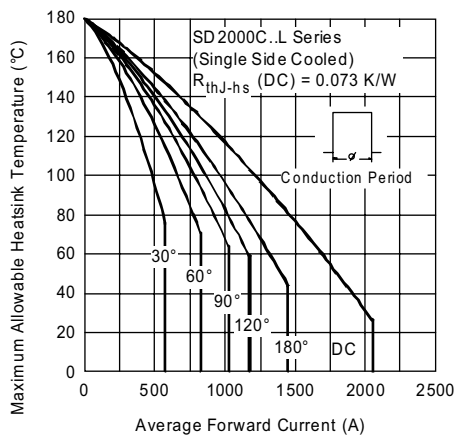


Fig. 2 - Current Ratings Characteristics

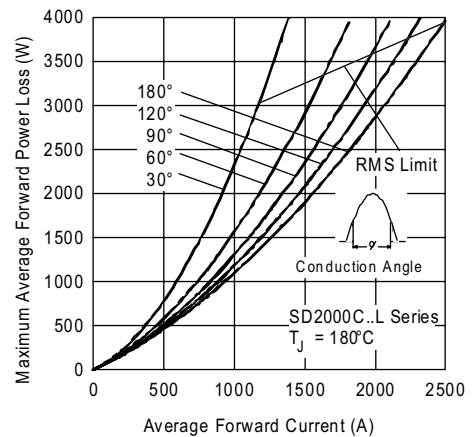


Fig. 5 - Forward Power Loss Characteristics

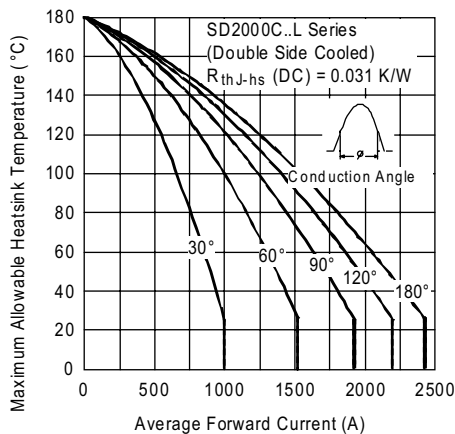


Fig. 3 - Current Ratings Characteristics

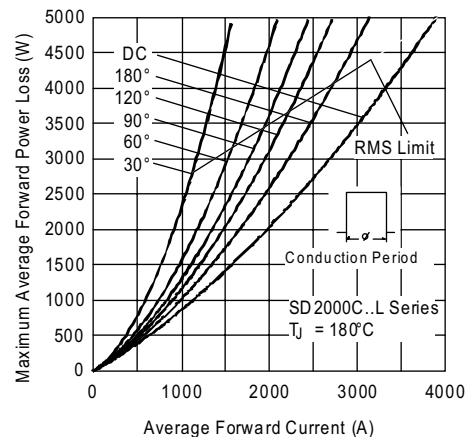


Fig. 6 - Forward Power Loss Characteristics

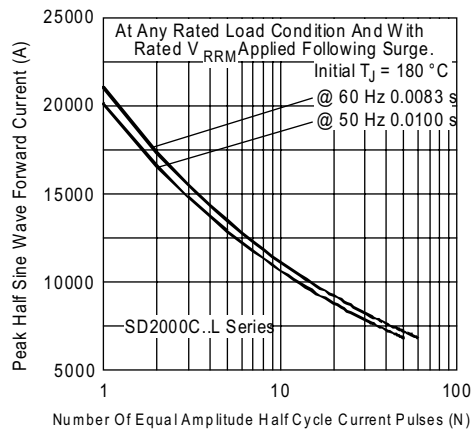


Fig. 7 - Maximum Non-Repetitive Surge Current
Single and Double Side Cooled

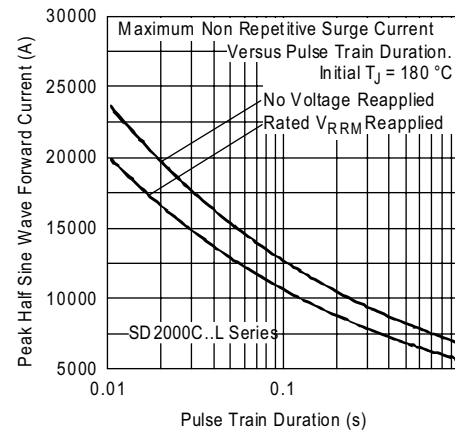


Fig. 8 - Maximum Non-Repetitive Surge Current
Single and Double Side Cooled

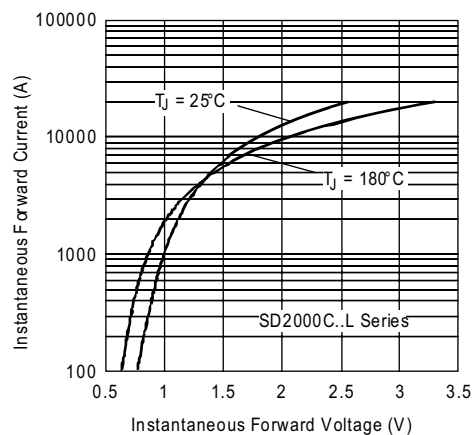


Fig. 9 - Forward Voltage Drop Characteristics

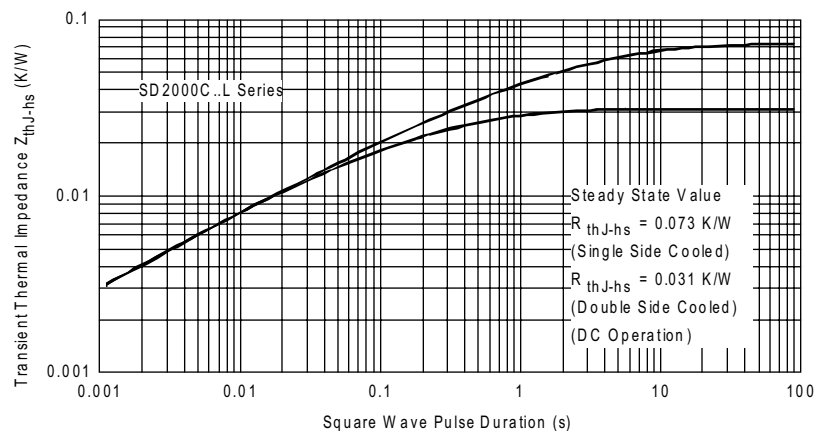


Fig. 10 - Thermal Impedance Z_{thJ-hs} Characteristics



ORDERING INFORMATION TABLE

Device code	SD	200	0	C	10	L
	①	②	③	④	⑤	⑥

- | | | |
|---|---|--|
| ① | - | Diode |
| ② | - | Essential part number |
| ③ | - | 0 = Standard recovery |
| ④ | - | C = Ceramic PUK |
| ⑤ | - | Voltage code x 100 = V_{RRM} (see Voltage Ratings table) |
| ⑥ | - | L = PUK case DO-200AB (B-PUK) |

LINKS TO RELATED DOCUMENTS	
Dimensions	http://www.vishay.com/doc?95248



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