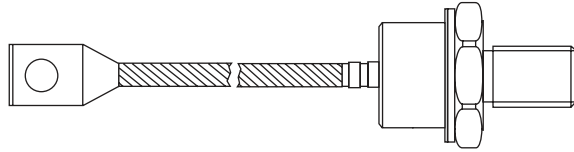


## Standard Recovery Diodes (Stud Version), 200 A



DO-205AC (DO-30)

### FEATURES

- Diffused glass passivated die
- Standard JEDEC types
- Types up to 600 V  $V_{RRM}$
- Stud cathode and stud anode version
- High surge capability
- Very low  $V_F$
- RoHS compliant
- Designed and qualified for industrial level



**RoHS**  
COMPLIANT

### PRODUCT SUMMARY

$I_{F(AV)}$	200 A
-------------	-------

### TYPICAL APPLICATIONS

- Welders
- Power supplies
- Battery charges

### MAJOR RATINGS AND CHARACTERISTICS

PARAMETER	TEST CONDITIONS	VALUES	UNITS
$I_{F(AV)}$		200	A
	$T_C$	125	°C
$I_{F(RMS)}$		314	A
$I_{FSM}$	50 Hz	3570	A
	60 Hz	3740	
$I^2t$	50 Hz	64	kA <sup>2</sup> s
	60 Hz	58	
$V_{RRM}$	Range	400 to 600	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 $T_J = 180$ °C mA
200HF	40	400	500	10
	60	600	700	

Vishay High Power Products Standard Recovery Diodes  
(Stud Version), 200 A

FORWARD CONDUCTION					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum average forward current at case temperature	$I_{F(AV)}$	180° conduction, half sine wave		200	A
				125	°C
Maximum RMS forward current	$I_{F(RMS)}$	DC at 115 °C case temperature		314	A
Maximum peak, one cycle forward, non-repetitive surge current	$I_{FSM}$	t = 10 ms	No voltage reappplied	3570	
		t = 8.3 ms		3740	
		t = 10 ms	100 % $V_{RRM}$ reappplied	3000	
		t = 8.3 ms		3140	
Maximum $I^2t$ for fusing	$I^2t$	t = 10 ms	No voltage reappplied	64	kA <sup>2</sup> s
		t = 8.3 ms		58	
		t = 10 ms	100 % $V_{RRM}$ reappplied	45	
		t = 8.3 ms		41	
Maximum $I^2\sqrt{t}$ for fusing	$I^2\sqrt{t}$	t = 0.1 to 10 ms, no voltage reappplied		640	kA <sup>2</sup> /s
Low level value of threshold voltage	$V_{F(TO)1}$	(16.7 % $\times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)}$ ), $T_J = T_J$ maximum		0.73	V
Low level value of forward slope resistance	$r_{f1}$			0.48	mΩ
Maximum forward voltage drop	$V_{FM}$	$I_{pk} = 628$ A, $T_J = 25$ °C		1.12	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 180	
Maximum thermal resistance, junction to case	$R_{thJC}$	DC operation		0.25	K/W
Maximum thermal resistance, case to heatsink	$R_{thCS}$	Mounting surface, smooth, flat and greased		0.08	
Maximum allowed mounting torque + 0 - 20 %		Not lubricated threads		11	N · m
		lubricated threads		10	
Approximate weight				120	g
Case style		See dimensions - link at the end of datasheet		DO-205AC (DO-30)	



Standard Recovery Diodes Vishay High Power Products  
(Stud Version), 200 A

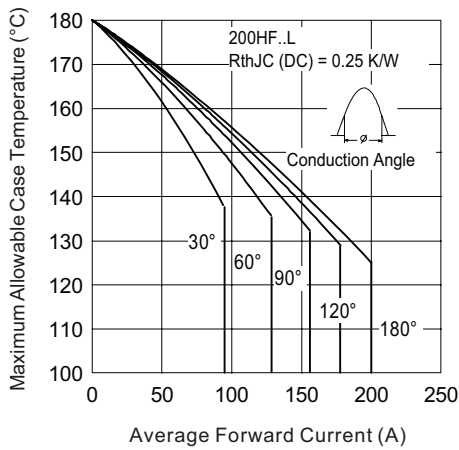


Fig. 1 - Current Ratings Characteristics

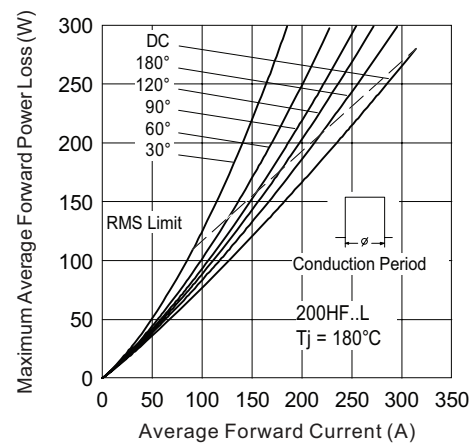


Fig. 4 - Forward Power Loss Characteristics

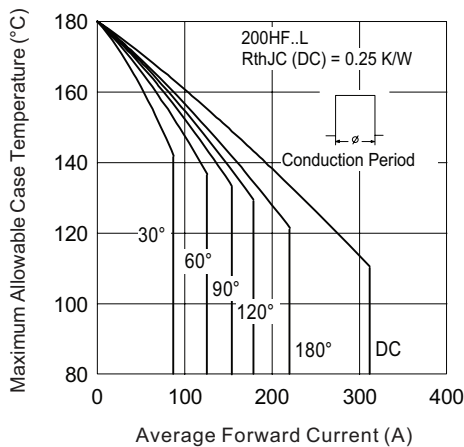


Fig. 2 - Current Ratings Characteristics

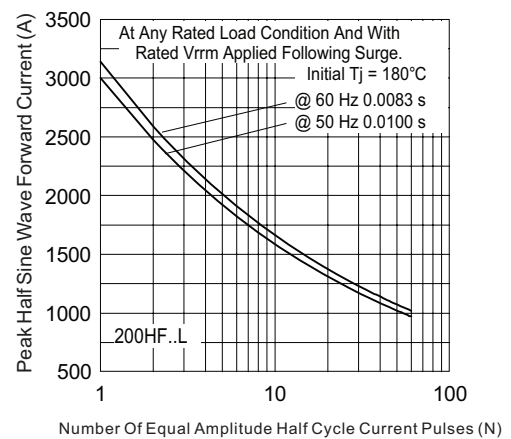


Fig. 5 - Maximum Non-Repetitive Surge Current

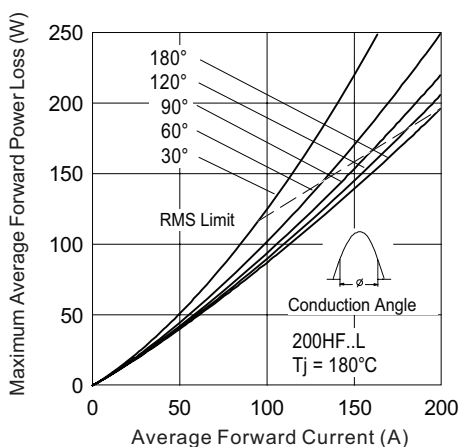


Fig. 3 - Forward Power Loss Characteristics

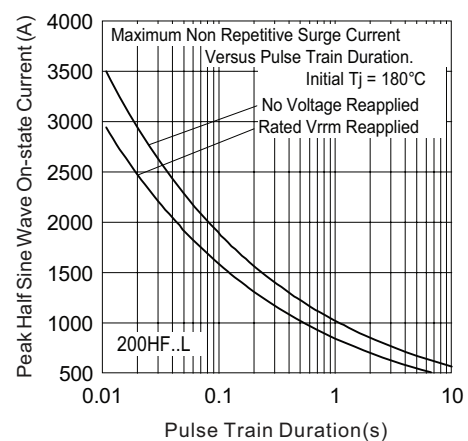


Fig. 6 - Maximum Non-Repetitive Surge Current

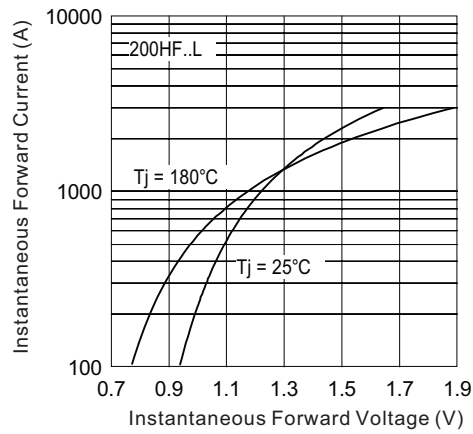


Fig. 7 - Forward Voltage Drop Characteristics

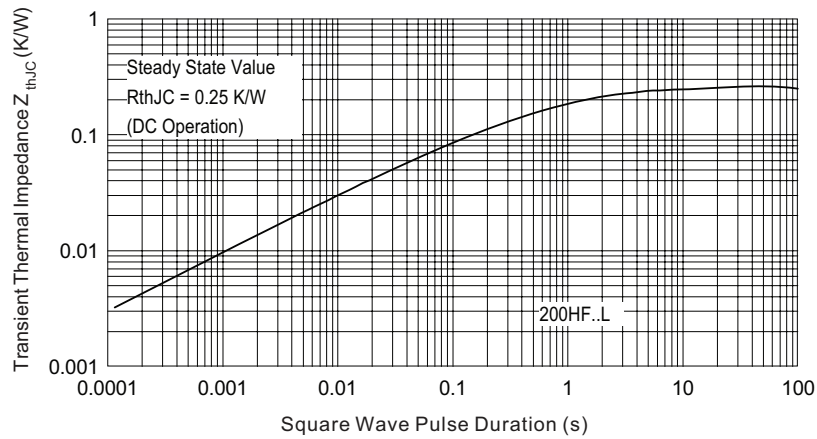
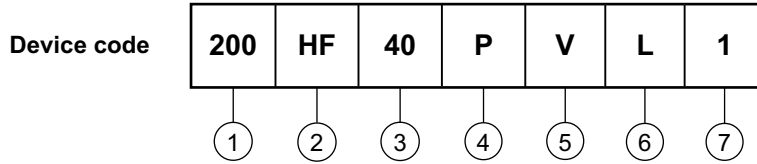


Fig. 8 - Thermal Impedance  $Z_{thJC}$  Characteristic



**ORDERING INFORMATION TABLE**



- 1** - Current rating (200 = 200 A)
- 2** - Diode diffused
- 3** - Voltage ratings 40 = 400 V  
60 = 600 V
- 4** -
  - P = 1/2"-20UNF-2A
  - M = Metric M12 x 1.75
  - W = 3/8"-24UNF-2A
- 5** - Glass-metal seal
- 6** - L = Low  $V_F$
- 7** -
  - 1 = Lead 117 mm
  - 2 = Lead 137 mm
  - 3 = Lead 157 mm

Note: For "M" type contact factory

LINKS TO RELATED DOCUMENTS	
Dimensions	<a href="http://www.vishay.com/doc?95316">http://www.vishay.com/doc?95316</a>



## Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.