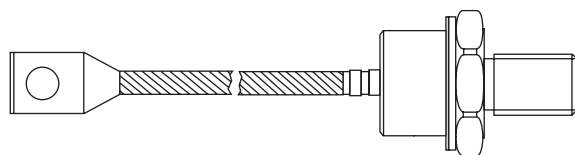


Standard Recovery Diodes (Stud Version), 200 A



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
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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 ² 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 $T_J = 180\text{ °C}$ 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 reapplied	Sinusoidal half wave, initial T _J = T _J maximum	3570	
		t = 8.3 ms			3740	
		t = 10 ms	100 % V _{RRM} reapplied		3000	
		t = 8.3 ms			3140	
Maximum I ² t for fusing	I ² t	t = 10 ms	No voltage reapplied		64	kA ² s
		t = 8.3 ms			58	
		t = 10 ms	100 % V _{RRM} reapplied		45	
		t = 8.3 ms			41	
Maximum I ² √t for fusing	I ² √t	t = 0.1 to 10 ms, no voltage reapplied			640	kA ² /s
Low level value of threshold voltage	V _{F(TO)1}	(16.7 % x π x I _{F(AV)} < I < π x 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)	

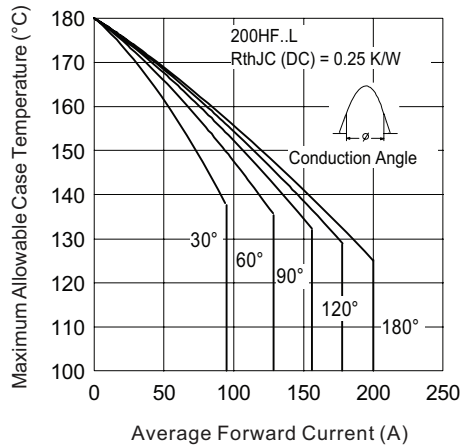


Fig. 1 - Current Ratings Characteristics

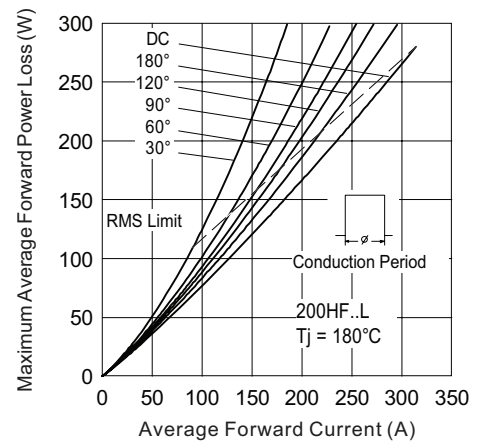


Fig. 4 - Forward Power Loss Characteristics

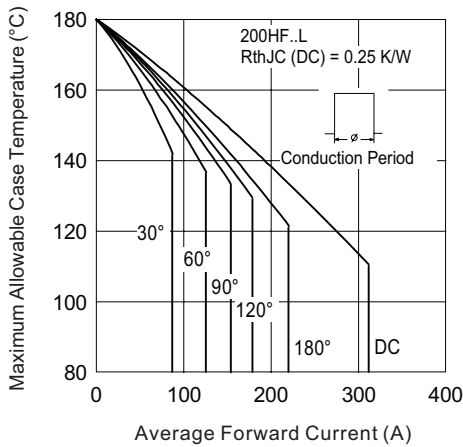


Fig. 2 - Current Ratings Characteristics

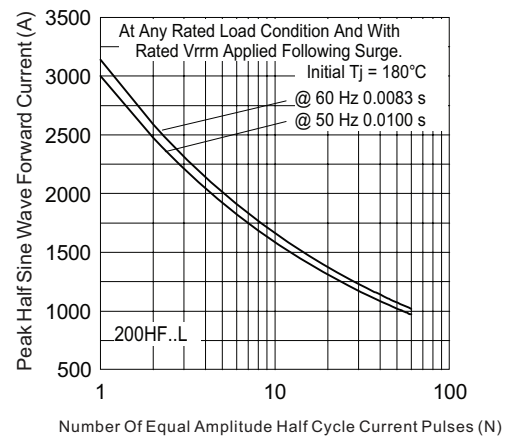


Fig. 5 - Maximum Non-Repetitive Surge Current

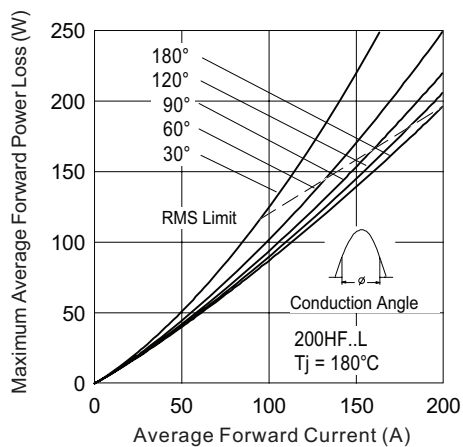


Fig. 3 - Forward Power Loss Characteristics

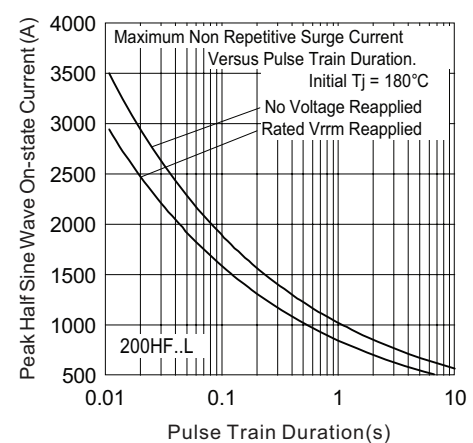


Fig. 6 - Maximum Non-Repetitive Surge Current

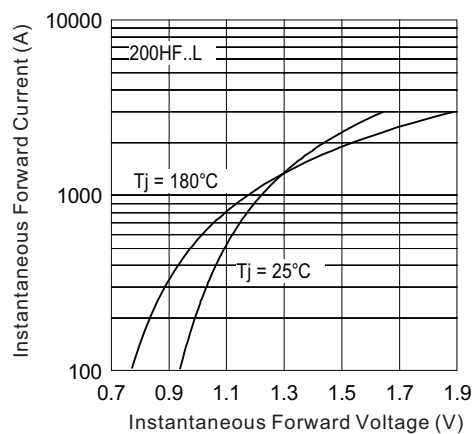
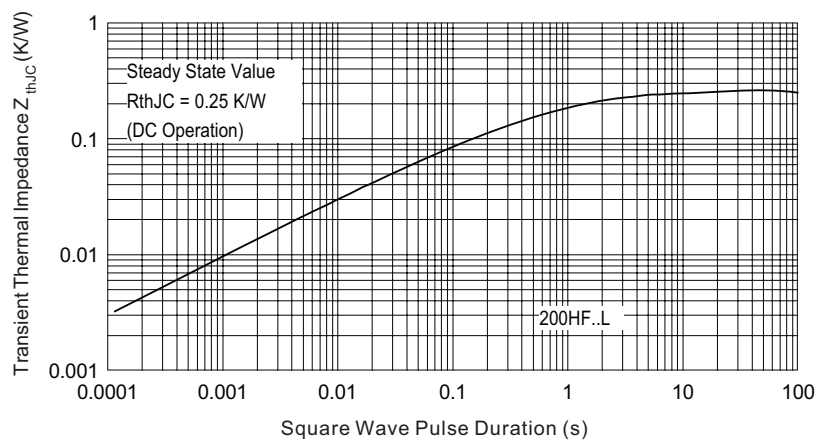


Fig. 7 - Forward Voltage Drop Characteristics

Fig. 8 - Thermal Impedance Z_{thJC} Characteristic

**ORDERING INFORMATION TABLE**

Device code	200	HF	40	P	V	L	1
	1	2	3	4	5	6	7
	1	2	3	4	5	6	7
	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	http://www.vishay.com/doc?95316



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