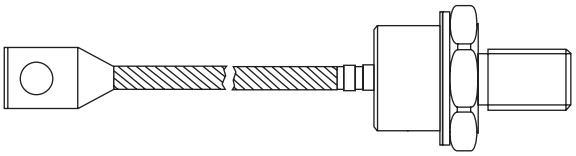
Standard Recovery Diodes (Stud Version), 200 A



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^2s
	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	

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^2t for fusing	I^2t	t = 10 ms	No voltage reapplied		64	kA^2s
		t = 8.3 ms			58	
		t = 10 ms	100 % V_{RRM} reapplied		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 reapplied			640	$kA^2\sqrt{s}$
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)	

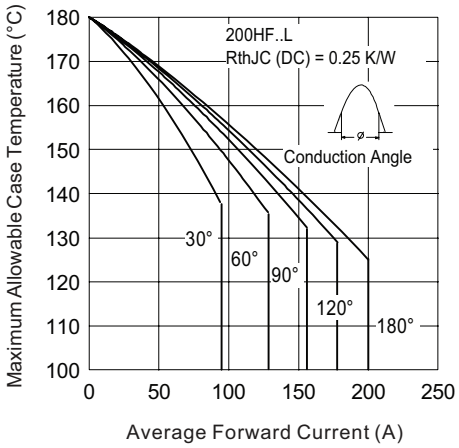


Fig. 1 - Current Ratings Characteristics

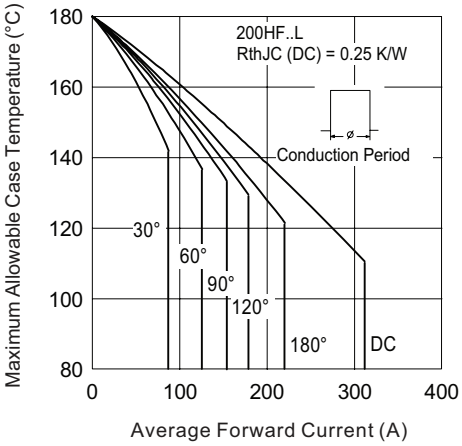


Fig. 2 - Current Ratings Characteristics

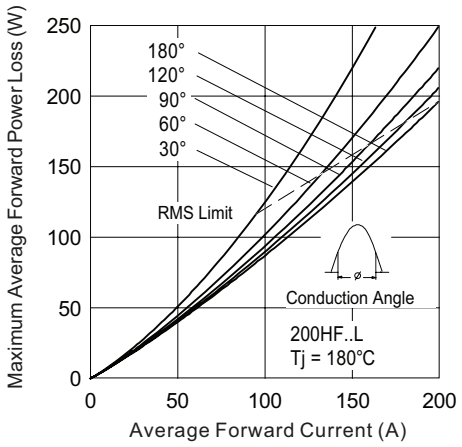


Fig. 3 - Forward Power Loss Characteristics

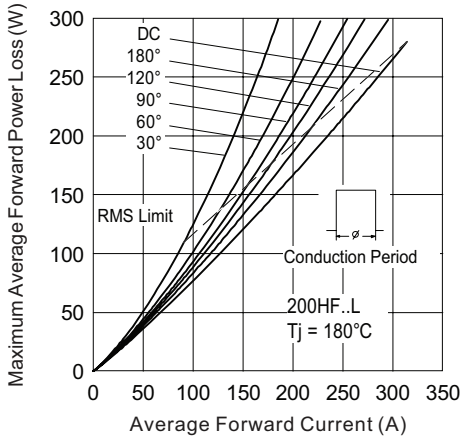


Fig. 4 - Forward Power Loss Characteristics

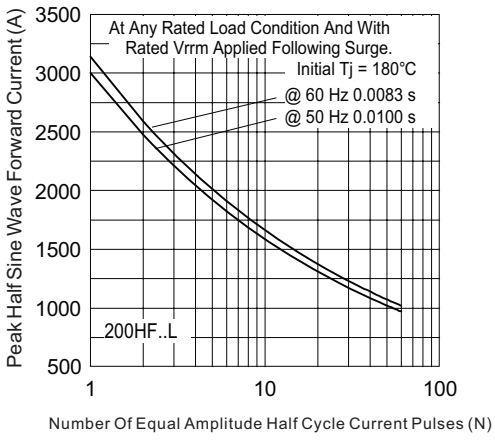


Fig. 5 - Maximum Non-Repetitive Surge Current

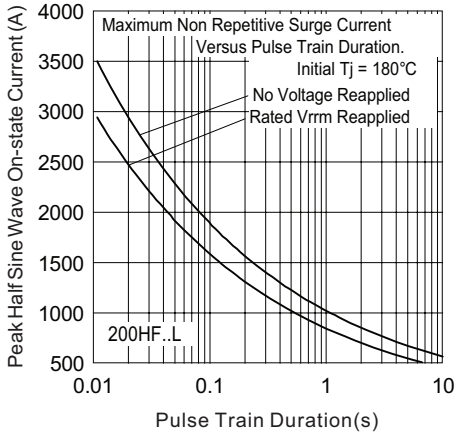


Fig. 6 - Maximum Non-Repetitive Surge Current

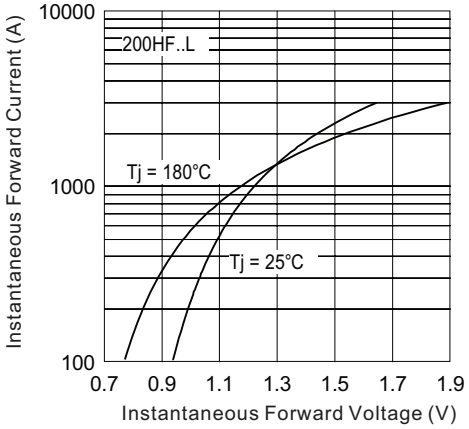


Fig. 7 - Forward Voltage Drop Characteristics

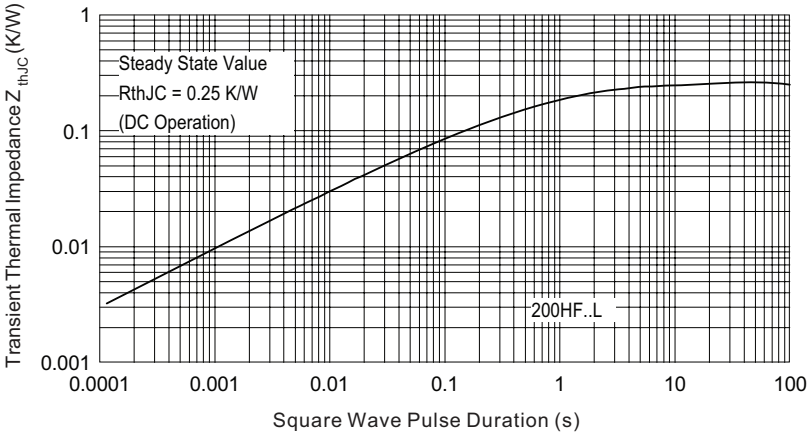


Fig. 8 - Thermal Impedance Z_{thJC} Characteristic

ORDERING INFORMATION TABLE

Device code

200	HF	40	P	V	L	1
1	2	3	4	5	6	7

1 - 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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