

Single Phase Bridge (Power Modules), 25 A/35 A



D-34

FEATURES

- Universal, 3 way terminals:
Push-on, wrap around or solder
- High thermal conductivity package, electrically insulated case
- Center hole fixing
- Excellent power/volume ratio
- UL E300359 approved
- Nickel plated terminals solderable using lead (Pb)-free solder; Solder Alloy Sn/Ag/Cu (SAC305); Solder temperature 260 °C to 275 °C
- Designed and qualified for industrial level
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912


**RoHS
COMPLIANT**

PRODUCT SUMMARY

I_o	25 A to 35 A
V_{RRM}	200 V to 1200 V
Package	D-34
Circuit	Single Phase Bridge

DESCRIPTION

A range of extremely compact, encapsulated single phase bridge rectifiers offering efficient and reliable operation. They are intended for use in general purpose and instrumentation applications.

MAJOR RATINGS AND CHARACTERISTICS

SYMBOL	CHARACTERISTICS	VALUES 26MB-A	VALUES 36MB-A	UNITS
I_o		25	35	A
	T_C	65	60	°C
I_{FSM}	50 Hz	400	475	A
	60 Hz	420	500	
I^2t	50 Hz	790	1130	A ² s
	60 Hz	725	1030	
V_{RRM}	Range	200 to 1200		V
T_J		- 55 to 150		°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 MAXIMUM
26MB..A 36MB..A	20	200	275	2
	40	400	500	
	60	600	725	
	80	800	900	
	100	1000	1100	
	120	1200	1300	



FORWARD CONDUCTION							
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES 26MB-A	VALUES 36MB-A	UNITS	
Maximum DC output current at case temperature	I _O	Resistive or inductive load		25	35	A	
		Capacitive load		20	28		
				65	60	°C	
Maximum peak, one-cycle non-repetitive forward current	I _{FSM}	t = 10 ms	No voltage reapplied	Initial T _J = T _J maximum	400	475	A
		t = 8.3 ms					
		t = 10 ms	100 % V _{RRM} reapplied		335	400	
		t = 8.3 ms			350	420	
Maximum I ² t for fusing	I ² t	t = 10 ms	No voltage reapplied	Initial T _J = T _J maximum	790	1130	A ² s
		t = 8.3 ms					
		t = 10 ms	100 % V _{RRM} reapplied		560	800	
		t = 8.3 ms			512	730	
Maximum I ² √t for fusing	I ² √t	I ² t for time t _x = I ₂ √t × √t _x ; 0.1 ≤ t _x ≤ 10 ms, V _{RRM} = 0 V		5.6	11.3	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 maximum		0.76	0.79	V	
High level value of threshold voltage	V _{F(TO)2}	(I > π × I _{F(AV)}), T _J maximum		0.92	0.96		
Low level forward slope resistance	r _{t1}	(16.7 % × π × I _{F(AV)} < I < π × I _{F(AV)}), T _J maximum		6.8	5.8	mΩ	
High level forward slope resistance	r _{t2}	(I > π × I _{F(AV)}), T _J maximum		5.0	4.5		
Maximum forward voltage drop	V _{FM}	T _J = 25 °C, I _{FM} = 40 A _{pk} (26MB)		t _p = 400 μs	1.11	1.14	V
		T _J = 25 °C, I _{FM} = 55 A _{pk} (36MB)					
Maximum DC reverse current	I _{RRM}	T _J = 25 °C, per diode at V _{RRM}		10		μA	
RMS isolation voltage base plate	V _{INS}	f = 50 Hz, t = 1 s		2700		V	

THERMAL AND MECHANICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES 26MB-A	VALUES 36MB-A	UNITS
Junction and storage temperature range	T _J , T _{Stg}			- 55 to 150		°C
Maximum thermal resistance junction to case per bridge	R _{thJC}			1.7	1.2	K/W
Maximum thermal resistance, case to heatsink	R _{thCS}	Mounting surface, smooth, flat and greased		0.2		
Approximate weight				20		g
Mounting torque ± 10 %		Bridge to heatsink		2.0		Nm

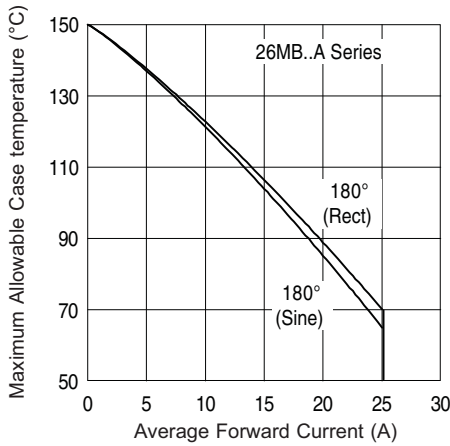


Fig. 1 - Current Ratings Characteristics

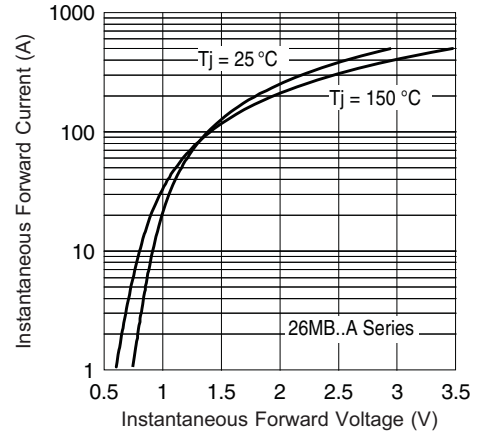


Fig. 2 - Forward Voltage Drop Characteristics Maximum Allowable Ambient Temperature

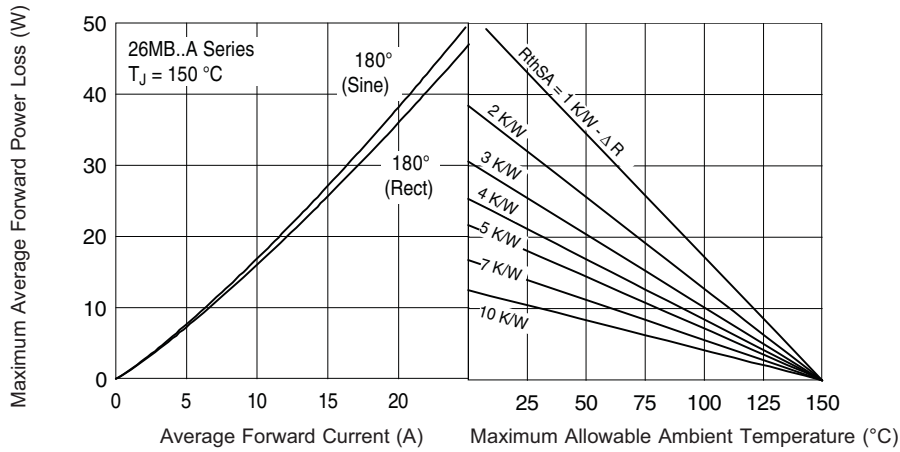


Fig. 3 - Total Power Loss Characteristics

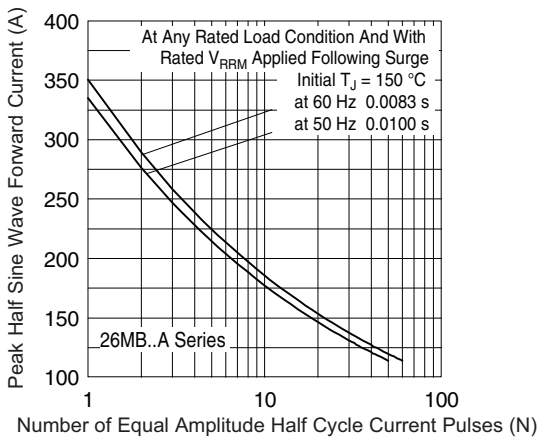


Fig. 4 - Maximum Non-Repetitive Surge Current

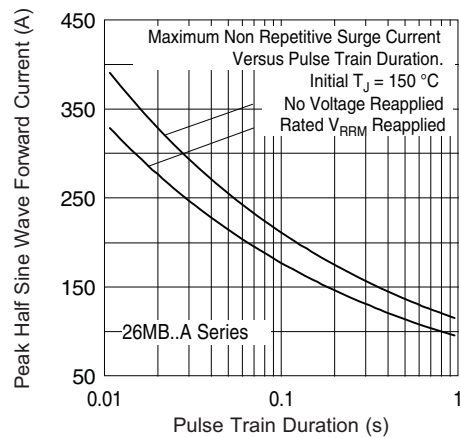


Fig. 5 - Maximum Non-Repetitive Surge Current

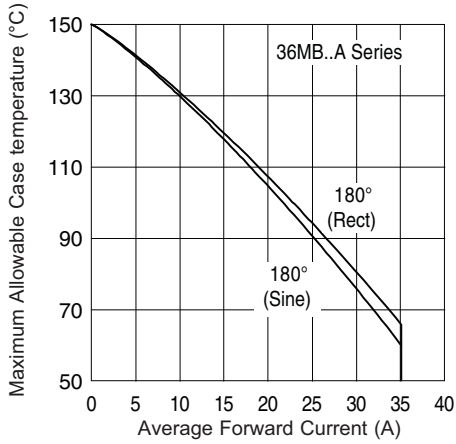


Fig. 6 - Current Ratings Characteristics

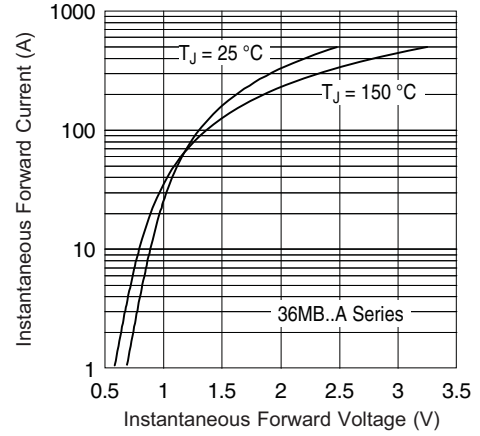


Fig. 7 - Forward Voltage Drop Characteristics

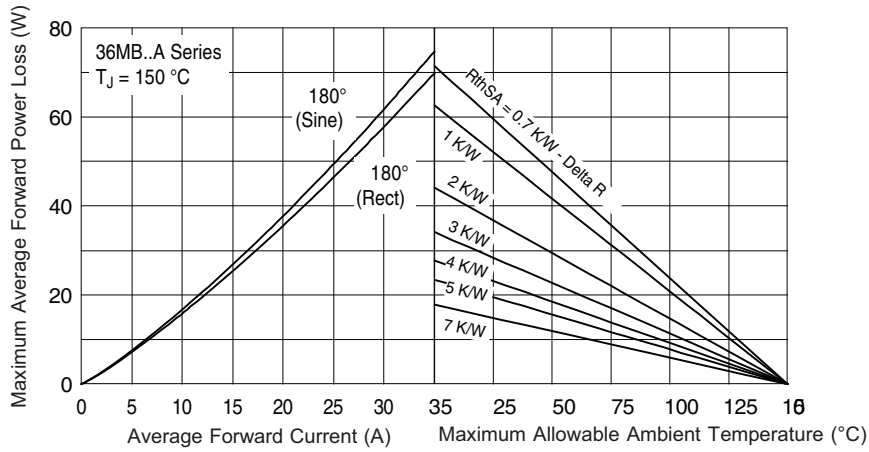


Fig. 8 - Total Power Loss Characteristics

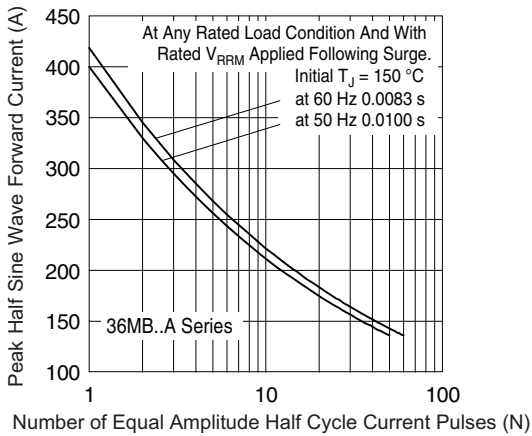


Fig. 9 - Maximum Non-Repetitive Surge Current

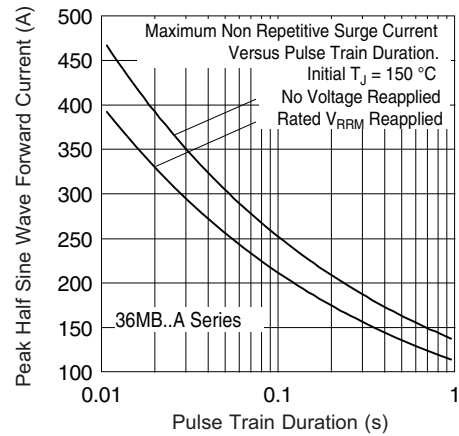


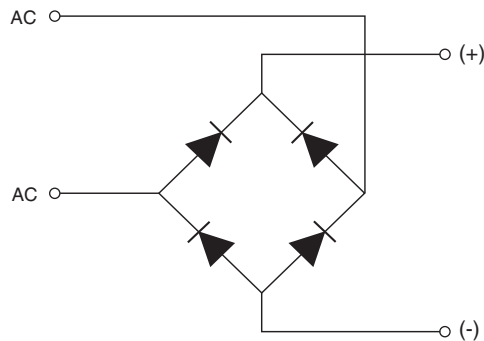
Fig. 10 - Maximum Non-Repetitive Surge Current

ORDERING INFORMATION TABLE

Device code	VS-	36	MB	120	A
	①	②	③	④	⑤
	①	②	③	④	⑤
	①	②	③	④	⑤
	①	②	③	④	⑤
	①	②	③	④	⑤
	①	②	③	④	⑤

- ① - Vishay Semiconductors product
- ② - Current rating code

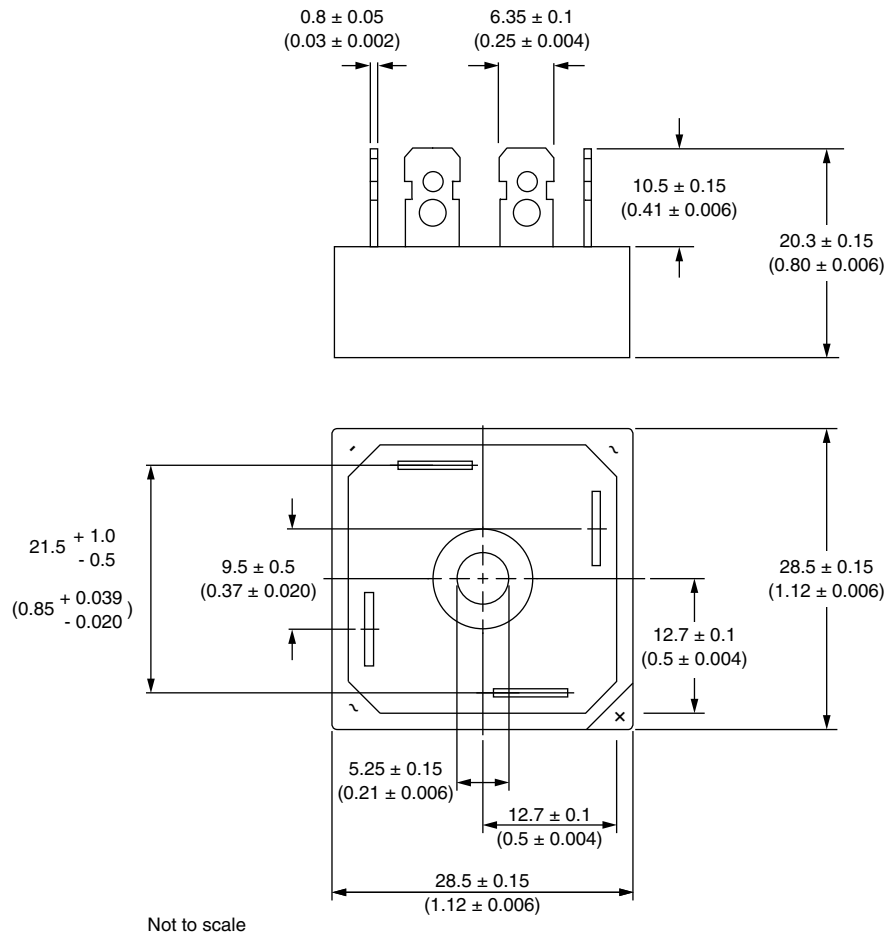
26 = 25 A (average)
36 = 35 A (average)
- ③ - Circuit configuration:
MB = Single phase european coding
- ④ - Voltage code x 10 = V_{RRM}
- ⑤ - Diode bridge rectifier:
A = 26 MB, 36 MB series

CIRCUIT CONFIGURATION

LINKS TO RELATED DOCUMENTS

Dimensions	www.vishay.com/doc?95326
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D-34

DIMENSIONS in millimeters (inches)



Suggested plugging force:
200 N max; axially applied to fast-on terminals



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