

## 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](http://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 <sup>2</sup> 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 <sub>O</sub>	Resistive or inductive load		25	35	A	
		Capacitive load		20	28		
				65	60	°C	
Maximum peak, one-cycle non-repetitive forward current	I <sub>FSM</sub>	t = 10 ms	No voltage reapplied	Initial T <sub>J</sub> = T <sub>J</sub> maximum	400	475	A
		t = 8.3 ms					
		t = 10 ms	100 % V <sub>RRM</sub> reapplied		335	400	
		t = 8.3 ms			350	420	
Maximum I <sup>2</sup> t for fusing	I <sup>2</sup> t	t = 10 ms	No voltage reapplied	Initial T <sub>J</sub> = T <sub>J</sub> maximum	790	1130	A <sup>2</sup> s
		t = 8.3 ms					
		t = 10 ms	100 % V <sub>RRM</sub> reapplied		560	800	
		t = 8.3 ms			512	730	
Maximum I <sup>2</sup> √t for fusing	I <sup>2</sup> √t	I <sup>2</sup> t for time t <sub>x</sub> = I <sub>2</sub> √t × √t <sub>x</sub> ; 0.1 ≤ t <sub>x</sub> ≤ 10 ms, V <sub>RRM</sub> = 0 V		5.6	11.3	kA <sup>2</sup> √s	
Low level value of threshold voltage	V <sub>F(TO)1</sub>	(16.7 % × π × I <sub>F(AV)</sub> < I < π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		0.76	0.79	V	
High level value of threshold voltage	V <sub>F(TO)2</sub>	(I > π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		0.92	0.96		
Low level forward slope resistance	r <sub>t1</sub>	(16.7 % × π × I <sub>F(AV)</sub> < I < π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		6.8	5.8	mΩ	
High level forward slope resistance	r <sub>t2</sub>	(I > π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		5.0	4.5		
Maximum forward voltage drop	V <sub>FM</sub>	T <sub>J</sub> = 25 °C, I <sub>FM</sub> = 40 A <sub>pk</sub> (26MB)		t <sub>p</sub> = 400 μs	1.11	1.14	V
		T <sub>J</sub> = 25 °C, I <sub>FM</sub> = 55 A <sub>pk</sub> (36MB)					
Maximum DC reverse current	I <sub>RRM</sub>	T <sub>J</sub> = 25 °C, per diode at V <sub>RRM</sub>		10		μA	
RMS isolation voltage base plate	V <sub>INS</sub>	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 <sub>J</sub> , T <sub>Stg</sub>			- 55 to 150		°C
Maximum thermal resistance junction to case per bridge	R <sub>thJC</sub>			1.7	1.2	K/W
Maximum thermal resistance, case to heatsink	R <sub>thCS</sub>	Mounting surface, smooth, flat and greased		0.2		
Approximate weight				20		g
Mounting torque ± 10 %		Bridge to heatsink		2.0		Nm

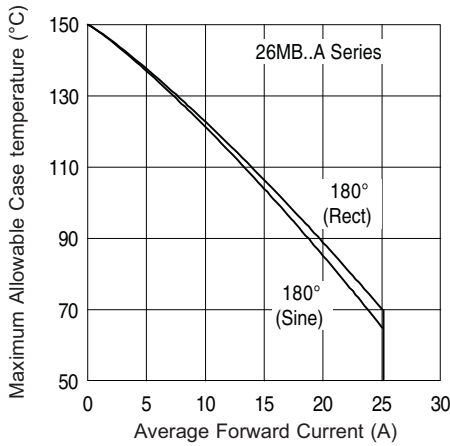


Fig. 1 - Current Ratings Characteristics

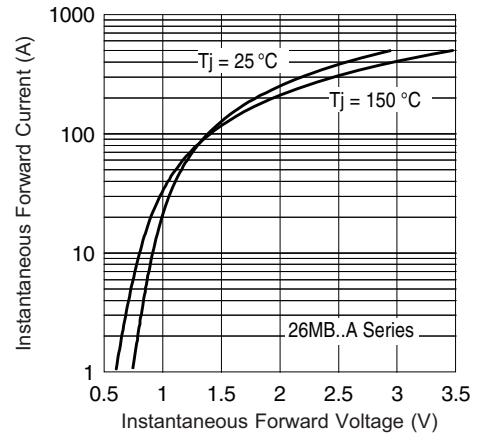


Fig. 2 - Forward Voltage Drop Characteristics Maximum Allowable Ambient Temperature

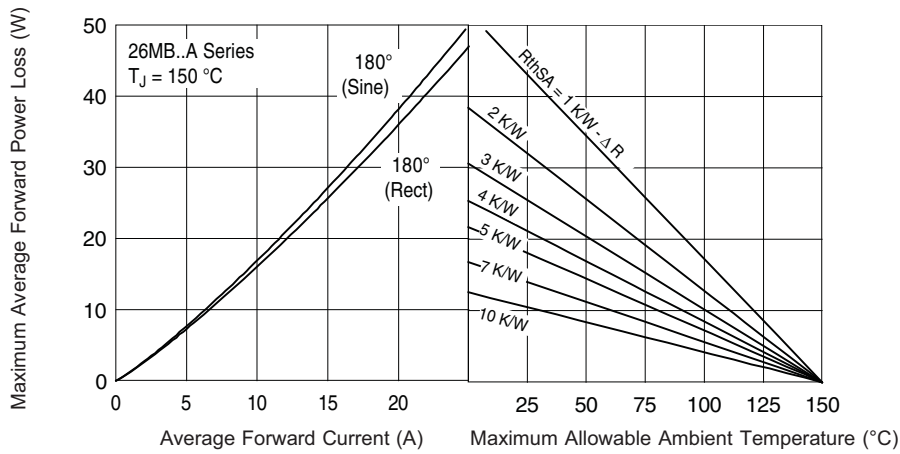


Fig. 3 - Total Power Loss Characteristics

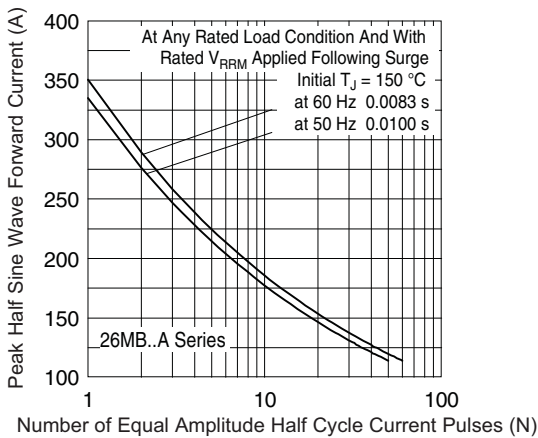


Fig. 4 - Maximum Non-Repetitive Surge Current

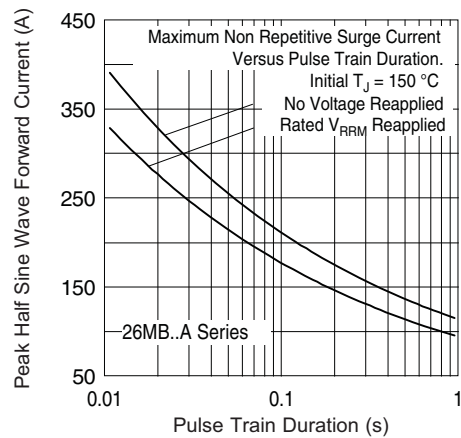


Fig. 5 - Maximum Non-Repetitive Surge Current

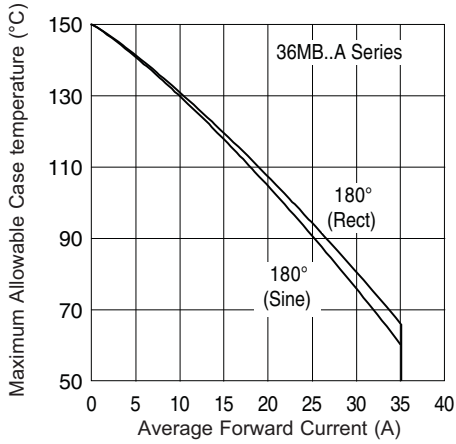


Fig. 6 - Current Ratings Characteristics

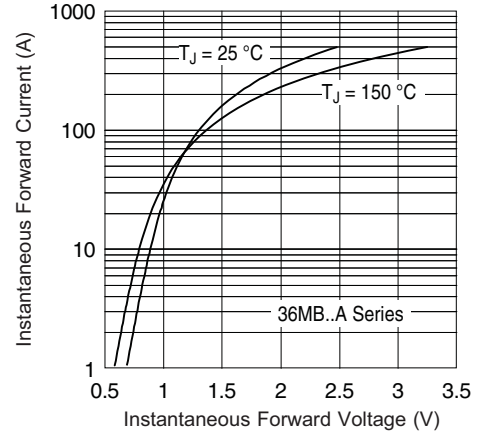


Fig. 7 - Forward Voltage Drop Characteristics

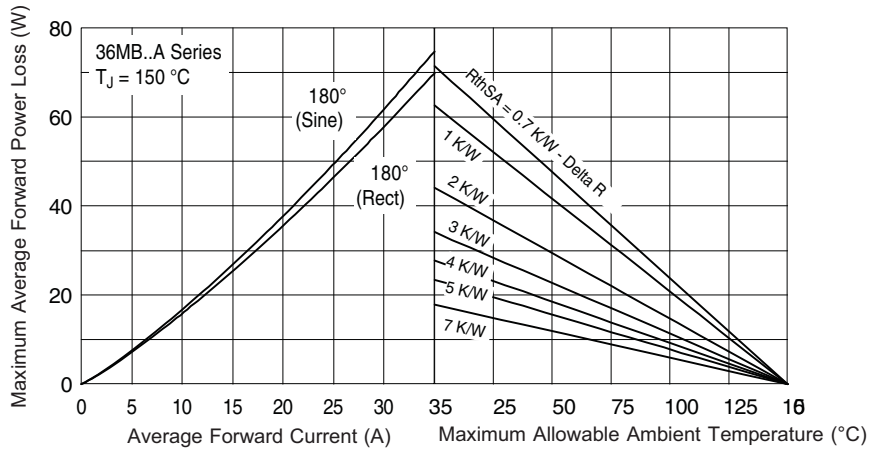


Fig. 8 - Total Power Loss Characteristics

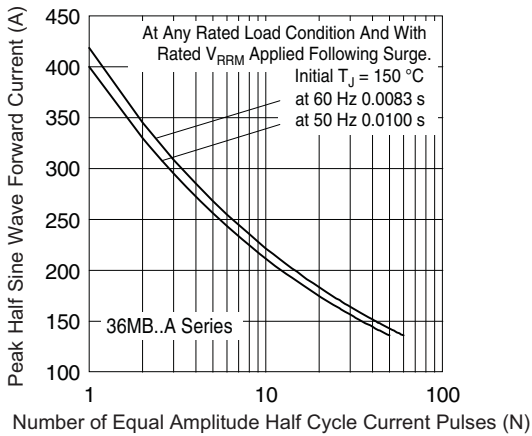


Fig. 9 - Maximum Non-Repetitive Surge Current

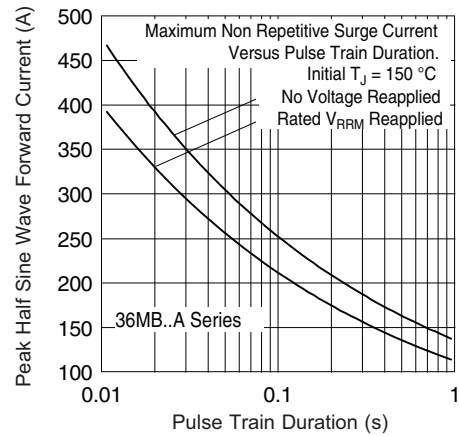


Fig. 10 - Maximum Non-Repetitive Surge Current

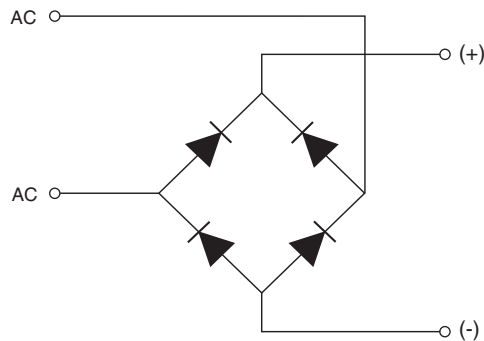
**ORDERING INFORMATION TABLE**

Device code	<b>VS-</b>	<b>36</b>	<b>MB</b>	<b>120</b>	<b>A</b>
	①	②	③	④	⑤

<b>1</b>	-	Vishay Semiconductors product	
<b>2</b>	-	Current rating code	26 = 25 A (average) 36 = 35 A (average)
<b>3</b>	-	Circuit configuration: MB = Single phase european coding	
<b>4</b>	-	Voltage code x 10 = $V_{RRM}$	
<b>5</b>	-	Diode bridge rectifier: A = 26 MB, 36 MB series	

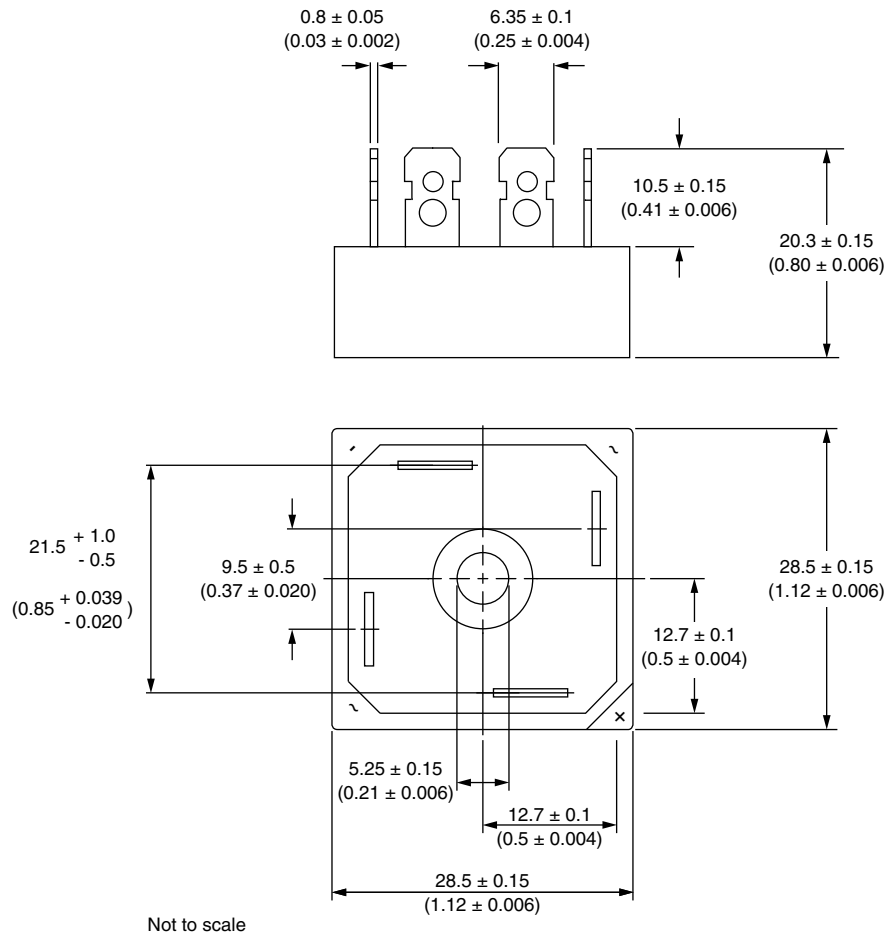
**CIRCUIT CONFIGURATION**



LINKS TO RELATED DOCUMENTS	
Dimensions	<a href="http://www.vishay.com/doc?95326">www.vishay.com/doc?95326</a>

## D-34

**DIMENSIONS** in millimeters (inches)



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



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