## **VS-MB High Voltage Series**

Vishay Semiconductors

## Single Phase Bridge Rectifier, 25 A, 35 A



D-34

PRIMARY CHARACTERISTICS				
I <sub>O</sub>	25 A, 35 A			
$V_{RRM}$	1400 V to 1600 V			
Package	D-34			
Circuit configuration	Single phase bridge			

#### **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
- Nickel plated terminals solderable using lead (Pb)-free solder; solder alloy Sn/Ag/Cu (SAC305); solder temperature 260 °C to 275 °C
- UL E300359 approved
- Designed and qualified for industrial and consumer level
- Material categorization: for definitions of compliance please see <a href="https://www.vishay.com/doc?99912">www.vishay.com/doc?99912</a>

#### **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 26MBA	VALUES 36MBA	UNITS	
1		25	35	A	
I <sub>O</sub>	T <sub>C</sub>	70	55	°C	
I <sub>FSM</sub>	50 Hz	400	475	Δ.	
	60 Hz	420	500	A	
l <sup>2</sup> t	50 Hz	790	1130	A <sup>2</sup> s	
I <sup>-</sup> t	60 Hz	725	1030	A-S	
V <sub>RRM</sub>	Range	1400 to 1600		V	
T <sub>J</sub>		-55 to +150		°C	

#### **ELECTRICAL SPECIFICATIONS**

VOLTAGE RATINGS					
TYPE NUMBER	VOLTAGE CODE	V <sub>RRM</sub> , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V	V <sub>RSM</sub> , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	I <sub>RRM</sub> MAXIMUM AT T <sub>J</sub> MAXIMUM mA	
26MBA	140	1400	1500	2	
36MBA	160	1600	1700	۷	

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FORWARD CONDUCTION							
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES 26MBA	VALUES 36MBA	UNITS	
Mariana DC autaut august	Io	Resistive or inductive load		25	35	Α	
Maximum DC output current at case temperature		Capacitive loa	Capacitive load		20	28	^
at sass tomporatars					65	60	°C
		t = 10 ms	No voltage		400	475	A
Maximum peak, one cycle	I <sub>FSM</sub>	t = 8.3 ms	reapplied		420	500	
non-repetitive forward current		t = 10 ms	100 % V <sub>RRM</sub>		335	400	
		t = 8.3 ms	reapplied	Initial	350	420	
Maximum I <sup>2</sup> t for fusing	l <sup>2</sup> t	t = 10 ms	No voltage	$T_J = T_J$ maximum	790	1130	A <sup>2</sup> s
		t = 8.3 ms	reapplied		725	1030	
		t = 10 ms	100 % V <sub>RRM</sub>		560	800	
		t = 8.3 ms	reapplied		512	730	
Maximum I <sup>2</sup> √t for fusing	I²√t	$I^{2}t$ for time $t_{x} = I^{2}\sqrt{t} \times \sqrt{t_{x}}$ ; $0.1 \le t_{x} \le 10$ ms, $V_{RRM} = 0$ V		5.6	11.3	kA²√s	
Low level of threshold voltage	V <sub>F(TO)1</sub>	(16.7 % x $\pi$ x $I_{F(AV)}$ < I < $\pi$ x $I_{F(AV)}$ ), $I_{J}$ maximum		0.70	0.74	٧	
High level of threshold voltage	V <sub>F(TO)2</sub>	$(I > \pi \times I_{F(AV)}), T_J$ maximum		0.75	0.79		
Low level forward slope resistance	r <sub>t1</sub>	(16.7 % x $\pi$ x $I_{F(AV)}$ < $I$ < $\pi$ x $I_{F(AV)}$ ), $I_{J}$ maximum		7.0	5.5	mΩ	
High level forward slope resistance	r <sub>t2</sub>	$(I > \pi \times I_{F(AV)})$ , $T_J$ maximum		6.4	5.2		
Maximum forward voltage drop	V <sub>FM</sub>	$T_J$ = 25 °C, $t_p$ = 400 $\mu$ s, $I_{FM}$ = 40 $A_{pk}$ (26MB), $I_{FM}$ = 55 $A_{pk}$ (36MB)		1.25	1.3	٧	
Maximum DC reverse current per diode	I <sub>RRM</sub>	T <sub>J</sub> = 25 °C, at V <sub>RRM</sub>		10	10	μΑ	
RMS isolation voltage base plate	$V_{ISOL}$	f = 50 Hz, t = 1 s 2700		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	o 150	°C
Maximum thermal resistance, junction to case per bridge	R <sub>thJC</sub>		1.7	1.35	K/W
Maximum thermal resistance, case to heatsink	R <sub>thCS</sub>	Mounting surface, smooth, flat, and greased	0.2		I IV/VV
Mounting torque ± 10 %		Bridge to heatsink	2	.0	Nm
Approximate weight			2	10	g

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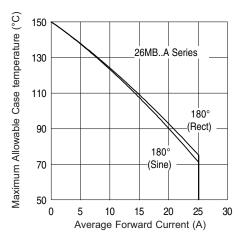


Fig. 1 - Current Ratings Characteristics

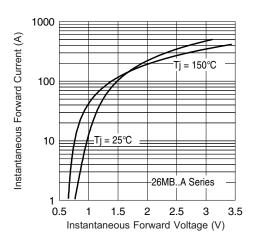


Fig. 2 - Forward Voltage Drop Characteristics

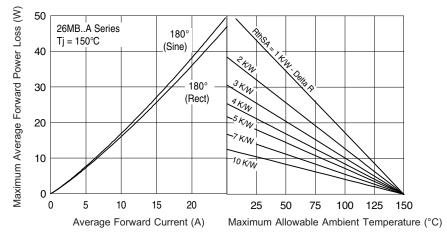


Fig. 3 - Total Power Loss Characteristics

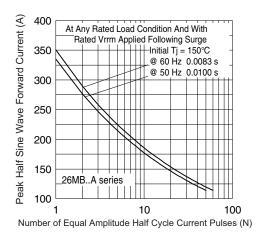


Fig. 4 - Maximum Non-Repetitive Surge Current

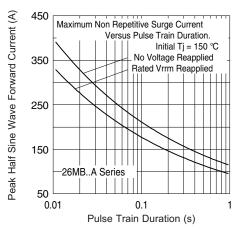


Fig. 5 - Maximum Non-Repetitive Surge Current

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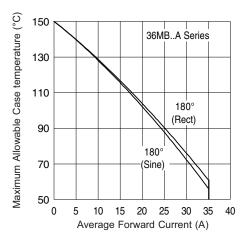


Fig. 6 - Current Ratings Characteristics

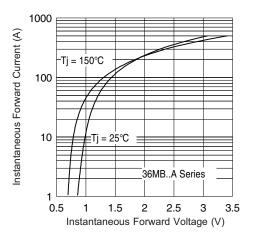


Fig. 7 - Forward Voltage Drop Characteristics

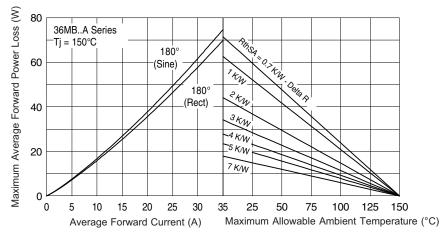


Fig. 8 - Total Power Loss Characteristics

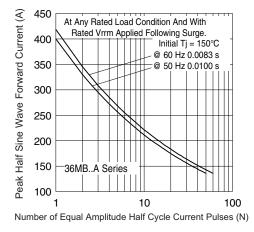


Fig. 9 - Maximum Non-Repetitive Surge Current

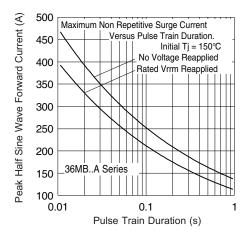


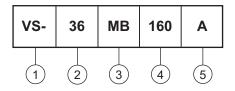
Fig. 10 - Maximum Non-Repetitive Surge Current

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#### **ORDERING INFORMATION TABLE**

**Device code** 



1 - Vishay Semiconductors product

- Current rating code

26 = 25 A (average) 36 = 35 A (average)

Circuit configuration:

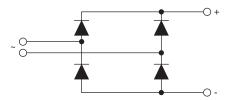
MB = Single phase european coding

Voltage code x 10 = V<sub>RRM</sub>

Diode bridge rectifier:

A = 26 MB, 36 MB series

#### **CIRCUIT CONFIGURATION**



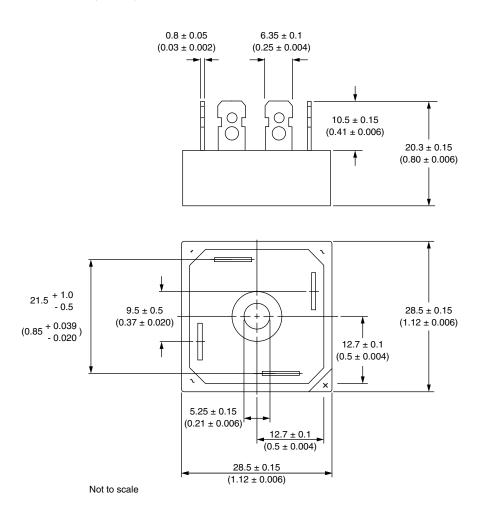
LINKS TO RELATED DOCUMENTS		
Dimensions	www.vishay.com/doc?95326	



## Vishay Semiconductors

### **D-34**

#### **DIMENSIONS** in millimeters (inches)



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



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