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VS-MB Series

Vishay Semiconductors

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



www.vishay.com

D-34

PRODUCT SUMMARY				
Io	25 A to 35 A			
V _{RRM}	200 V to 1200 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
- 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 <u>www.vishay.com/doc?99912</u>

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 _O	T _C	65	60	°C	
	50 Hz	400	475	٨	
IFSM	60 Hz	420	500	A	
l ² t	50 Hz	790	1130	A ² s	
1-1	60 Hz	725	1030	A-S	
V _{RRM}	Range	200 to 1200		V	
TJ		-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	
	05	50	75		
	06	60	100		
	10	100	150		
00140	20	200	275		
26MBA, 36MBA	40	400	500	2	
	60	600	725		
_	80	800	900		
	100	1000	1100		
	120	1200	1300		

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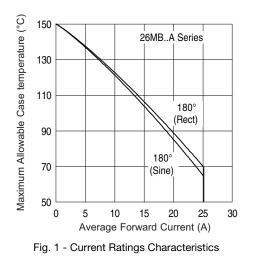




Vishay Semiconductors

FORWARD CONDUCTION							
PARAMETER	SYMBOL		TEST CONDITION	ONS	VALUES 26MBA	VALUES 36MBA	UNITS
M	I _O	Resistive or inductive load		25	35	A	
Maximum DC output current at case temperature		Capacitive load		20	28		
					65	60	°C
Maximum peak, one-cycle non-repetitive forward current		t = 10 ms	No voltage	Initial	400	475	A
	I =0.1	t = 8.3 ms	reapplied		420	500	
	I _{FSM}	t = 10 ms	100 % V _{RRM}		335	400	
		t = 8.3 ms	reapplied		350	420	
Maximum I ² t for fusing	l ² t	t = 10 ms	No voltage	$T_J = T_J maximum$	790	1130	A ² s
		t = 8.3 ms	reapplied		725	1030	
		t = 10 ms	100 % V _{RRM}		560	800	
		t = 8.3 ms	reapplied		512	730	
Maximum I ² \sqrt{t} for fusing	l²√t	$l^{2}t$ for time t_{x} = $l_{2}\sqrt{\tau}x\sqrt{\tau_{x}};$ 0.1 \leq t_{x} \leq 10 ms, V_{RRM} = 0 V		5.6	11.3	kA²√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 maximum		0.76	0.79	v	
High level value of threshold voltage	V _{F(TO)2}	$(I > \pi \times I_{F(AV)}), T_J$ maximum		0.92	0.96	v	
Low level forward slope resistance	r _{t1}	(16.7 % x π x I _{F(AV)} < I < π x I _{F(AV)}), T _J maximum		6.8	5.8	mΩ	
High level forward slope resistance	r _{t2}	$(I > \pi \times I_{F(AV)}), T_J$ maximum		5.0	4.5	11122	
Maximum forward voltage drop	V _{FM}		$_{\rm M} = 40 A_{\rm pk} (26 {\rm MB})$ $t_{\rm p} = 400 \mu {\rm s}$		1.11	1.14	V
Maximum forward voltage drop		$T_J = 25 \text{ °C}, I_{FM} = 55 \text{ A}_{pk} (36\text{MB})$		1.11	1.14	v	
Maximum DC reverse current	I _{RRM}	$T_J = 25$ °C, per diode at V_{RRM}		$T_J = 25 \text{ °C}$, per diode at V_{RRM} 10		0	μA
RMS isolation voltage base plate	V _{INS}	f = 50 Hz, t = 1 s		27	00	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	o 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		r./ vv
Approximate weight			20		g
Mounting torque ± 10 %		Bridge to heatsink	2	.0	Nm



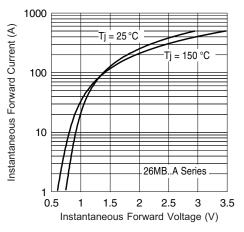


Fig. 2 - Forward Voltage Drop Characteristics Maximum Allowable Ambient Temperature

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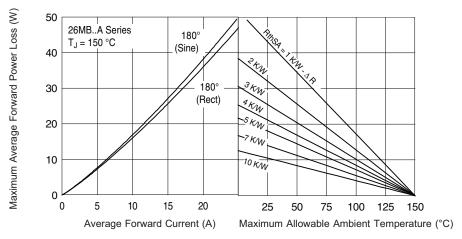
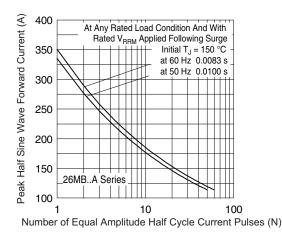


Fig. 3 - Total Power Loss Characteristics



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Fig. 4 - Maximum Non-Repetitive Surge Current

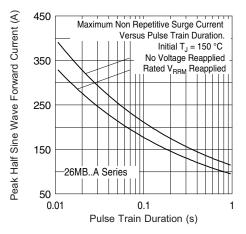


Fig. 5 - Maximum Non-Repetitive Surge Current

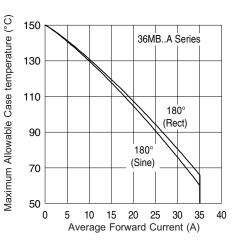
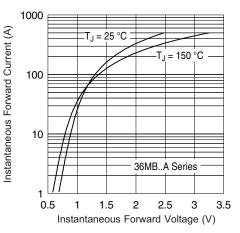


Fig. 6 - Current Ratings Characteristics





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VS-MB Series

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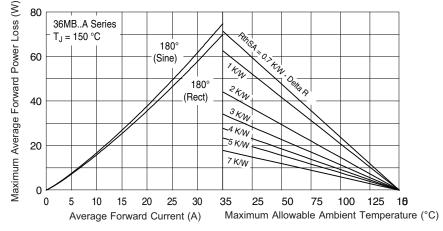


Fig. 8 - Total Power Loss Characteristics

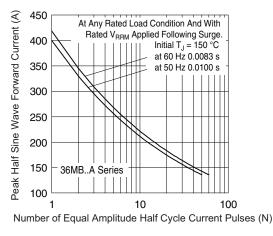


Fig. 9 - Maximum Non-Repetitive Surge Current

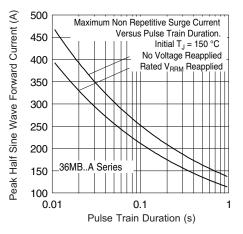


Fig. 10 - Maximum Non-Repetitive Surge Current

ORDERING INFORMATION TABLE

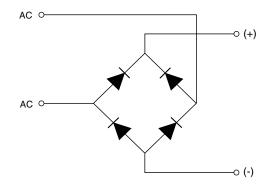
vs-36 MB 120 **Device code** Α 2 3 4 5 1 Vishay Semiconductors product 1 26 = 25 A (average) 2 Current rating code 36 = 35 A (average) 3 Circuit configuration: MB = Single phase european coding Voltage code x $10 = V_{RRM}$ 4 5 Diode bridge rectifier: A = 26 MB, 36 MB series



VS-MB Series

Vishay Semiconductors

CIRCUIT CONFIGURATION



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

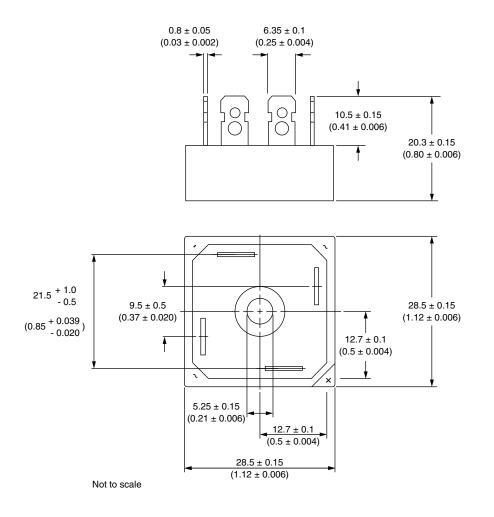


Outline Dimensions

Vishay Semiconductors

D-34

DIMENSIONS in millimeters (inches)



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



Vishay

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