

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



D-34

PRIMARY CHARACTERISTICS

I_O	25 A to 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 www.vishay.com/doc?99912


RoHS
COMPLIANT

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	70	55	°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	1400 to 1600		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 mA
26MB..A	140	1400	1500	2
36MB..A	160	1600	1700	

**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			420	500	
		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		790	1130	A ² s
		t = 8.3 ms			725	1030	
		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 x √t _x ; 0.1 ≤ t _x ≤ 10 ms, V _{RRM} = 0 V		5.6	11.3	kA ² √s	
Low level of threshold voltage	V _{F(TO)1}	(16.7 % x π x I _{F(AV)} < I < π x I _{F(AV)}), T _J maximum		0.70	0.74	V	
High level of threshold voltage	V _{F(TO)2}	(I > π x I _{F(AV)}), T _J maximum		0.75	0.79		
Low level forward slope resistance	r _{t1}	(16.7 % x π x I _{F(AV)} < I < π x I _{F(AV)}), T _J maximum		7.0	5.5	mΩ	
High level forward slope resistance	r _{t2}	(I > π x I _{F(AV)}), T _J maximum		6.4	5.2		
Maximum forward voltage drop	V _{FM}	T _J = 25 °C, t _p = 400 μs, I _{FM} = 40 A _{pk} (26MB), I _{FM} = 55 A _{pk} (36MB)		1.25	1.3	V	
Maximum DC reverse current per diode	I _{RRM}	T _J = 25 °C, at V _{RRM}		10	10	μA	
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 _J , T _{Stg}		-55 to 150		°C
Maximum thermal resistance, junction to case per bridge	R _{thJC}		1.7	1.35	K/W
Maximum thermal resistance, case to heatsink	R _{thCS}	Mounting surface, smooth, flat and greased	0.2		
Mounting torque ± 10 %		Bridge to heatsink	2.0		Nm
Approximate weight			20		g

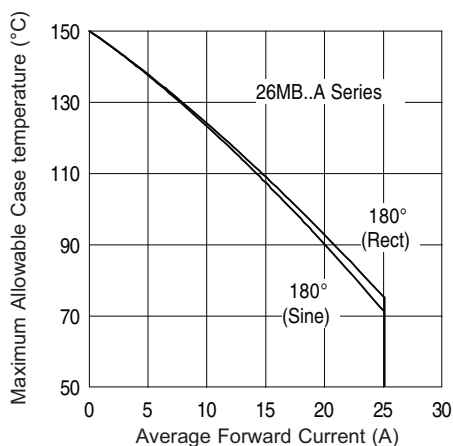


Fig. 1 - Current Ratings Characteristics

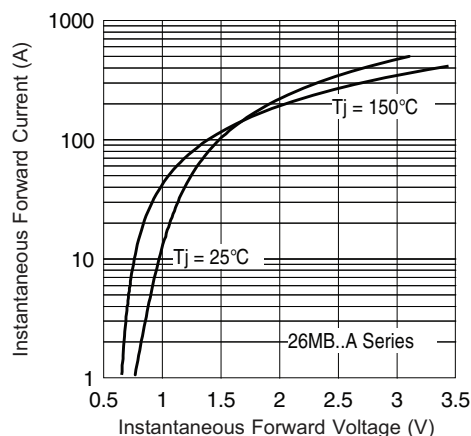


Fig. 2 - Forward Voltage Drop Characteristics

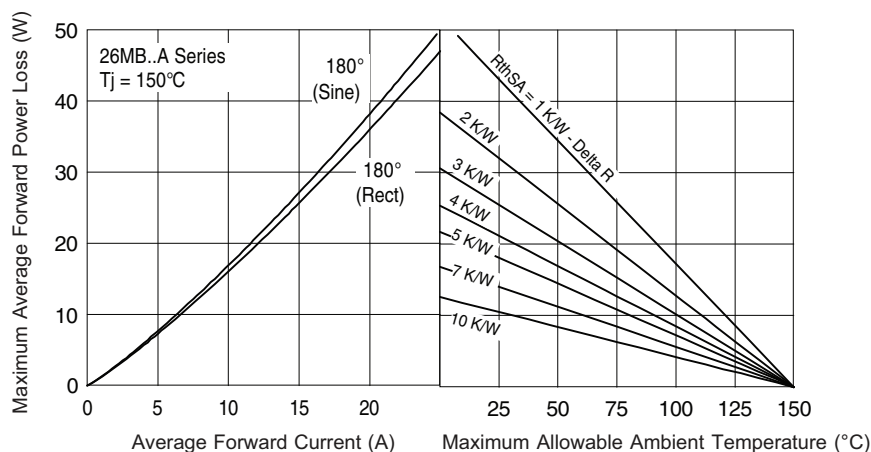


Fig. 3 - Total Power Loss Characteristics

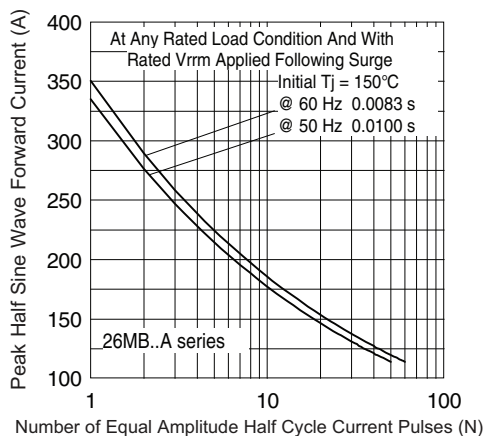


Fig. 4 - Maximum Non-Repetitive Surge Current

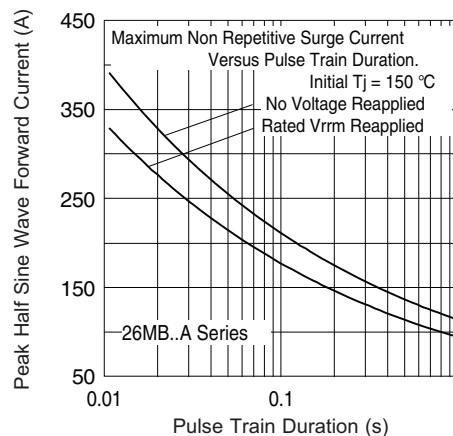


Fig. 5 - Maximum Non-Repetitive Surge Current

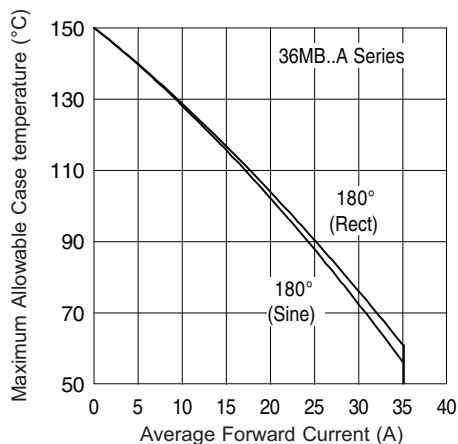


Fig. 6 - Current Ratings Characteristics

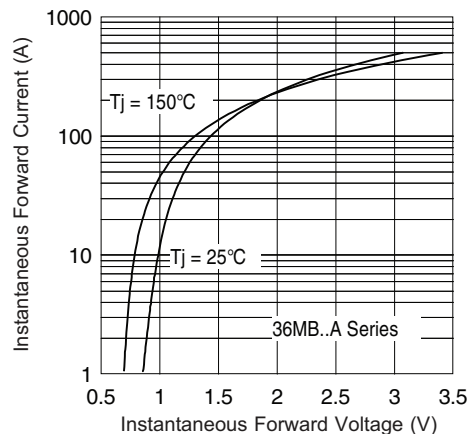


Fig. 7 - Forward Voltage Drop Characteristics

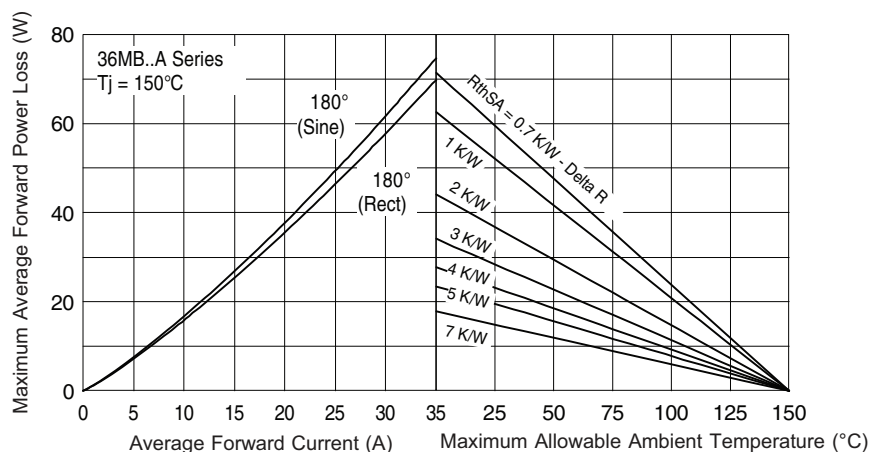


Fig. 8 - Total Power Loss Characteristics

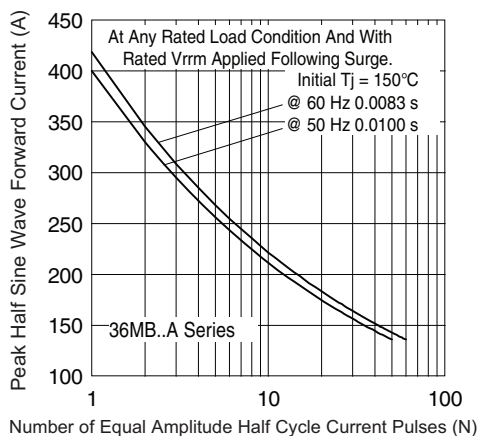


Fig. 9 - Maximum Non-Repetitive Surge Current

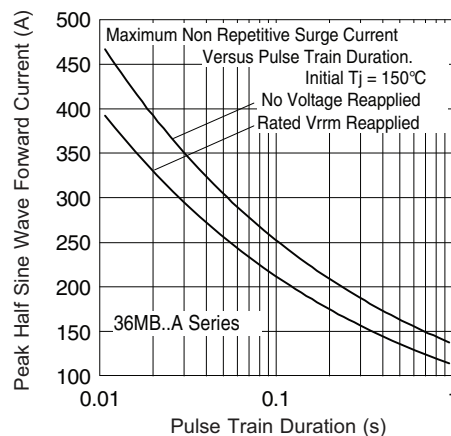


Fig. 10 - Maximum Non-Repetitive Surge Current

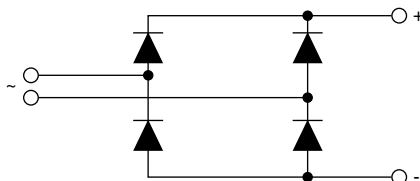


ORDERING INFORMATION TABLE

Device code	VS-	36	MB	160	A
	1	2	3	4	5
1	Vishay Semiconductors product				
2	Current rating code				
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				

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

CIRCUIT CONFIGURATION



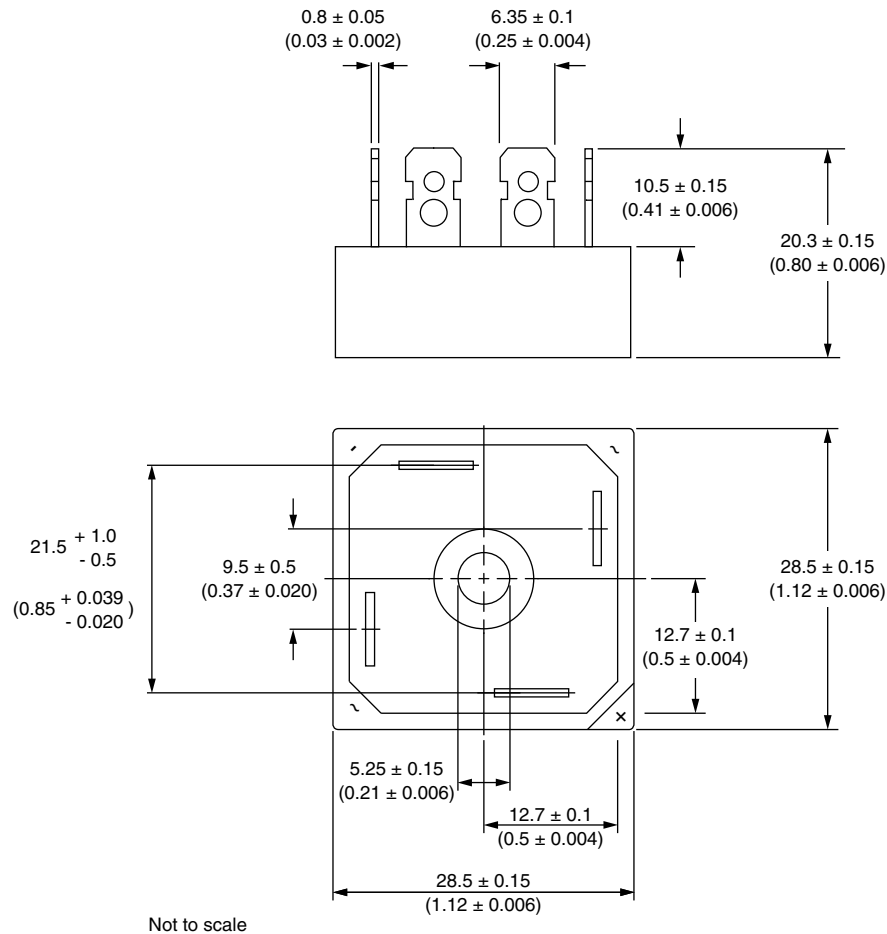
LINKS TO RELATED DOCUMENTS

Dimensions

www.vishay.com/doc?95326

D-34

DIMENSIONS in millimeters (inches)



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



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