


## MB & JB SERIES

### SINGLE PHASE BRIDGE

### Power Modules

#### 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 E 62320 approved 

10 A  
 25 A  
 35 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

Parameters	100JB-L	26MB-A 250JB-L	36MB-A 35MB-A	Units
$I_O$	10	25	35	A
@ $T_C$	65	65	60	°C
$I_{FSM}$ @ 50Hz	148	400	475	A
@ 60Hz	155	420	500	A
$I^2t$ @ 50Hz	110	790	1130	A <sup>2</sup> s
@ 60Hz	100	725	1030	A <sup>2</sup> s
$V_{RRM}$ range	50 to 1600			V
$T_J$	-40 to 150			°C

**ELECTRICAL SPECIFICATIONS**

Voltage Ratings

Typenumber	Voltage Code	$V_{RRM}$ , maximum repetitive peak reverse voltage V	$V_{RSM}$ , maximum non-repetitive peak rev. voltage V	$I_{RRM}$ max. @ $T_J$ max. mA
100JB..L 26MB..A 250JB..L 36MB..A 35MB..A	5	50	75	2
	10	100	150	
	20	200	275	
	40	400	500	
	60	600	725	
	80	800	900	
	100	1000	1100	
	120	1200	1300	
	140	1400	1500	
	160	1600	1700	

Forward Conduction

Parameters		100JB-L	26MB-A 250JB-L	36MB-A 35MB-A	Units	Conditions	
$I_O$	Maximum DC output current	10	25	35	A	Resistive or inductive load	
		8	20	28	A	Capacitive load	
	@ Case temperature	65	65	60	°C		
$I_{FSM}$	Maximum peak, one-cycle non-repetitive forward current	148	400	475	A	t = 10ms	No voltage reappplied
		155	420	500		t = 8.3ms	100% $V_{RRM}$
		125	335	400		t = 10ms	reappplied
		130	350	420		t = 8.3ms	reappplied
$I^2t$	Maximum $I^2t$ for fusing	110	790	1130	A <sup>2</sup> s	t = 10ms	No voltage reappplied
		100	725	1030		t = 8.3ms	100% $V_{RRM}$
		78	560	800		t = 10ms	reappplied
		71	512	730		t = 8.3ms	reappplied
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	1.1	5.6	11.3	KA <sup>2</sup> /s	$I^2t$ for time $t_x = I^2\sqrt{t} \times \sqrt{t_x}$ ; $0.1 \leq t_x \leq 10ms, V_{RRM} = 0V$	
$V_{F(TO)1}$	Low-level of threshold voltage	1.00	0.76	0.79	V	$(16.7\% \times \pi \times I_{F(AV)}) < I < \pi \times I_{F(AV)}$ , @ $T_J$ max.	
$V_{F(TO)2}$	High-level of threshold voltage	1.17	0.92	0.96	V	$I > \pi \times I_{F(AV)}$ , @ $T_J$ max.	
$r_{t1}$	Low-level forward slope resistance	15.4	6.8	5.8	mΩ	$(16.7\% \times \pi \times I_{F(AV)}) < I < \pi \times I_{F(AV)}$ , @ $T_J$ max.	
$r_{t2}$	High-level forward slope resistance	10.8	5.0	4.5	mΩ	$I > \pi \times I_{F(AV)}$ , @ $T_J$ max.	
$V_{FM}$	Maximum forward voltage drop	1.3	1.11	1.14	V	$T_J = 25^\circ C, I_{FM} = I_{Favg(arm)} \times \pi, tp = 400\mu s$	
$I_{RRM}$	Max. DC reverse current	10	10	10	μA	$T_J = 25^\circ C$ , per diode at $V_{RRM}$	
$V_{INS}$	RMS isolation voltage base plate	2700	2700	2700	V	f = 50 Hz, t = 1s	

**Thermal and Mechanical Specifications**

Parameters	100JB-L	26MB-A 250JB-L	36MB-A 35MB-A	Units	Conditions
T <sub>J</sub> Junction temperature range	-40 to 150			°C	
T <sub>stg</sub> Storage temperature range	-40 to 150			°C	
R <sub>thJC</sub> Max. thermal resistance junction to case	3.5	1.7	1.2	K/W	Per bridge
R <sub>thCS</sub> Max. thermal resistance, case to heatsink	0.2			K/W	Mounting surface, smooth, flat and greased
wt Approximate weight	20			g	
T Mounting Torque ± 10%	2.0			Nm	Bridge to heatsink

**Ordering Information Table**

**Device Code**

36	MB	160	A
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1    2    3    4

- 1 - Current rating code:
 

26	&	100	=	10A (Avg)
36	&	250	=	25A (Avg)
		35	=	35A (Avg)
- 2 - Circuit configuration:  
 JB = Single phase american coding  
 MB = Single phase european coding
- 3 - Voltage code: MB series = code x 10 = V<sub>RRM</sub>  
 JB series = code x 100 = V<sub>RRM</sub>
- 4 - Diode bridge rectifier:  
 A = 26MB, 36MB, 35MB Series  
 L = 100JB and 250JB Series

26 & 100 = 10A (Avg)  
36 & 250 = 25A (Avg)  
35 = 35A (Avg)

JB — American coding  
MB — European coding

**Outline Table**

Not To Scale

Suggested plugging force:  
200 N max; axially applied to faston terminals

All dimensions in millimetres (inches)

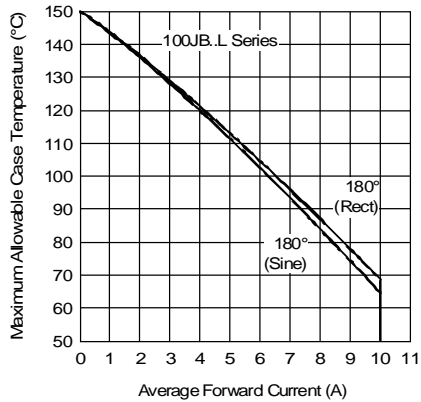


Fig. 1 - Current Ratings Characteristics

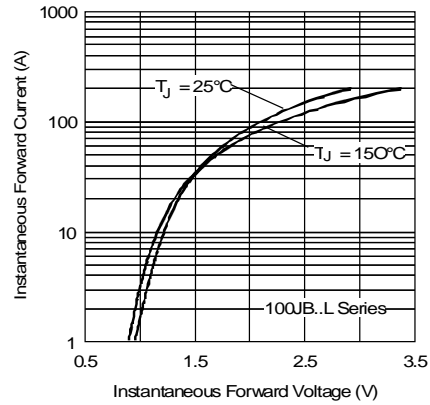


Fig. 2 - Forward Voltage Drop Characteristics

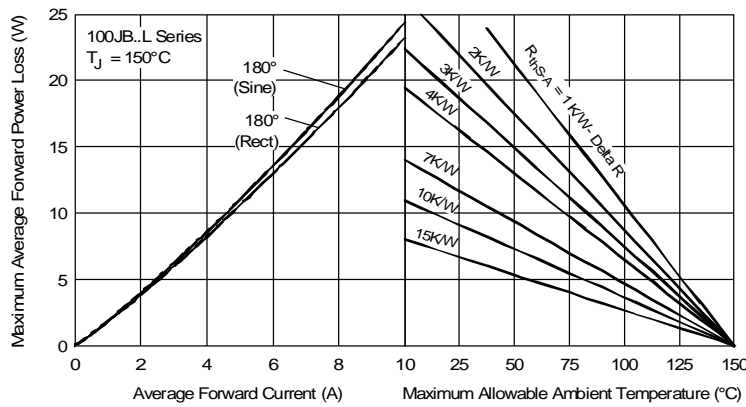


Fig. 3 - Total Power Loss Characteristics

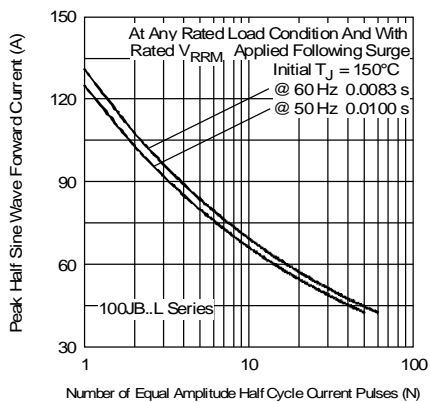


Fig. 4 - Maximum Non-Repetitive Surge Current

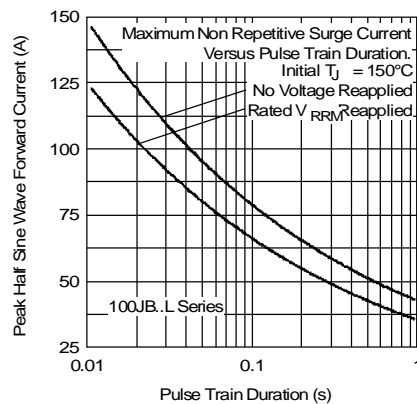


Fig. 5 - Maximum Non-Repetitive Surge Current

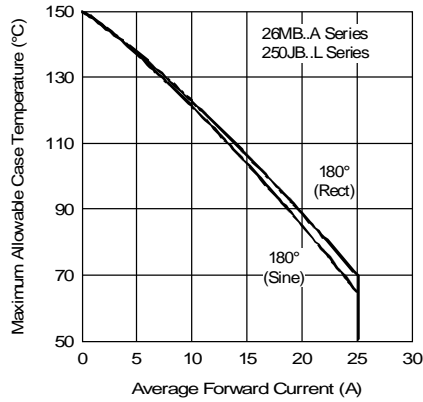


Fig. 6 - Current Ratings Characteristics

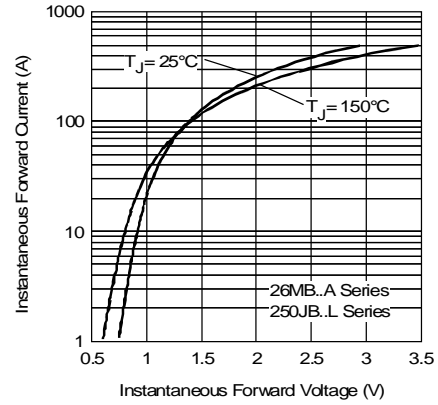


Fig. 7 - Forward Voltage Drop Characteristics

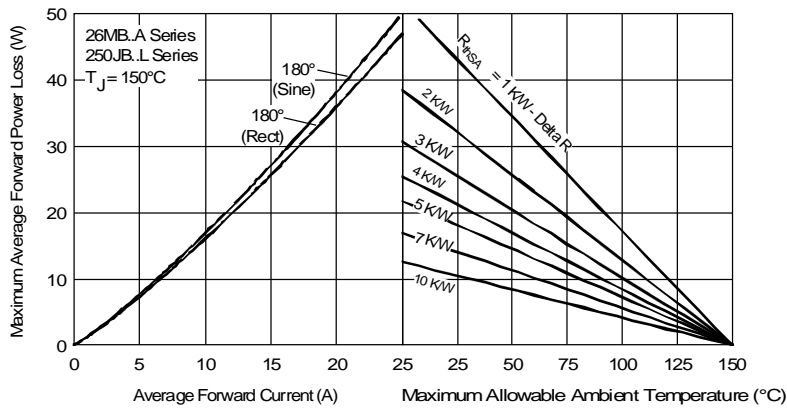


Fig. 8 - Total Power Loss Characteristics

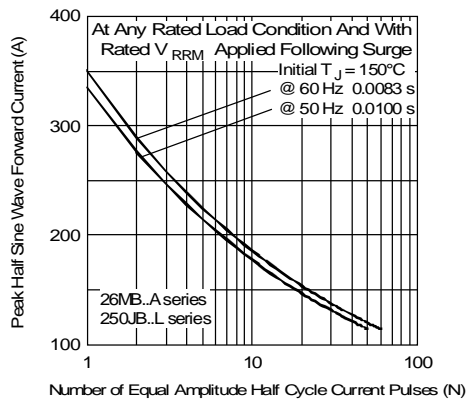


Fig. 9 - Maximum Non-Repetitive Surge Current

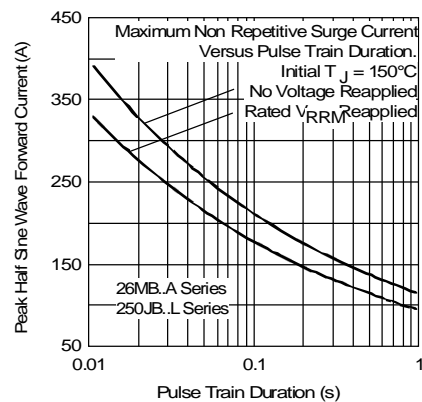


Fig. 10 - Maximum Non-Repetitive Surge Current

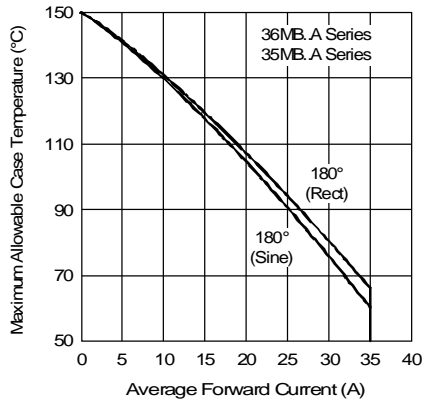


Fig. 11 - Current Ratings Characteristics

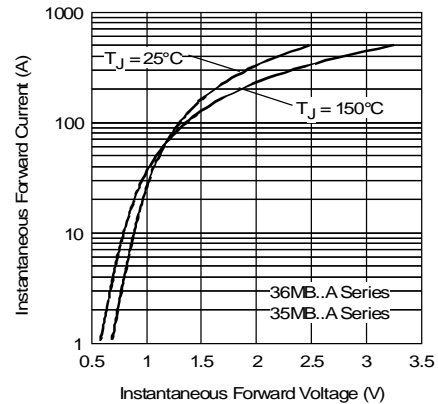


Fig. 12 - Forward Voltage Drop Characteristics

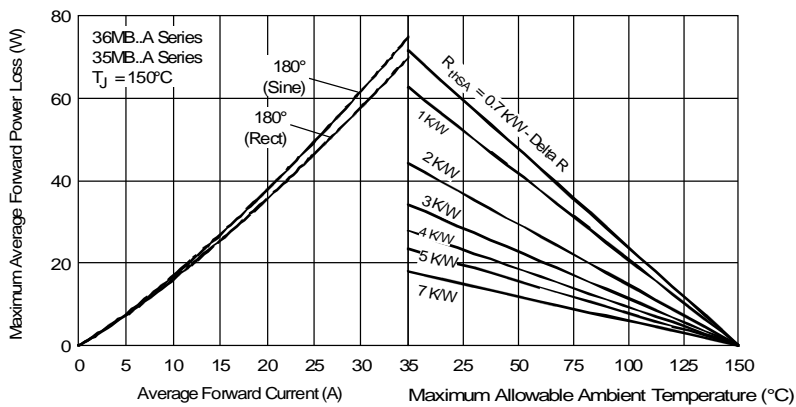


Fig. 13 - Total Power Loss Characteristics

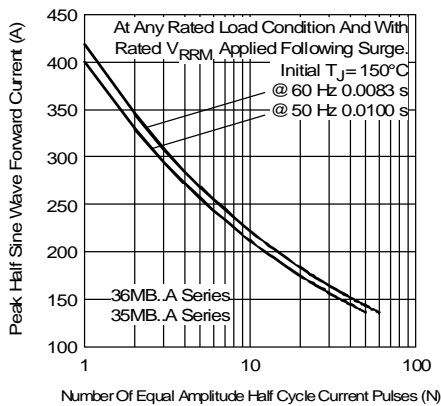


Fig. 14 - Maximum Non-Repetitive Surge Current

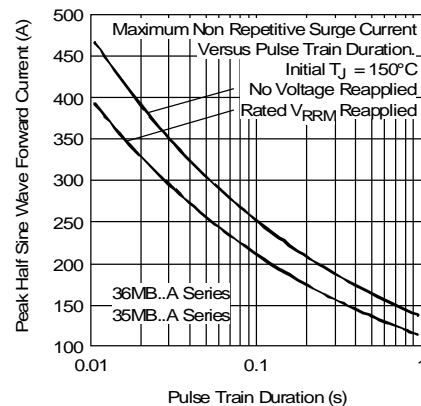


Fig. 15 - Maximum Non-Repetitive Surge Current