


### 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 E300359 approved 
- Nickel plated terminals solderable using Lead-Free solder;  
Solder Alloy Sn/Ag/Cu (SAC305); Solder temperature 260-275°C
- RoHS compliant

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	26MB-A	36MB-A	Units
$I_O$	25	35	A
@ $T_C$	70	55	°C
$I_{FSM}$ @ 50Hz	400	475	A
@ 60Hz	420	500	A
$I^2t$ @ 50Hz	790	1130	A <sup>2</sup> s
@ 60Hz	725	1030	A <sup>2</sup> s
$V_{RRM}$ 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 rev. voltage V	$I_{RRM}$ max. @ $T_J$ max. mA
26MB..A	140	1400	1500	2
36MB..A	160	1600	1700	

Forward Conduction

Parameters	26MB-A	36MB-A	Units	Conditions
$I_O$ Maximum DC output current  @ Case temperature	25	35	A	Resistive or inductive load
	20	28	A	Capacitive load
	65	60	°C	
$I_{FSM}$ Maximum peak, one-cycle non-repetitive forward current	400	475	A	t = 10ms No voltage reappplied
	420	500		t = 8.3ms
	335	400		t = 10ms 100% $V_{RRM}$
	350	420		t = 8.3ms reappplied
$I^2t$ Maximum $I^2t$ for fusing	790	1130	A <sup>2</sup> s	t = 10ms No voltage reappplied
	725	1030		t = 8.3ms
	560	800		t = 10ms 100% $V_{RRM}$
	512	730		t = 8.3ms reappplied
$I^2\sqrt{t}$ Maximum $I^2\sqrt{t}$ for fusing	5.6	11.3	KA <sup>2</sup> √s	$I^2t$ for time $t_x = I^2\sqrt{t_x}\sqrt{t_x}$ ; $0.1 \leq t_x \leq 10ms, V_{RRM} = 0V$
$V_{F(TO)1}$ Low-level of threshold voltage	0.70	0.74	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	0.75	0.79	V	$(I > \pi \times I_{F(AV)})$ , @ $T_J$ max.
$r_{t1}$ Low-level forward slope resistance	7.0	5.5	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	6.4	5.2		$(I > \pi \times I_{F(AV)})$ , @ $T_J$ max.
$V_{FM}$ Maximum forward voltage drop	1.25	1.3	V	$T_J = 25^\circ C, I_{FM} = 40A_{PK}$ (26MB)
				$T_J = 25^\circ C, I_{FM} = 55A_{PK}$ (36MB)
$I_{RRM}$ Max. DC reverse current	10	10	μA	$T_J = 25^\circ C$ , per diode at $V_{RRM}$
$V_{INS}$ RMS isolation voltage base plate	2700	2700	V	f = 50 Hz, t = 1s

Thermal and Mechanical Specifications

Parameters	26MB-A	36MB-A	Units	Conditions
$T_J$ Junction temperature range	-55 to 150 °C			
$T_{stg}$ Storage temperature range	-55 to 150 °C			
$R_{thJC}$ Max. thermal resistance junction to case	1.7	1.35	K/W	Per bridge
$R_{thCS}$ 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
	①	②	③	④
<p><b>1</b> - Current rating code: <span style="float: right; border: 1px solid black; padding: 2px;">26 = 25A (Avg) 36 = 35A (Avg)</span></p> <p><b>2</b> - Circuit configuration: MB = Single phase european coding</p> <p><b>3</b> - Voltage code: MB series = code x 10 = <math>V_{RRM}</math></p> <p><b>4</b> - Diode bridge rectifier: A = 26MB, 36MB Series</p>				

Outline Table

0.8 (.03)      6.3 (.25)

10.5 (.41)      20.3 (.80)

21.5 (0.85)      28.5 (1.12)

9.5 (0.37)      \*12.7 (0.5)

5 (0.2)      \*12.7 (0.5)

28.5 (1.12)

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

Not To Scale

All dimensions in millimetres (inches)

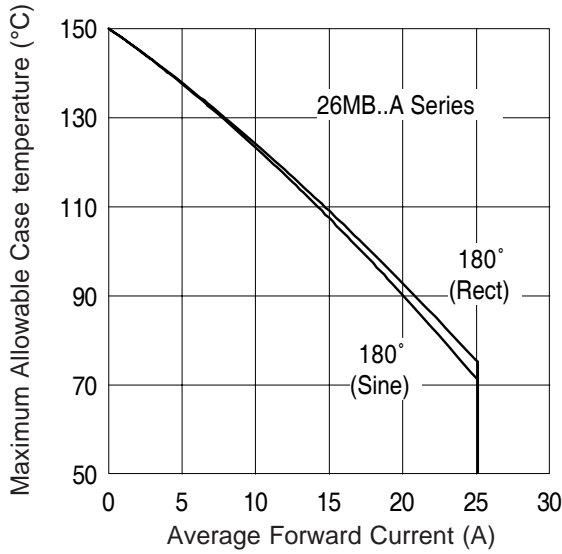


Fig. 1 - Current Ratings Characteristics

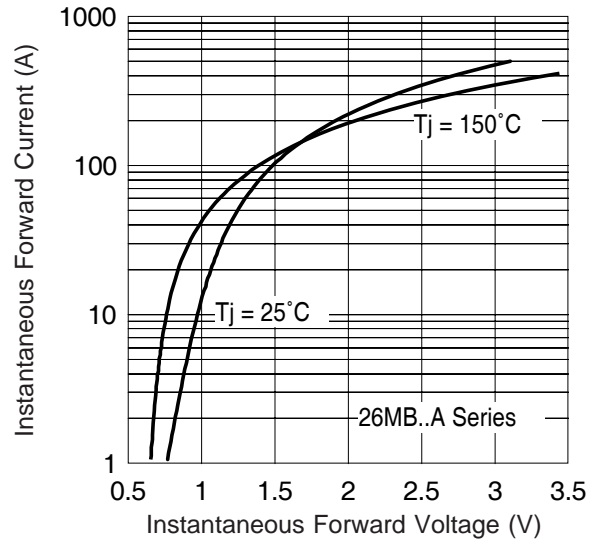


Fig. 2 - Forward Voltage Drop Characteristics  
Maximum Allowable Ambient Te

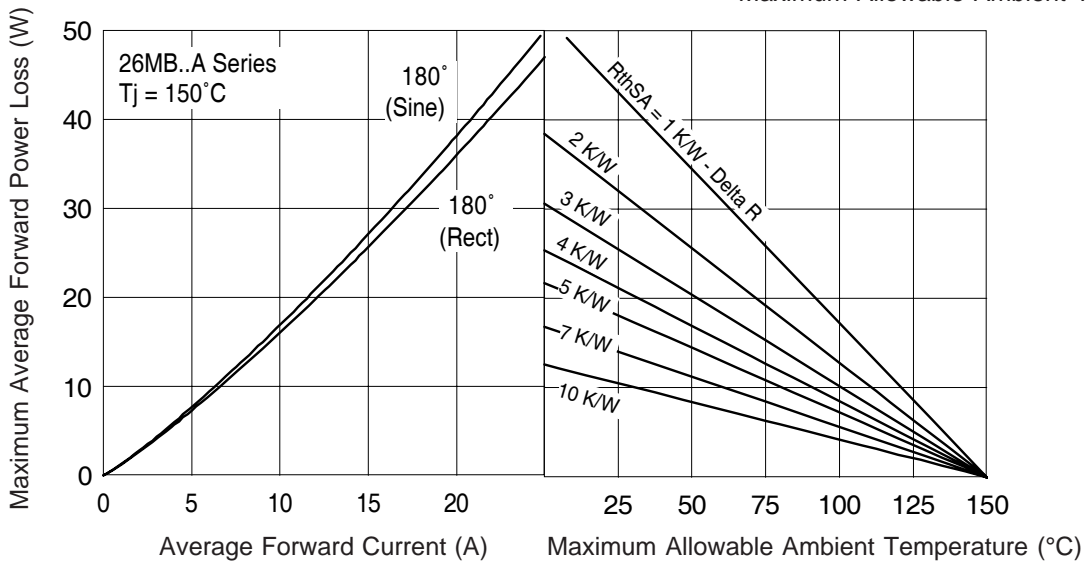


Fig. 3 - Total Power Loss Characteristics

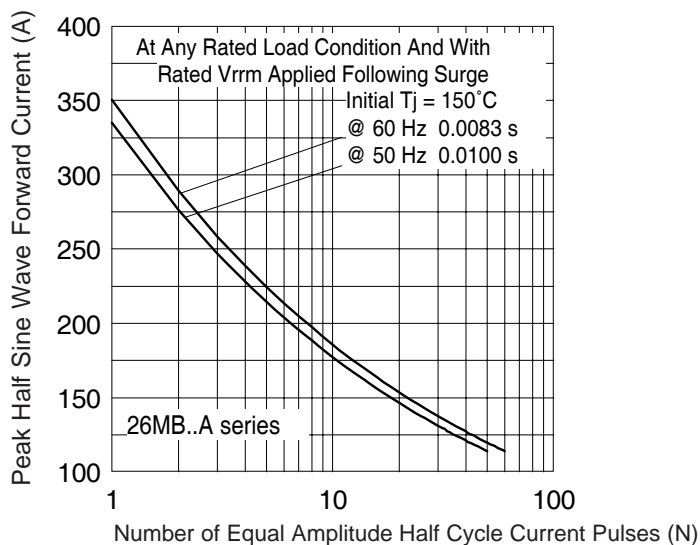


Fig. 4 - Maximum Non-Repetitive Surge Current

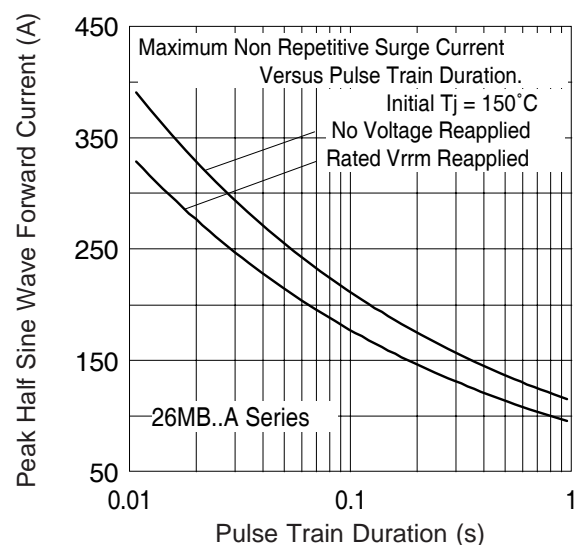


Fig. 5 - Maximum Non-Repetitive Surge Current

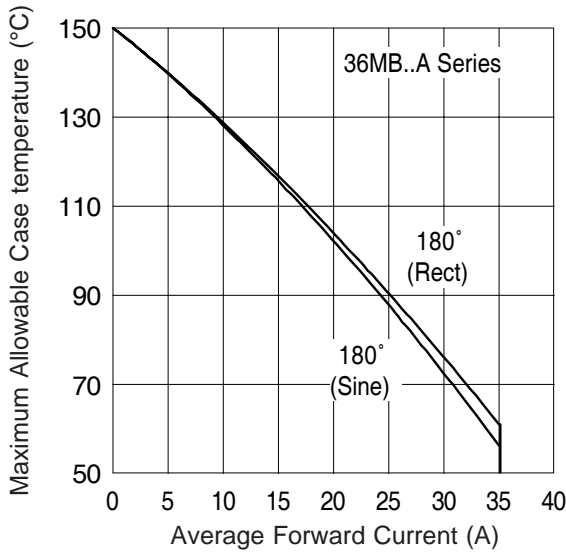


Fig. 6 - Current Ratings Characteristics

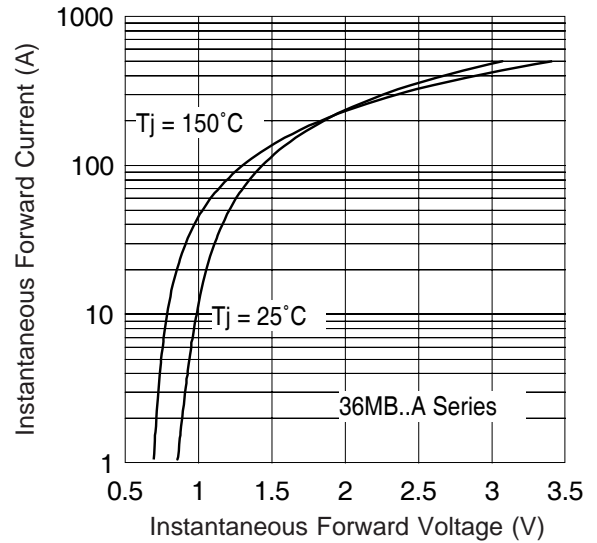


Fig. 7 - Forward Voltage Drop Characteristics

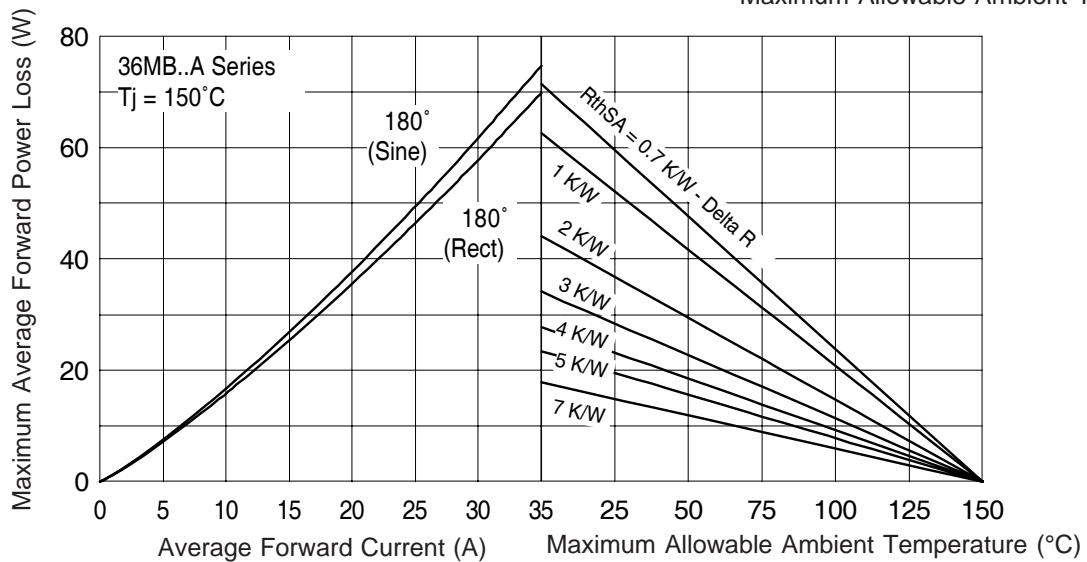


Fig. 3 - Total Power Loss Characteristics

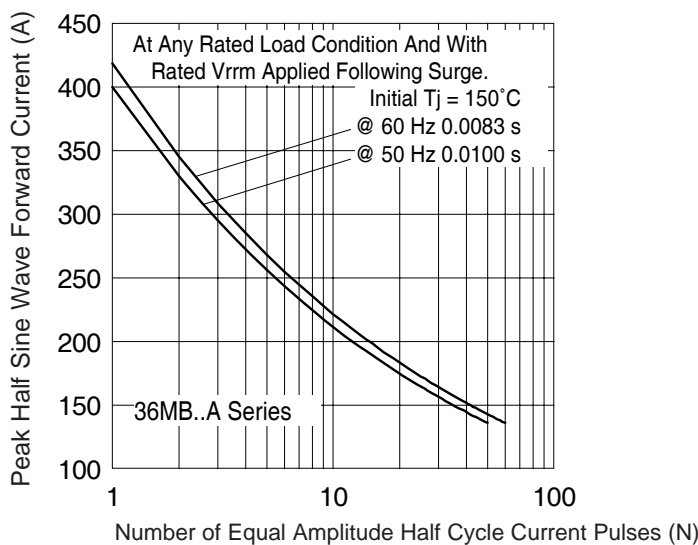


Fig. 9 - Maximum Non-Repetitive Surge Current

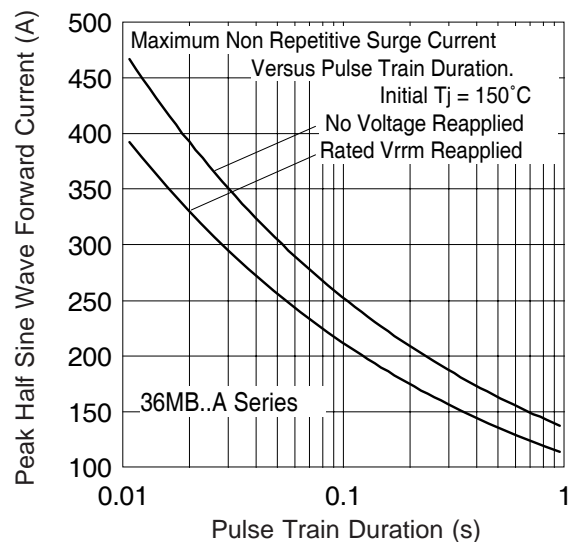


Fig. 10 - Maximum Non-Repetitive Surge Current

Data and specifications subject to change without notice.  
This product has been designed and qualified for Industrial and Consumer Level.  
Qualification Standards can be found on IR's Web site.

International  
**IR** Rectifier

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09/06



## Disclaimer

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