


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



D-34

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 to 275 °C
- UL E300359 approved 
- RoHS compliant
- Designed and qualified for industrial and consumer level



RoHS
COMPLIANT

PRODUCT SUMMARY

| | |
|-------|-----------|
| I_o | 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

| SYMBOL | CHARACTERISTICS | 26MB-A | 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 | 1400 to 1600 | V |
| T_J | | - 55 to 150 | - 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 | | 26MB-A | 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 | | | | | |
| | | t = 10 ms | 100 % V_{RRM} reapplied | | 335 | 400 | |
| | | t = 8.3 ms | | | 350 | 420 | |
| Maximum I^2t for fusing | I^2t | t = 10 ms | No voltage reapplied | | 790 | 1130 | A ² s |
| | | t = 8.3 ms | | | | | |
| | | t = 10 ms | 100 % V_{RRM} reapplied | | 560 | 800 | |
| | | t = 8.3 ms | | | 512 | 730 | |
| Maximum $I^2\sqrt{t}$ for fusing | $I^2\sqrt{t}$ | I^2t for time $t_x = I^2\sqrt{t} \times \sqrt{t_x}$; $0.1 \leq t_x \leq 10$ ms, $V_{RRM} = 0$ V | | 5.6 | 11.3 | kA ² √s | |
| Low level of threshold voltage | $V_{F(TO)1}$ | $(16.7\% \times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)})$, T_J maximum | | 0.70 | 0.74 | V | |
| High level of threshold voltage | $V_{F(TO)2}$ | $(I > \pi \times I_{F(AV)})$, T_J maximum | | 0.75 | 0.79 | | |
| Low level forward slope resistance | r_{t1} | $(16.7\% \times \pi \times I_{F(AV)} < I < \pi \times I_{F(AV)})$, T_J maximum | | 7.0 | 5.5 | mΩ | |
| High level forward slope resistance | r_{t2} | $(I > \pi \times I_{F(AV)})$, T_J maximum | | 6.4 | 5.2 | | |
| Maximum forward voltage drop | V_{FM} | $T_J = 25$ °C, $I_{FM} = 40$ Apk (26MB) | | $t_p = 400$ μs | 1.25 | 1.3 | V |
| | | $T_J = 25$ °C, $I_{FM} = 55$ Apk (36MB) | | | | | |
| 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 | | 26MB-A | 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 |



MB High Voltage Series

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

Vishay High Power Products

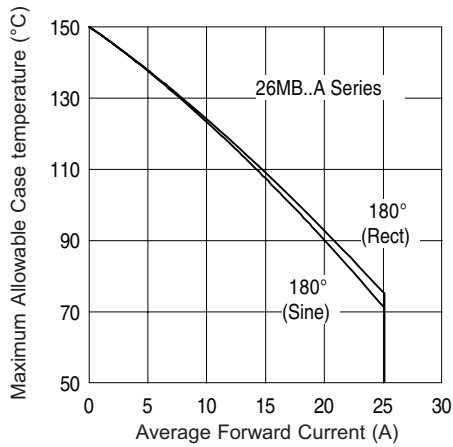


Fig. 1 - Current Ratings Characteristics

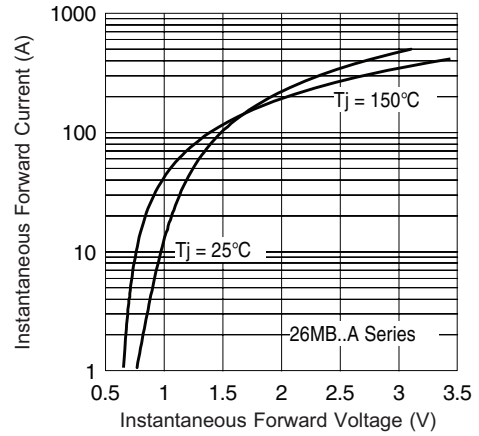


Fig. 2 - Forward Voltage Drop Characteristics

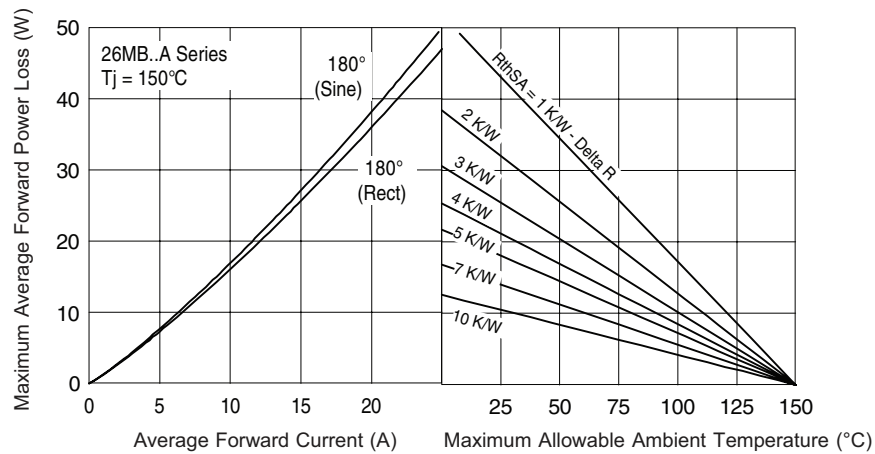


Fig. 3 - Total Power Loss Characteristics

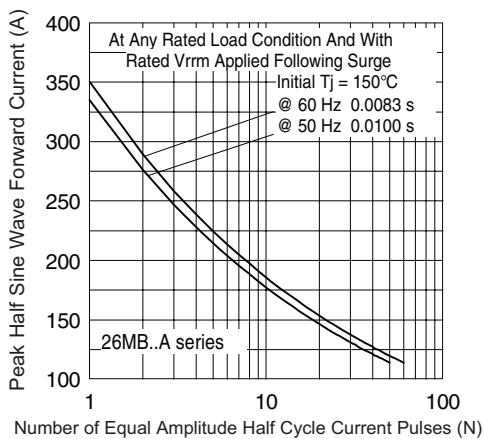


Fig. 4 - Maximum Non-Repetitive Surge Current

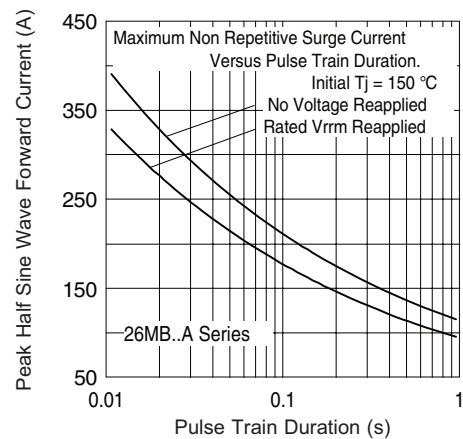


Fig. 5 - Maximum Non-Repetitive Surge Current

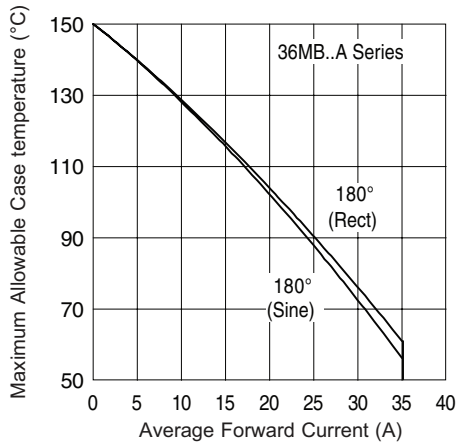


Fig. 6 - Current Ratings Characteristics

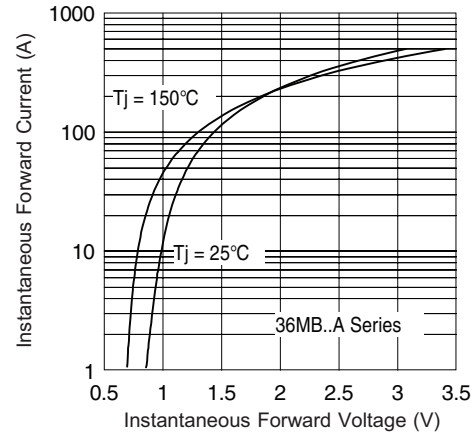


Fig. 7 - Forward Voltage Drop Characteristics

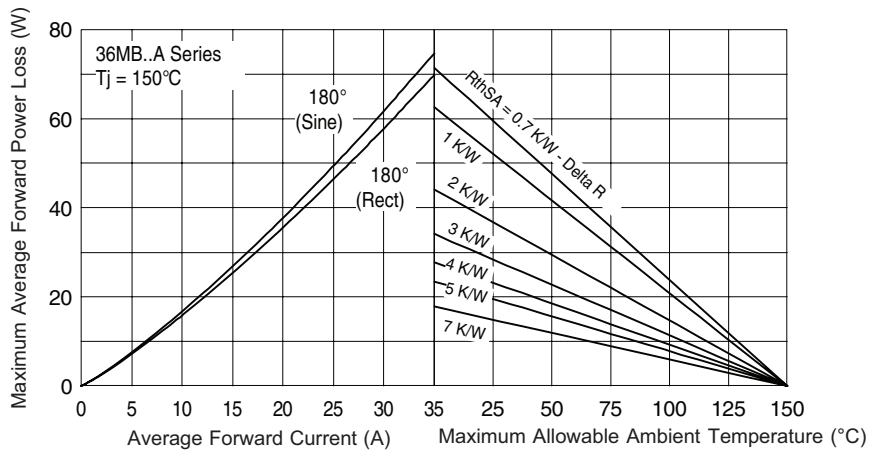


Fig. 8 - Total Power Loss Characteristics

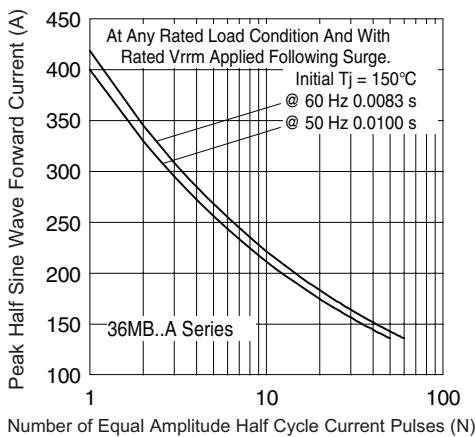


Fig. 9 - Maximum Non-Repetitive Surge Current

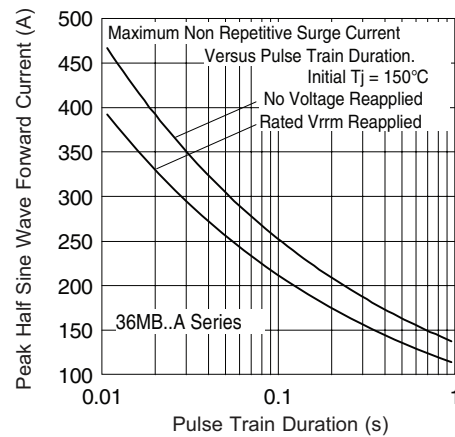
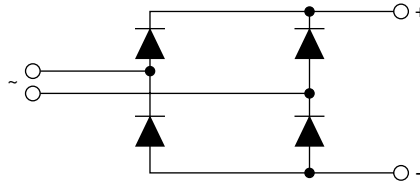


Fig. 10 - Maximum Non-Repetitive Surge Current

ORDERING INFORMATION TABLE

| | | | | |
|-------------|-----------|-------------------------------|---|----------|
| Device code | 36 | MB | 160 | A |
| | ① | ② | ③ | ④ |
| 1 | - | Current rating code | <div style="border: 1px solid black; padding: 2px; display: inline-block;"> 26 = 25 A (average) 36 = 35 A (average) </div> | |
| 2 | - | Circuit configuration: | MB = Single phase european coding | |
| 3 | - | Voltage code x 10 = V_{RRM} | | |
| 4 | - | Diode bridge rectifier: | A = 26 MB, 36MB series | |

CIRCUIT CONFIGURATION



| LINKS TO RELATED DOCUMENTS | |
|----------------------------|---|
| Dimensions | http://www.vishay.com/doc?95326 |



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