

INTERNATIONAL RECTIFIER **2KBB SERIES****1.9A single phase rectifier bridge****Maximum Ratings and Characteristics**

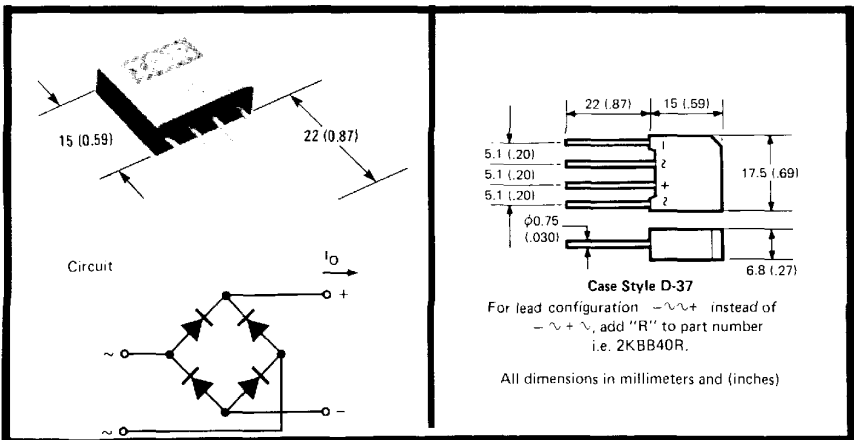
| | 2KBB... | Unit |
|-----------|-------------|------|
| I_O | 1.9 | A |
| I_{FSM} | 50Hz | 50 |
| | 60Hz | 52 |
| $I^2 t$ | 50Hz | 17.7 |
| | 60Hz | 16.1 |
| V_{RRM} | 100 to 1000 | V |
| T_J | -40 to 150 | °C |

Description/Features

A 1.9A single phase diode bridge rectifier assembly consisting of four silicon junction diodes in a plastic encapsulation, intended for general applications in industrial and consumer equipment.

- Suitable for printed circuit board mounting
- Leads on standard 2.54 mm (0.1 in.) grid
- Compact construction
- *High surge current capability*
- Polarized package
- Equivalent to standard DIN parts

| Part number | DIN code equivalent |
|-------------|---------------------|
| 2KBB10 | B40C1500 |
| 2KBB20 | B80C1500 |
| 2KBB40 | B125C1500 |
| 2KBB60 | B250C1500 |
| 2KBB80 | B380C1500 |
| 2KBB100 | B500C1500 |



Reverse voltage ratings and application data

| Part number | V _{RRM} , V _{FSM} maximum peak reverse voltage | I _{RM} , typical peak reverse current per diode at rated V _{RRM} | | Application data (see figure 3) | | |
|-------------------|--|--|------------------------|--|---|--|
| | | T _J = 25°C | T _J = 150°C | V _{RMS} , maximum recommended AC supply voltage | C _{max} , maximum load capacitance | R _{min} , minimum source resistance |
| | | μA | μA | V | μF | Ω |
| 2KBB10, 2KBB10R | 100 | 10 | 500 | 40 | 5000 | 0.5 |
| 2KBB20, 2KBB20R | 200 | 10 | 500 | 80 | 3300 | 0.8 |
| 2KBB40, 2KBB40R | 400 | 10 | 500 | 125 | 1600 | 1.5 |
| 2KBB60, 2KBB60R | 600 | 10 | 500 | 250 | 1200 | 2.5 |
| 2KBB80, 2KBB80R | 800 | 10 | 500 | 380 | 800 | 3.0 |
| 2KBB100, 2KBB100R | 1000 | 10 | 500 | 500 | 600 | 5.0 |

ELECTRICAL SPECIFICATIONS
Forward conduction

| | | 2KBB... | Units | Conditions |
|-------------------|--|------------|-------------------|---|
| I _O | Maximum average rectified (DC) output current | 1.9 | A | T _A = 45°C, resistive or inductive load |
| | | 1.5 | A | T _A = 45°C, capacitive load |
| I _{FSM} | Maximum peak one cycle, non-repetitive surge current | 50 | A | 50 Hz half cycle sine wave or 6 ms rectangular pulse |
| | | 52 | | 60 Hz half cycle sine wave or 5 ms rectangular pulse |
| I ² t | Maximum I ² t capability for fusing | 12.5 | A ² s | Rated V _{RRM} applied following surge, initial T _J = 150°C. |
| | | 11.3 | | t = 8.3 ms |
| | | 17.7 | A ² s | V _{RRM} = 0 following surge, initial T _J = 150°C. |
| | | 16.1 | | t = 8.3 ms |
| I ² √t | Maximum I ² √t capability for fusing ^① | 177 | A ² √s | V _{RRM} following surge = 0, t = 0.1 to 10 ms. |
| V _{FM} | Maximum peak forward voltage, per diode | 1.1 | V | I _O = 1.9A (3.0A pk) |
| f | Operating frequency range | 40 to 2000 | Hz | |

^① I²t for time t_x = I²√t + √t_x.

THERMAL AND MECHANICAL SPECIFICATIONS

| | 2KBB... | Units | Conditions |
|-----------------------------------|---|------------|------------|
| T _J , T _{stg} | Operating and storage junction temperature ranges | -40 to 150 | °C |
| wt | Approximate weight | 4 (0.14) | g (oz.) |

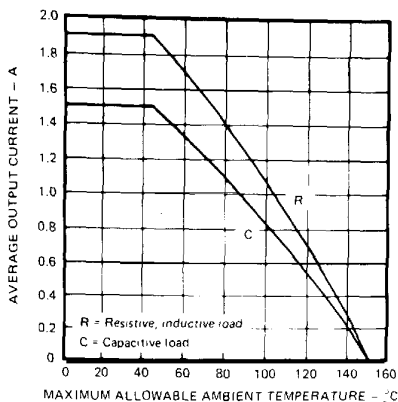


Fig. 1 - Average (DC) Output Current Vs. Maximum Allowable Ambient Temperature

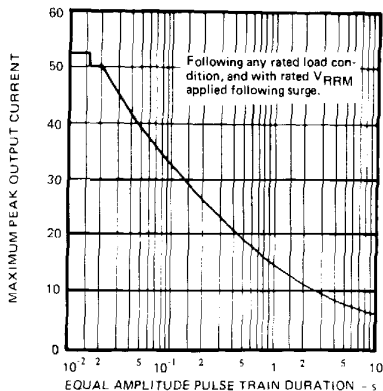


Fig. 2 - Maximum Non-repetitive Surge Current Vs. Pulse Train Duration (f = 50 Hz)

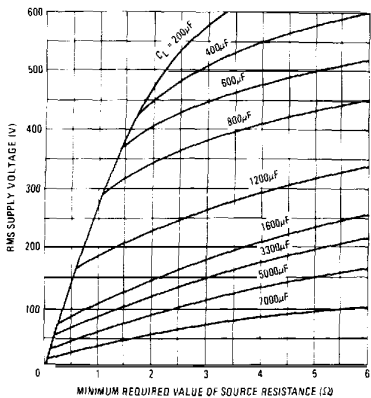


Fig. 3 - Minimum Required Source Resistance Vs. RMS Supply Voltage and Load Capacitance

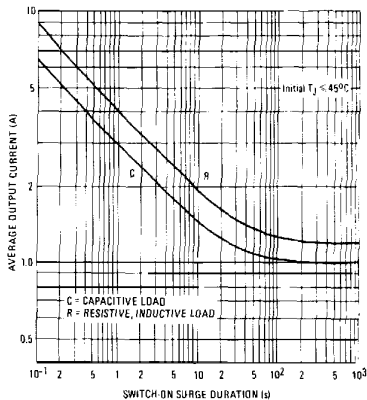


Fig. 4 - Maximum Switch-On Surge Current Vs. Surge Duration