

Single Phase Rectifier Bridge, 8 A



D-72

FEATURES

- Suitable for printed circuit board or chassis mounting
- Compact construction
- High surge current capability
- Fully characterized data
- Wide temperature range
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

PRIMARY CHARACTERISTICS

| | |
|-----------------------|---------------------|
| I_O | 8.0 A |
| V_{RRM} | 50 V to 1000 V |
| Package | D-72 |
| Circuit configuration | Single phase bridge |

DESCRIPTION

The VS-KBPC series of single phase rectifier bridge consists of four silicon junctions connected as a full bridge. These device are intended for general use in industrial and consumer equipment.

MAJOR RATINGS AND CHARACTERISTICS

| SYMBOL | CHARACTERISTICS | VALUES | UNITS |
|-----------|-----------------|-------------|------------------|
| I_O | Resistive load | 8 | A |
| | Capacitive load | 6.4 | |
| | T_C | | 50 |
| I_{FSM} | 50 Hz | 125 | A |
| | 60 Hz | 137 | |
| I^2t | 50 Hz | 110 | A ² s |
| | 60 Hz | 100 | |
| V_{RRM} | Range | 50 to 1000 | V |
| T_J | | -55 to +150 | °C |

ELECTRICAL SPECIFICATIONS

VOLTAGE RATINGS

| PART NUMBER | V_{RRM} , MAXIMUM REPETITIVE PEAK REVERSE VOLTAGE V | V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V |
|-------------|---|---|
| VS-KBPC8005 | 50 | 80 |
| VS-KBPC801 | 100 | 150 |
| VS-KBPC802 | 200 | 300 |
| VS-KBPC804 | 400 | 500 |
| VS-KBPC806 | 600 | 700 |
| VS-KBPC808 | 800 | 900 |
| VS-KBPC810 | 1000 | 1100 |



| FORWARD CONDUCTION | | | | |
|--|---------------|--|-------------|---------------|
| PARAMETER | SYMBOL | TEST CONDITIONS | VALUES | UNITS |
| Maximum DC output current | I_O | $T_C = 50\text{ }^\circ\text{C}$, resistive or inductive load | 8.0 | A |
| | | $T_C = 50\text{ }^\circ\text{C}$, capacitive load | 6.4 | |
| Maximum peak one cycle, non-repetitive surge current | I_{FSM} | $t = 10\text{ ms}$, 20 ms | 125 | A |
| | | $t = 8.3\text{ ms}$, 16.7 ms | 137 | |
| Maximum I^2t capability for fusing | I^2t | $t = 10\text{ ms}$ | 78 | A^2s |
| | | $t = 8.3\text{ ms}$ | 71 | |
| | | $t = 10\text{ ms}$ | 110 | |
| | | $t = 8.3\text{ ms}$ | 1000 | |
| Maximum $I^2\sqrt{t}$ capability for fusing | $I^2\sqrt{t}$ | $t = 0.1\text{ to }10\text{ ms}$, no voltage reapplied | 1105 | $A^2\sqrt{s}$ |
| Maximum peak forward voltage per diode | V_{FM} | $I_{FM} = 3.0\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$ | 1.0 | V |
| Typical peak reverse leakage per diode | I_{RM} | $T_J = 25\text{ }^\circ\text{C}$, $100\% V_{RRM}$ | 10 | μA |
| | | $T_J = 150\text{ }^\circ\text{C}$, $100\% V_{RRM}$ | 1.0 | mA |
| Operating frequency range | f | | 400 to 1000 | Hz |
| Maximum repetitive peak reverse voltage range | V_{RRM} | | 50 to 1000 | V |

| THERMAL AND MECHANICAL SPECIFICATIONS | | | |
|---|-------------------|-------------|------------------|
| PARAMETER | SYMBOL | VALUES | UNITS |
| Operating and storage temperature range | T_J , T_{Stg} | -55 to +150 | $^\circ\text{C}$ |
| Thermal resistance, junction to case | R_{thJC} | 6 | K/W |
| Approximate weight | | 6 | g |
| | | 0.21 | oz. |



Fig. 1 - Current Ratings



Fig. 2 - Non-Repetitive Surge Ratings

| LINKS TO RELATED DOCUMENTS | |
|----------------------------|--|
| Dimensions | www.vishay.com/doc?95250 |



D-72

DIMENSIONS in millimeters (inches): **KBPC6, KBPC8**



DIMENSIONS in millimeters (inches): **KBPC1**





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