




**SPECIFICATION SHEET**

|                                |   |
|--------------------------------|---|
| <b>SPECIFICATION SHEET NO.</b> | N0626-KBPC50100L500A  |
| <b>DATE</b>                    | June. 26, 2021  |
| <b>REVISION</b>                | A0  |
| <b>DESCRIPTION</b>             | Thru Hole Silicon Bridge Rectifiers, KBPC Series, 4 Pins,<br>KBPC5010 Type, Reverse Voltage 1000V Max. Forward Current 50A Max.<br>Operating Temp. Range -65°C ~+150°C,<br>Package in Bulk, 50pcs/Box,<br>RoHS/RoHS III compliant |
| <b>CUSTOMER</b>                |   |
| <b>CUSTOMER PART NUMBER</b>    |   |
| <b>CROSS REF. PART NUMBER</b>  |   |
| <b>ORIGINAL PART NUMBER</b>    | MDD KBPC5010  |
| <b>PART CODE</b>               | KBPC50100L500A  |

|                         |   |  |   |
|-------------------------|---|--|---|
| <b>VENDOR APPROVE</b>   |   |  |   |
| Issued/Checked/Approved |  |  |  |
| DATE: June. 26, 2021    |   |  |   |

|                         |  |
|-------------------------|--|
| <b>CUSTOMER APPROVE</b> |  |
|                         |  |
| DATE:                   |  |

**THRU HOLE BRIDGE RECTIFER KBPC SERIES**

**MAIN FEATURE**



- The plastic package carries underwriters Laboratory flammability classification 94V-0
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed, 260 °C/10 seconds, at 5 lbs (2.3kg) tension

**APPLICATION**

- For printed circuit board

**RFQ**

[Request For Quotation](#)

**PART CODE GUIDE**

| KBPC | 50100 | L | 500A |
|------|-------|---|------|
| 1    | 2     | 3 | 4    |

- 1) **KBPC**: Thru Hole Silicon Bridge Rectifiers, 4 pins, KBPC Series
- 2) **50100**: Type code for original part number KBPC5010
- 3) **L**: Package code, In Bulk, 50pcs/Box.
- 4) **500A**: Specification code for Reverse Voltage 1000V Max, Forward Current 50A Max

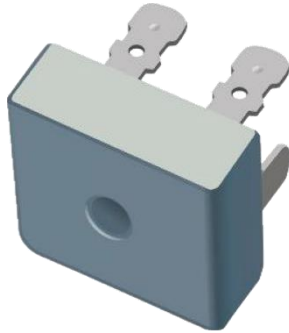
**MORE ITEMS AVAILABLE**

|                |                       |                |                |                |
|----------------|-----------------------|----------------|----------------|----------------|
| KBPC15005L1505 | KBPC150010L1510       | KBPC15002L1520 | KBPC15004L1540 | KBPC15006L1560 |
| KBPC15008L1580 | KBPC15100L150A        |                |                |                |
| KBPC25005L2505 | KBPC25001L2510        | KBPC25002L2520 | KBPC25004L2540 | KBPC25006L2560 |
| KBPC25008L2580 | KBPC25100L250A        |                |                |                |
| KBPC35005L3505 | KBPC35001L3510        | KBPC35002L3520 | KBPC35004L3540 | KBPC35006L3560 |
| KBPC35008L3580 | KBPC35100L350A        |                |                |                |
| KBPC50005L5005 | KBPC50010L5010        | KBPC50020L5020 | KBPC50040L5040 | KBPC50060L5060 |
| KBPC35008L5080 | <b>KBPC50100L500A</b> |                |                |                |

**THRU HOLE BRIDGE RECTIFIER KBPC SERIES**

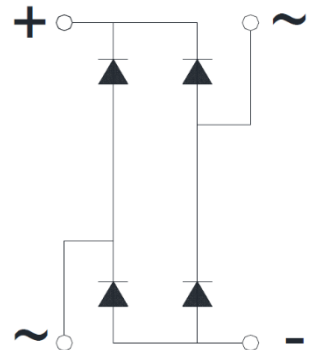
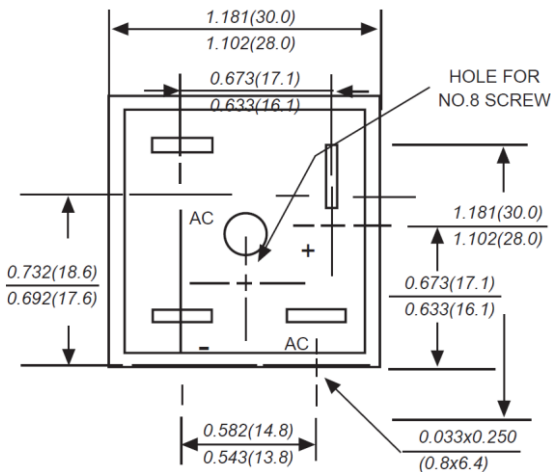
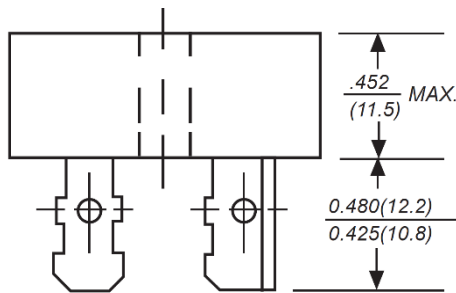
**DIMENSION (Unit: Inch/mm)**

Image for reference



Marking: KBPC 5010

KBPC



**THRU HOLE BRIDGE RECTIFIER KBPC SERIES**
**MECHANICAL DATA**

| Case                           | Terminals  | Polarity                        | Mounting Position | Weight per piece         |
|--------------------------------|--|---------------------------------|-------------------|--------------------------|
| JEDEC KBPC molded plastic body | Solder plated, Solderable per MIL-STD-750, Method 2026 | Polarity symbol marking on body | Any               | 1.020 Ounce, 31.72 grams |

**MAX. RATING & CHARACTERISTICS**

| Parameter  | SYMBOLS          | VALUE |         |      | UNITS            |
|--|------------------|-------|---------|------|------------------|
|  |                  | Min.  | Typical | Max. |                  |
| Repetitive peak reverse voltage  | V <sub>RRM</sub> |       |         | 1000 | Volts            |
| RMS voltage  | V <sub>RMS</sub> |       |         | 700  | Volts            |
| DC blocking voltage  | V <sub>DC</sub>  |       |         | 1000 | Volts            |
| Average forward Output rectified current at T <sub>c</sub> = 55°C (Note 2)                       | I <sub>AV</sub>  |       |         | 50   | A                |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub> |       | 400     |      | A                |
| Rating for Fusing (t<8.3ms)  | I <sup>2</sup> t |       | 664     |      | A <sup>2</sup> S |
| Instantaneous Forward voltage drop per bridge element at 25.0A                                   | V <sub>F</sub>   |       |         | 1.1  | Volts            |
| DC reverse current at rated DC blocking voltage  | I <sub>R</sub>   |       |         | 10   | μA               |
|  |                  |       |         | 1.0  | mA               |
| Isolation voltage from case to leads   | V <sub>IOS</sub> |       | 2500    |      | V <sub>AC</sub>  |
| Thermal resistance (Note 3)  | R <sub>QJA</sub> |       | 2.0     |      | °C/W             |
| Operating junction temperature range   | T <sub>J</sub>   | -65   |         | +150 |                  |
| Storage temperature range  | T <sub>STG</sub> | -65   |         | +150 | °C               |

**Note**

- Ratings at 25 °C ambient temperature unless otherwise specified. Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.
- Unit mounted on 9"\*3.5"\*4.6" thick (23\*9\*11.8cm) Al. plate
- Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for Maximum heat transfer efficiency with #8 screw.

**THRU HOLE BRIDGE RECTIFIER KBPC SERIES**
**RELIABILITY**

| Number | Experiment Items                   | Experiment Method And Conditions   | Reference Documents             |
|--------|------------------------------------|--|---------------------------------|
| 1      | Solder Resistance Test             | Test 260°C± 5°C for 10 ± 2 sec.<br>Immerse body into solder 1/16" ± 1/32"                                      | MIL-STD-750D<br>METHOD-2031.2   |
| 2      | Solderability Test                 | 230°C ±5°C for 5 sec.  | MIL-STD-750D<br>METHOD-2026.1 0 |
| 3      | Pull Test                          | 1 kg in axial lead direction for 10 sec.   | MIL-STD-750D<br>METHOD-2036.4   |
| 4      | Bend Test                          | 0.5Kg Weight Applied To Each Lead,<br>Bending Arcs 90 °C ± 5 °C For 3 Times                                    | MIL-STD-750D<br>METHOD-2036.4   |
| 5      | High Temperature Reverse Bias Test | TA=100°C for 1000 Hours at VR=80%<br>Rated VR  | MIL-STD-750D<br>METHOD-1038.4   |
| 6      | Forward Operation Life Test        | TA=25°C Rated Average Rectified<br>Current   | MIL-STD-750D<br>METHOD-1027.3   |
| 7      | Intermittent Operation Life Test   | On state: 5 min with rated IRMS Power<br>Off state: 5 min with Cool Forced Air.<br>On and off for 1000 cycles. | MIL-STD-750D<br>METHOD-1036.3   |
| 8      | Pressure Cooker Test               | 15 PSIG, TA=121°C, 4 hours   | MIL-S-19500<br>APPENOIXC        |
| 9      | Temperature Cycling Test           | -55°C~+125°C; 30 Minutes For Dwelled<br>Time 5 minutes for transferred time.<br>Total: 10 cycles.              | MIL-STD-750D<br>METHOD-1051.7   |
| 10     | Thermal Shock Test                 | 0°C for 5 minutes., 100°C for 5minutes,<br>Total: 10 cycles  | MIL-STD-750D<br>METHOD-1056.7   |
| 11     | Forward Surge Test                 | 8.3ms Single Sale Sine-wave One Surge.   | MIL-STD-750D<br>METHOD-4066.4   |
| 12     | Humidity Test                      | TA=65°C, RH=98% for 1000 hours.  | MIL-STD-750D<br>METHOD-1021.3   |
| 13     | High Temperature Storage life Test | 150°C for 1000 Hours   | MIL-STD-750D<br>METHOD-1031.5   |

**THRU HOLE BRIDGE RECTIFIER KBPC SERIES**

**RATINGS AND CHARACTERISTIC CURVES (For Reference Only)**

FIG.1-FORWARD CURRENT DERATING CURVE

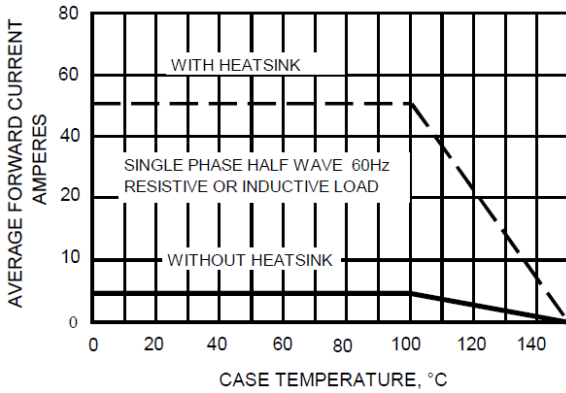


FIG.2-MAXMUN NON-REPETITIVE SURGE CURRENT

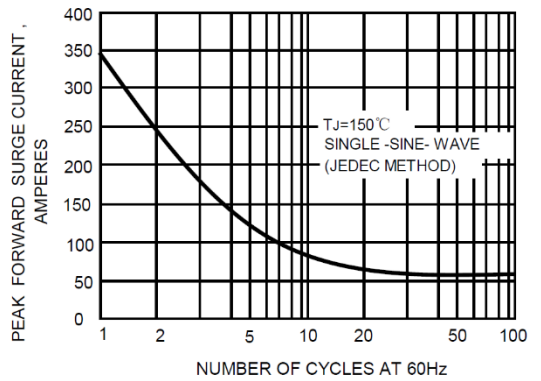


FIG.3-TYPICAL REVERSE CHARACTERISTICS

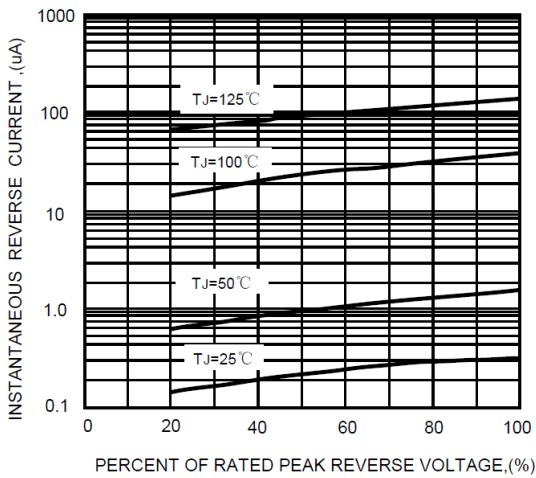
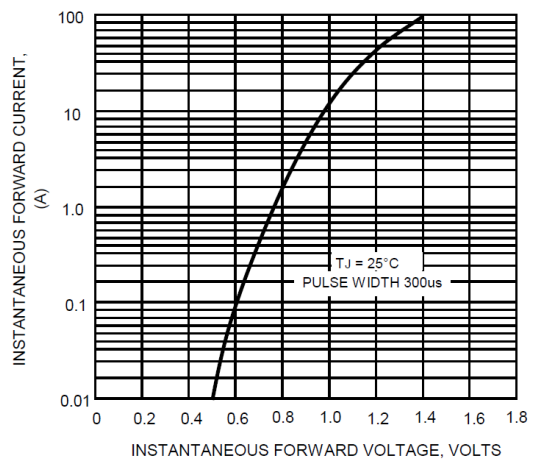


FIG.4-TYPICAL FORWARD CHARACTERISTICS



**THRU HOLE BRIDGE RECTIFIER KBPC SERIES**

**PACKAGE**

| Part Type | Qty. Per Box (pcs) | G.W per box (kg) | Inner Box L*W*H (mm) | Carton size L*W*H (mm) | Qty. Per Carton (pcs) | G. W (kg) |
|-----------|--------------------|------------------|----------------------|------------------------|-----------------------|-----------|
| KBPC      | 50                 | 1.45             | 200*200*50           | 430*220*240            | 500                   | 14.85     |
|           |                    |                  |                      |                        |                       |           |
|           |                    |                  |                      |                        |                       |           |

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