




**SPECIFICATION SHEET**

|                                |  |
|--------------------------------|--|
| <b>SPECIFICATION SHEET NO.</b> | N0310-KBP2100000L20A   |
| <b>DATE</b>                    | Mar. 10, 2021  |
| <b>REVISION</b>                | A0   |
| <b>DESCRIPTION</b>             | <p>Thru Hole Single Bridge Rectifier, KBP Series, KPB210 Type, 4 Pins,<br/>Reverse Voltage 1000V Max. Forward Current 2.0A Max.<br/>Operating Temp. Range -55°C ~+150°C,<br/>Package in Bulk, 500pcs/Box<br/>RoHS/RoHS III compliant</p> |
| <b>CUSTOMER</b>                |  |
| <b>CUSTOMER PART NUMBER</b>    |  |
| <b>CROSS REF. PART NUMBER</b>  |  |
| <b>ORIGINAL PART NUMBER</b>    | MDD KBP210   |
| <b>PART CODE</b>               | KBP2100000L20A   |

|                         |   |  |   |
|-------------------------|---|--|---|
| <b>VENDOR APPROVE</b>   |   |  |   |
| Issued/Checked/Approved |  |  |  |
| DATE: March 10, 2021    |   |  |   |

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

**THRU HOLE BRIDGE RECTIFIER KBP SERIES**



**MAIN FEATURE**

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed.
- 260 °C/10 seconds, 0.375” (9.5mm) lead length (2.3kg) tension

**APPLICATION**

- For printed circuit board

**RFQ**

[Request For Quotation](#)

**PART CODE GUIDE**

|            |                |          |            |
|------------|----------------|----------|------------|
| <b>KBP</b> | <b>2100000</b> | <b>L</b> | <b>20A</b> |
| 1          | 2              | 3        | 4          |

- 1) **KBP**: Thru Hole Single Bridge Rectifier, KBP Series
- 2) **2100000**: Type code for original part number KBP210
- 3) **L**: Package code, In Bulk, 500pcs/Box.
- 4) **20A**: Specification code for Reverse Voltage 1000V Max. Forward Current 2.0A Max.

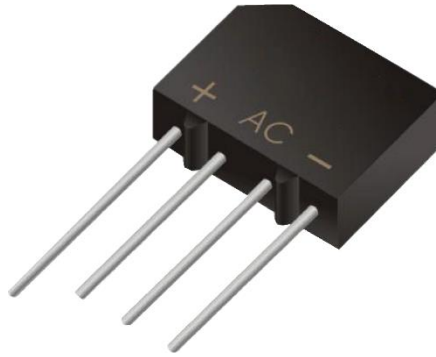
**MORE ITEMS AVAILABLE**

|                |                       |                |                |                |
|----------------|-----------------------|----------------|----------------|----------------|
| KPB2005000L205 | KPB2010000L210        | KPB2020000L220 | KPB2040000L240 | KPB2060000L260 |
| KPB2080000L280 | <b>KPB2100000L20A</b> |                |                |                |
| KPB3005000L305 | KPB3010000L310        | KPB3020000L320 | KPB3040000L340 | KPB3070000L360 |
| KPB3080000L380 | KPB3100000L30A        |                |                |                |
|                |                       |                |                |                |
|                |                       |                |                |                |

**THRU HOLE BRIDGE RECTIFIER KBP SERIES**

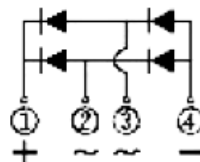
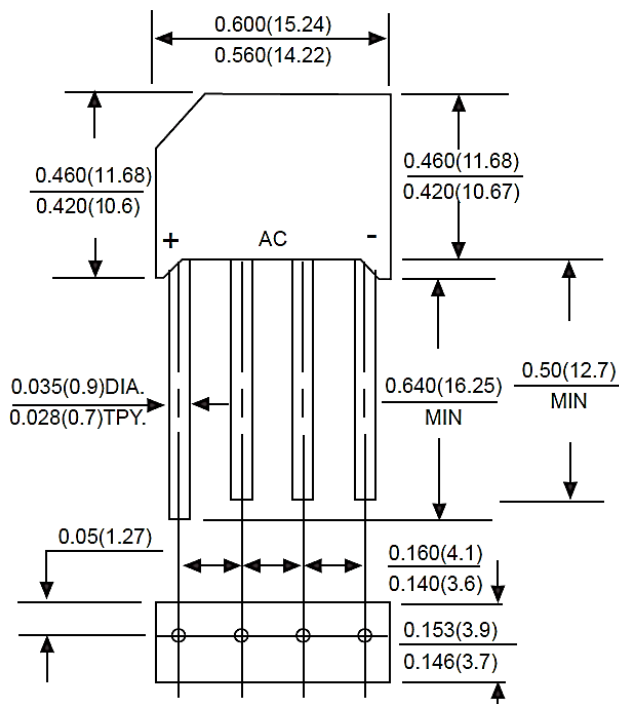
**DIMENSION (Unit: Inch/mm)**

Image for reference



Marking: KBP210

KBP



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

| Case                          | Terminals  | Polarity                        | Mounting Position | Weight per piece           |
|-------------------------------|--|---------------------------------|-------------------|----------------------------|
| JEDEC KBP molded plastic body | Solder plated, Solderable per MIL-STD-750, Method 2026 | Polarity symbol marking on body | Any               | 0.0693 Ounce, 2.1554 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> = 50°C (see Note 3)                   | I <sub>AV</sub>  |       |         | 2.0  | A     |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub> |       | 45      |      | A     |
| Instantaneous forward voltage at 2.0A  | V <sub>F</sub>   |       |         | 1.10 | Volts |
| DC reverse current at rated DC blocking voltage  | I <sub>R</sub>   |       |         | 5    | μA    |
|  |                  |       |         | 500  | mA    |
| Junction capacitance (Note 2)  | C <sub>J</sub>   |       | 25      |      | pF    |
| Thermal resistance (Note 3)  | R <sub>QJA</sub> |       | 40      |      | °C/W  |
| Operating junction temperature range   | T <sub>J</sub>   | -55   |         | +150 |       |
| Storage temperature range  | T <sub>STG</sub> | -55   |         | +150 | °C    |

**Note**

1. 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%.
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Unit mounted on PCB with 0.47"\*0.47"(12.0\*12.0mm) copper pads , 0.375"(9.5mm) lead length

**THRU HOLE BRIDGE RECTIFIER KBP 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 KBP SERIES**

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

Fig.1 Forward Current Derating Curve

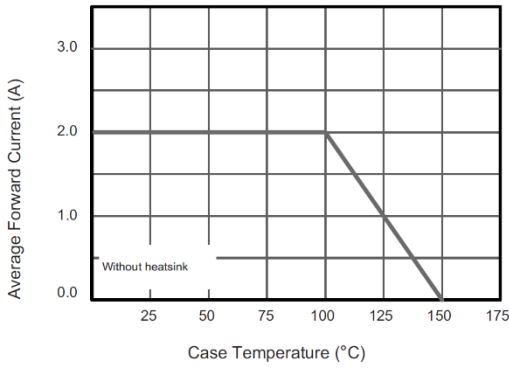


Fig.2 Typical Instantaneous Reverse Characteristics

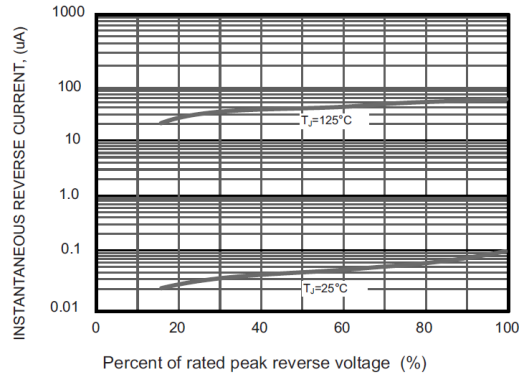


Fig.3 Typical Forward Characteristic

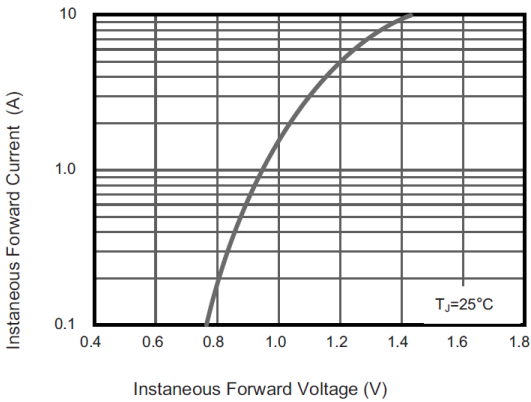


Fig.4 Typical Junction Capacitance

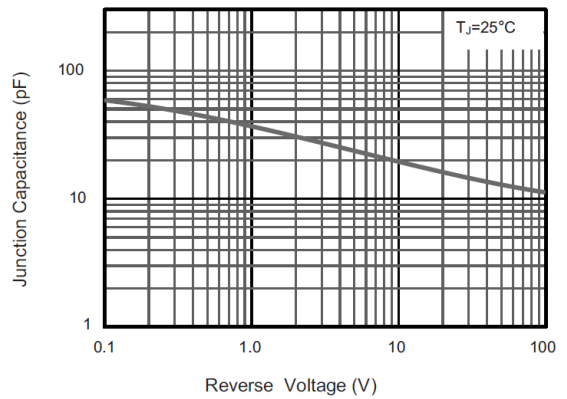


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

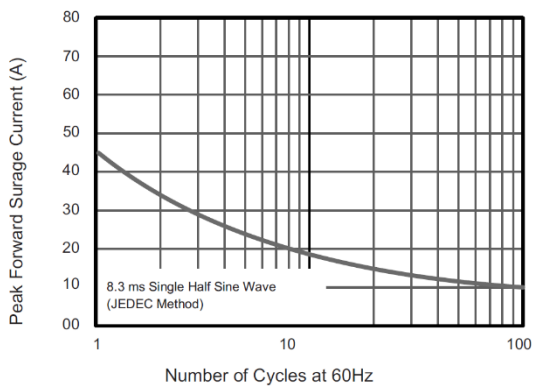
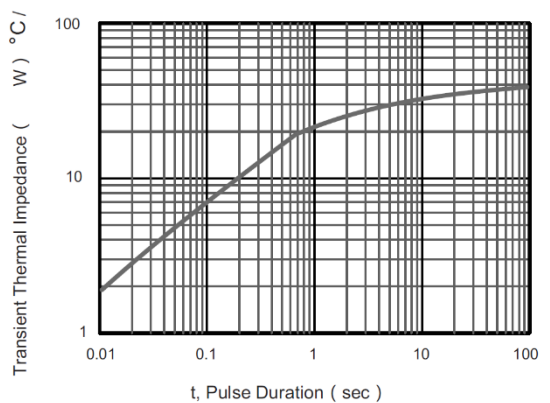


Fig.6- Typical Transient Thermal Impedance



**THRU HOLE BRIDGE RECTIFIER KBP SERIES**

**PACKAGE**

| Part Type | Qty. Per Box (pcs) | Inner Box L*W*H (mm) | Carton size L*W*H (mm) | Qty. Per Carton (pcs) | G. W (kg) |
|-----------|--------------------|----------------------|------------------------|-----------------------|-----------|
| KBP       | 500                | 300*110*32           | 315*245*190            | 5,000                 | 8.25      |
|           |                    |                      |                        |                       |           |
|           |                    |                      |                        |                       |           |

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