



### SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS

Voltage

40~200 V

Current

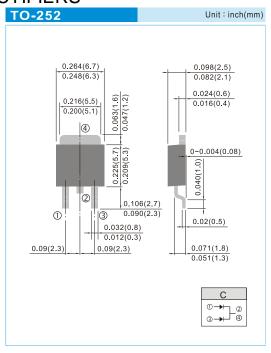
10 A

#### **Features**

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O.
- For through hole applications
- Low power loss, High efficiency
- High surge capacity
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications
- Lead free in compliance with EU RoHS 2011/65/EU directive.
- Green molding compound as per IEC61249 Std..(Halogen Free)

#### Mechanical Data

- Case: TO-252 Molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marking
- Standard packaging: 16mm tape (EIA-481)
- Approx. Weight: 0.0104 ounces, 0.297 grams
- Marking: Part number



## Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)

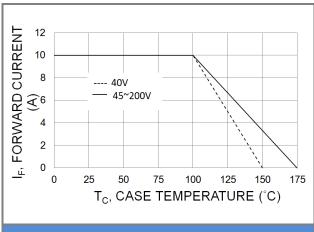
| PARAMETER   |                        | SYMBOL                           | BD1040CS                | BD1045CS | BD1050CS | BD1060CS | BD1080CS | BD1090CS | BD10100CS | BD10150CS | BD10200CS | UNIT |
|---|------------------------|----------------------------------|-------------------------|----------|----------|----------|----------|----------|-----------|-----------|-----------|------|
| Maximum repetitive peak reverse voltage   |                        | $V_{RRM}$                        | 40                      | 45       | 50       | 60       | 80       | 90       | 100       | 150       | 200       | V    |
| Maximum rms voltage   |                        | $V_{RMS}$                        | 28                      | 31.5     | 35       | 42       | 56       | 63       | 70        | 105       | 140       | V    |
| Maximum dc blocking voltage   |                        | $V_{R}$                          | 40                      | 45       | 50       | 60       | 80       | 90       | 100       | 150       | 200       | V    |
| Maximum average forward rectified current   |                        | I <sub>F(AV)</sub>               | 10                      |          |          |          |          |          |           |           | Α         |      |
| Peak forward surge current : 8.3ms single half sine-wave superimposed on rated load |                        | I <sub>FSM</sub>                 | 100                     |          |          |          |          |          | Α         |           |           |      |
| Maximum forward voltage at 5A per diode   |                        | $V_{F}$                          | 0.7 0.75 0.8 0.9        |          |          |          | .9       | V        |           |           |           |      |
| Maximum dc reverse current at   | T <sub>J</sub> =25 °C  |                                  | 0.05                    |          |          |          |          |          |           |           |           | mA   |
| rated dc blocking voltage   | T <sub>J</sub> =100 °C | I <sub>R</sub>                   | 20                      |          |          |          |          |          |           |           |           |      |
| Typical thermal resistance  |                        | $R_{\Theta JC}$                  | 3                       |          |          |          |          |          |           | °C/W      |           |      |
| Operating junction and storage temperature range                                    |                        | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150 -65 to +175 |          |          |          |          |          | °C        |           |           |      |

Note: Both Bonding and Chip structure are available.





#### **TYPICAL CHARACTERISTIC CURVES**



**Fig.1 Forward Current Derating Curve** 

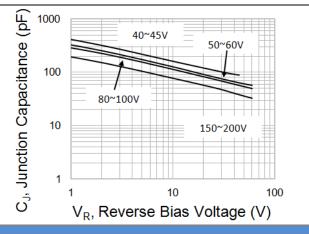


Fig.2 Typical Junction Capacitance

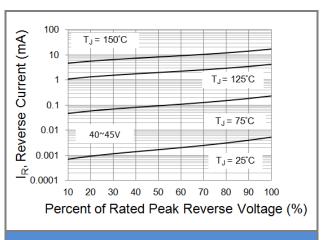


Fig.3 Typical Reverse Characteristics

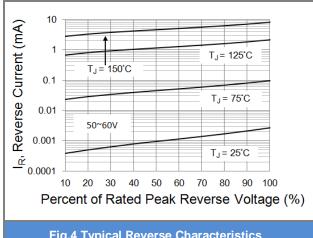


Fig.4 Typical Reverse Characteristics

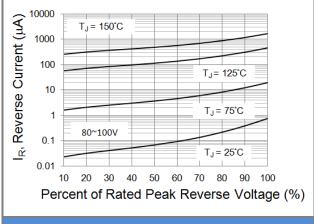
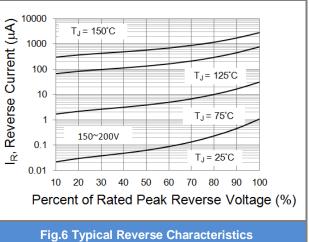


Fig.5 Typical Reverse Characteristics







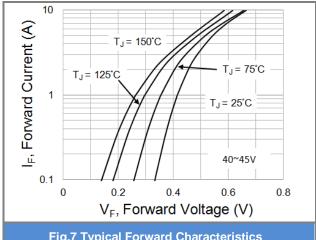
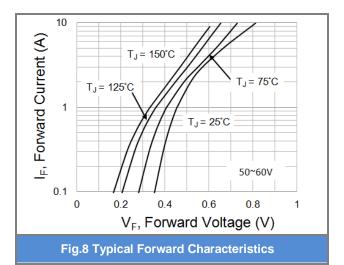
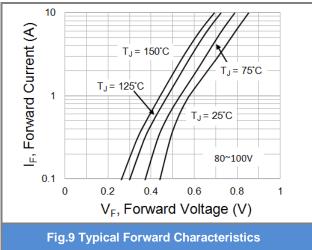
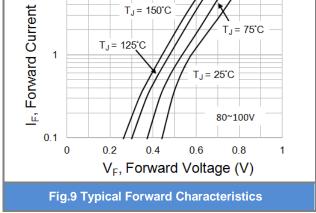
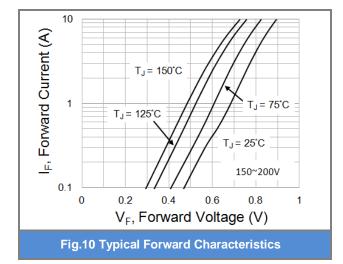


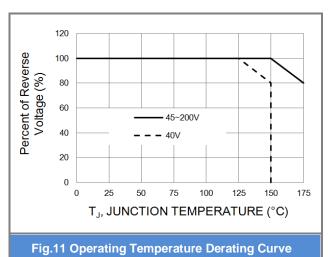
Fig.7 Typical Forward Characteristics







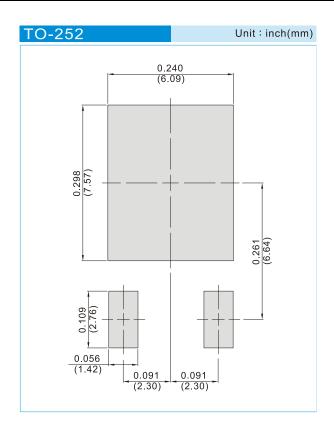








### **MOUNTING PAD LAYOUT**



## **ORDER INFORMATION**

Packing information
 T/R – 3K per 13" plastic Reel

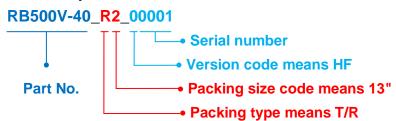




Part No\_packing code\_Version

BD1040CS\_L2\_00001 BD1040CS\_S2\_00001

### For example:



|                                      | Version Code XXXXX      |                                     |   |               |                      |                                       |
|--------------------------------------|-------------------------|-------------------------------------|---|---------------|----------------------|---------------------------------------|
| Packing type                         | 1 <sup>st</sup><br>Code | Packing size code                   |   | HF or<br>RoHS | 1 <sup>st</sup> Code | 2 <sup>nd</sup> ~5 <sup>th</sup> Code |
| Tape and Ammunition<br>Box (T/B)     | A                       | N/A                                 | 0 | HF            | 0                    | serial number                         |
| Tape and Reel (T/R)                  | R                       | 7"                                  | 1 | RoHS          | 1                    | serial number                         |
| Bulk Packing (B/P)                   | В                       | 13"                                 | 2 |               |                      |                                       |
| Tube Packing (T/P)                   | Т                       | 26mm                                | X |               |                      |                                       |
| Tape and Reel (Right Oriented) (TRR) | S                       | 52mm                                | Y |               |                      |                                       |
| Tape and Reel (Left Oriented) (TRL)  | L                       | PANASERT T/B<br>CATHODE UP (PBCU)   | U |               |                      |                                       |
| FORMING                              | F                       | PANASERT T/B<br>CATHODE DOWN (PBCD) | D |               |                      |                                       |





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