

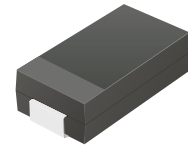
## CDBB5150-HF Thru. CDBB5200-HF

**Reverse Voltage: 150 to 200 Volts**

**Forward Current: 5.0 Amp**

**RoHS Device**

**Halogen Free**

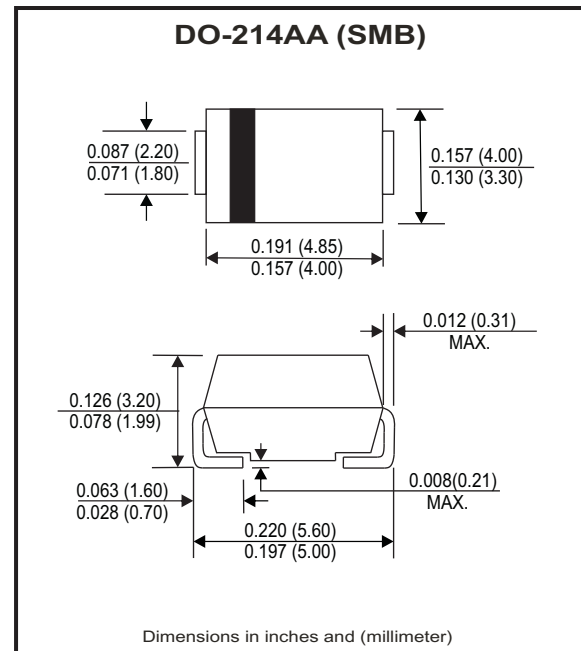


### Features

- Low Profile surface mount applications in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guard ring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.

### Mechanical data

- Epoxy: UL94-V0 rate flame retardant.
- Case: Molded plastic, DO-214AA / SMB
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Weight: 0.091 grams



### Maximum Ratings and Electrical Characteristics

Ratings at  $T_a=25^{\circ}\text{C}$  unless otherwise noted.  
Single phase, half wave, 60Hz, resistive or inductive loaded.  
For capacitive load, derate current by 20% .

| Parameter                                                           | Symbol    | CDBB 5150-HF | CDBB 5200-HF | Units              |
|---------------------------------------------------------------------|-----------|--------------|--------------|--------------------|
| Max. repetitive peak reverse voltage                                | $V_{RRM}$ | 150          | 200          | V                  |
| Max. DC blocking voltage                                            | $V_{DC}$  | 150          | 200          | V                  |
| Max. RMS voltage                                                    | $V_{RMS}$ | 105          | 140          | V                  |
| Max. instantaneous forward voltage @ 5.0A, $T_a=25^{\circ}\text{C}$ | $V_F$     | 0.87         | 0.90         | V                  |
| Operating Temperature                                               | $T_J$     | -50 to +175  |              | $^{\circ}\text{C}$ |

| Parameter                  | Conditions                                                           | Symbol          | MIN. | TYP. | MAX. | Units                |
|----------------------------|----------------------------------------------------------------------|-----------------|------|------|------|----------------------|
| Forward rectified current  | see Fig.1                                                            | $I_o$           |      |      | 5.0  | A                    |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       |      |      | 125  | A                    |
| Reverse Current            | $V_R = V_{RRM}$ $T_a=25^{\circ}\text{C}$                             | $I_R$           |      |      | 0.5  | mA                   |
|                            | $V_R = V_{RRM}$ $T_a=100^{\circ}\text{C}$                            | $I_R$           |      |      | 20   | mA                   |
| Thermal Resistance         | Junction to ambient                                                  | $R_{\theta JA}$ |      | 24   |      | $^{\circ}\text{C/W}$ |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse Voltage                             | $C_J$           |      | 380  |      | pF                   |
| Storage temperature        |                                                                      | $T_{STG}$       | -50  |      | +175 | $^{\circ}\text{C}$   |

Company reserves the right to improve product design , functions and reliability without notice.

REV:B

## RATING AND CHARACTERISTIC CURVES (CDBB5150-HF Thru. CDBB5200-HF)

Fig.1 - Typical Forward Current Derating Curve

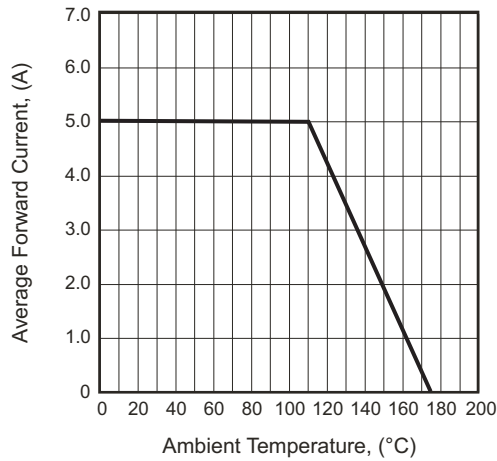


Fig.2 - Typical Forward Characteristics

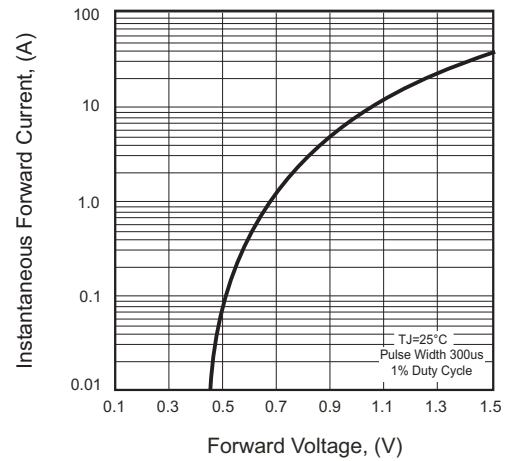


Fig.3 - Maximum Non-repetitive Forward Surge Current

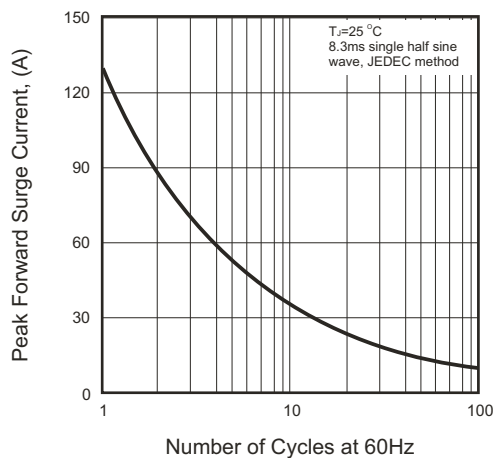


Fig.4 - Typical Junction Capacitance

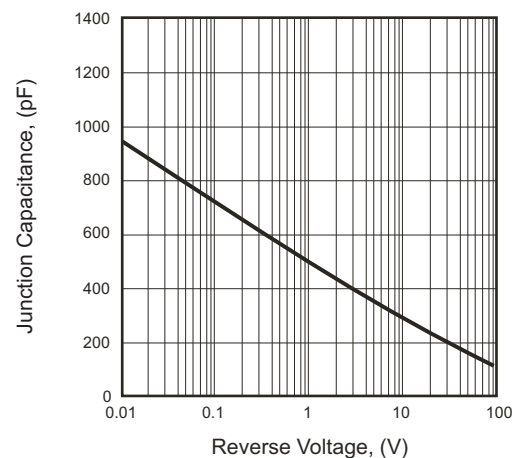
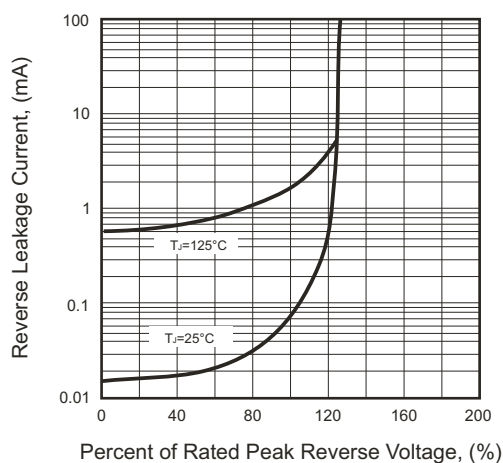
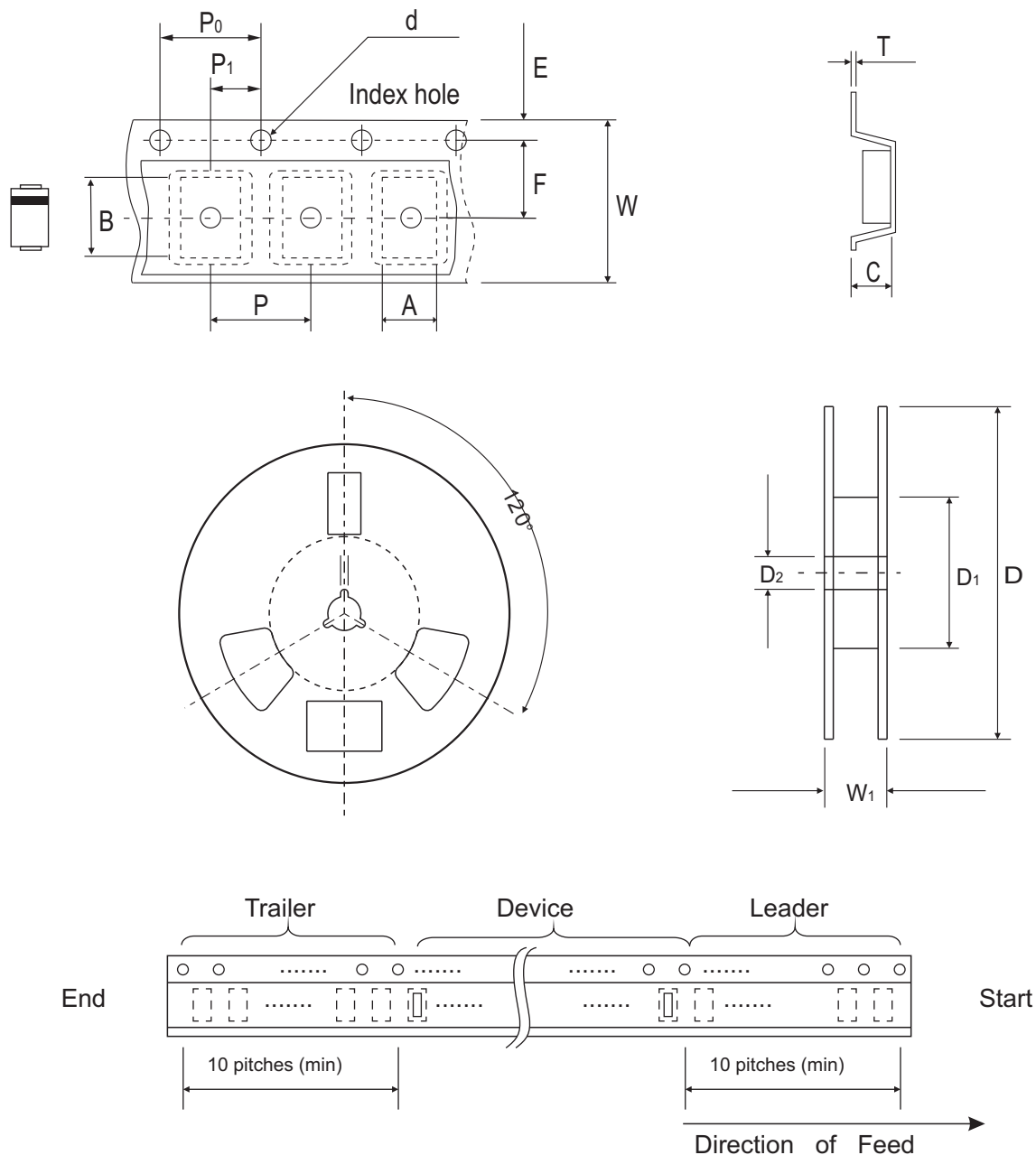


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification



| DO-214AA<br>(SMB) | SYMBOL | A             | B             | C             | d             | D             | D <sub>1</sub> | D <sub>2</sub> |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
|                   | (mm)   | 4.00 ± 0.10   | 5.90 ± 0.10   | 3.00 ± 0.10   | 1.50 ± 0.10   | 330 ± 2.00    | 50.0 MIN.      | 13.50 ± 0.50   |
|                   | (inch) | 0.157 ± 0.004 | 0.232 ± 0.004 | 0.118 ± 0.004 | 0.059 ± 0.004 | 12.99 ± 0.079 | 1.969 MIN.     | 0.531 ± 0.020  |

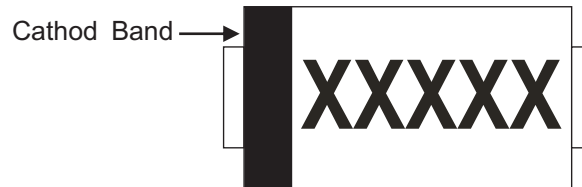
| DO-214AA<br>(SMB) | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | T             | W             | W <sub>1</sub> |
|-------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|---------------|----------------|
|                   | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.10   | 8.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.10    | 0.60 ± 0.10   | 12.0 ± 0.30   | 18.4 ± 1.00    |
|                   | (inch) | 0.069 ± 0.004 | 0.217 ± 0.004 | 0.315 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.236 ± 0.004 | 0.472 ± 0.012 | 0.724 ± 0.040  |

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## Marking Code

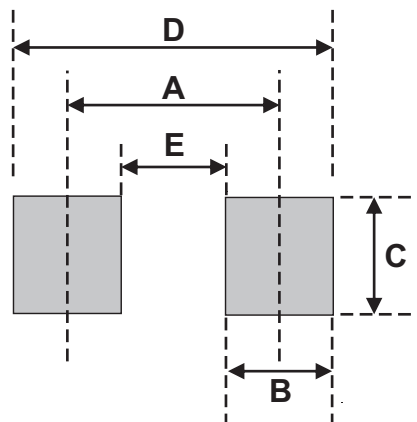
| Part Number | Marking Code |
|-------------|--------------|
| CDBB5150-HF | SK515        |
| CDBB5200-HF | SK520        |



XXXX / XXXXX = Product type marking code

## Suggested PAD Layout

| SIZE | DO-214AA (SMB) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 4.30           | 0.169  |
| B    | 2.50           | 0.098  |
| C    | 2.30           | 0.091  |
| D    | 6.80           | 0.268  |
| E    | 1.80           | 0.071  |



## Standard Packaging

| Case Type         | REEL PACK       |                     |
|-------------------|-----------------|---------------------|
|                   | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DO-214AA<br>(SMB) | 3,000           | 13                  |