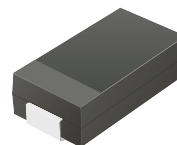


# CDBB220LR-HF Thru. CDBB2200LR-HF

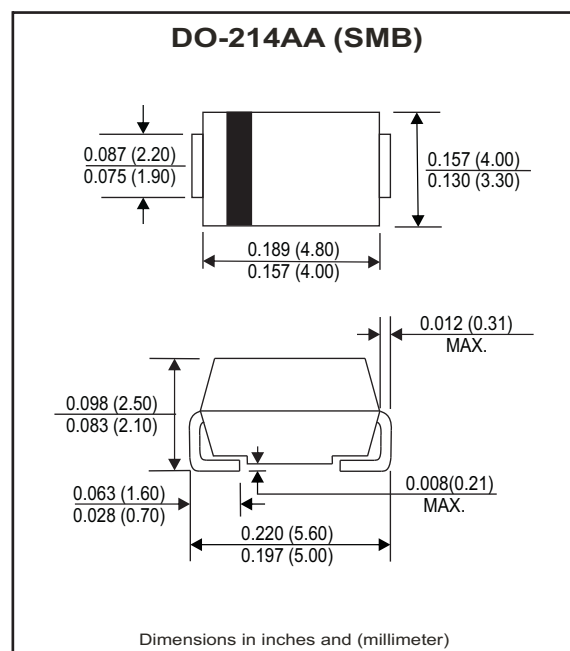
**Reverse Voltage: 20 to 200 Volts****Forward Current: 2.0 Amp****RoHS Device****Halogen Free**

## 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.
- Guardring 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<br>220LR-HF | CDBB<br>240LR-HF | CDBB<br>260LR-HF | CDBB<br>2100LR-HF | CDBB<br>2150LR-HF | CDBB<br>2200LR-HF | Units              |
|-----------------------------------------------------------------------|-----------|------------------|------------------|------------------|-------------------|-------------------|-------------------|--------------------|
| Max. Repetitive peak reverse voltage                                  | $V_{RRM}$ | 20               | 40               | 60               | 100               | 150               | 200               | V                  |
| Max. DC blocking voltage                                              | $V_{DC}$  | 20               | 40               | 60               | 100               | 150               | 200               | V                  |
| Max. RMS voltage                                                      | $V_{RMS}$ | 14               | 28               | 42               | 70                | 105               | 140               | V                  |
| Max. Instantaneous forward voltage<br>@2.0A, $T_a=25^{\circ}\text{C}$ | $V_F$     | 0.40             | 0.45             | 0.55             | 0.75              | 0.82              | 0.85              | V                  |
| Operating Temperature                                                 | $T_J$     | -50 to +150      |                  |                  |                   | -50 to +175       |                   | $^{\circ}\text{C}$ |

| Parameter                  | Conditions                                                              | Symbol          | MIN. | TYP. | MAX. | Units                |
|----------------------------|-------------------------------------------------------------------------|-----------------|------|------|------|----------------------|
| Forward rectified current  | see Fig.1                                                               | $I_o$           |      |      | 2.0  | A                    |
| Forward surge current      | 8.3ms single half sine-wave superimposed<br>on rate load (JEDEC method) | $I_{FSM}$       |      |      | 70   | 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                                                     | $R_{\theta JA}$ |      | 50   |      | $^{\circ}\text{C/W}$ |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse Voltage                                | $C_J$           |      | 30   |      | pF                   |
| Storage temperature        |                                                                         | $T_{STG}$       | -50  |      | +175 | $^{\circ}\text{C}$   |

## RATING AND CHARACTERISTIC CURVES (CDBB220LR-HF Thru. CDBB2200LR-HF)

Fig.1 - Typical Forward Current Derating Curve

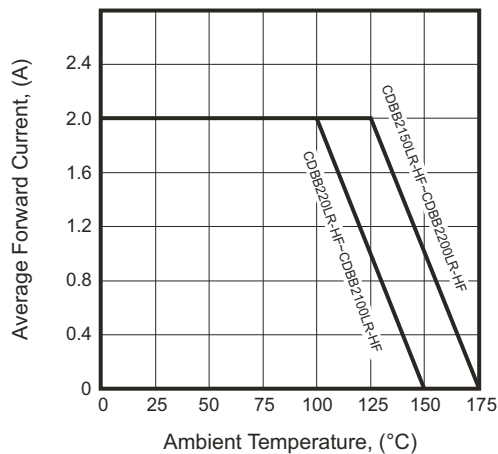


Fig.2 - Typical Forward Characteristics

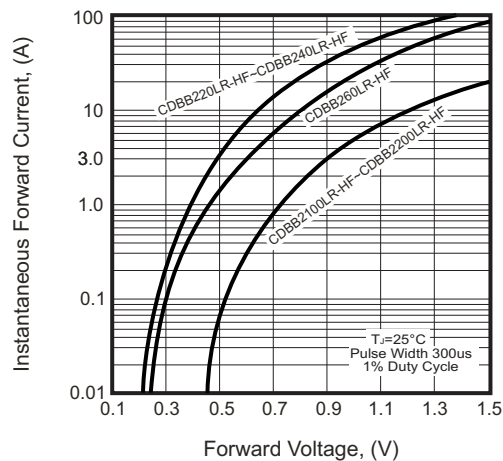


Fig.3 - Maximum Non-repetitive Forward Surge Current

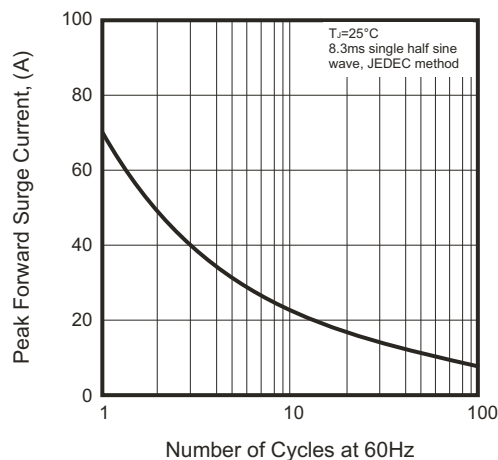


Fig.4 - Typical Junction Capacitance

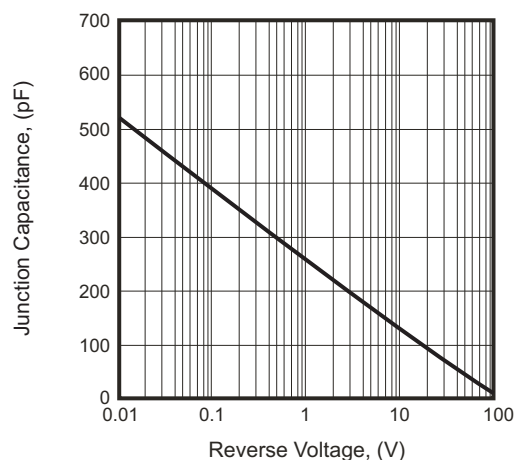
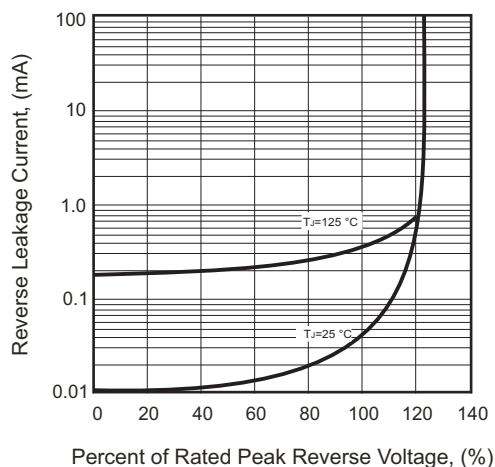
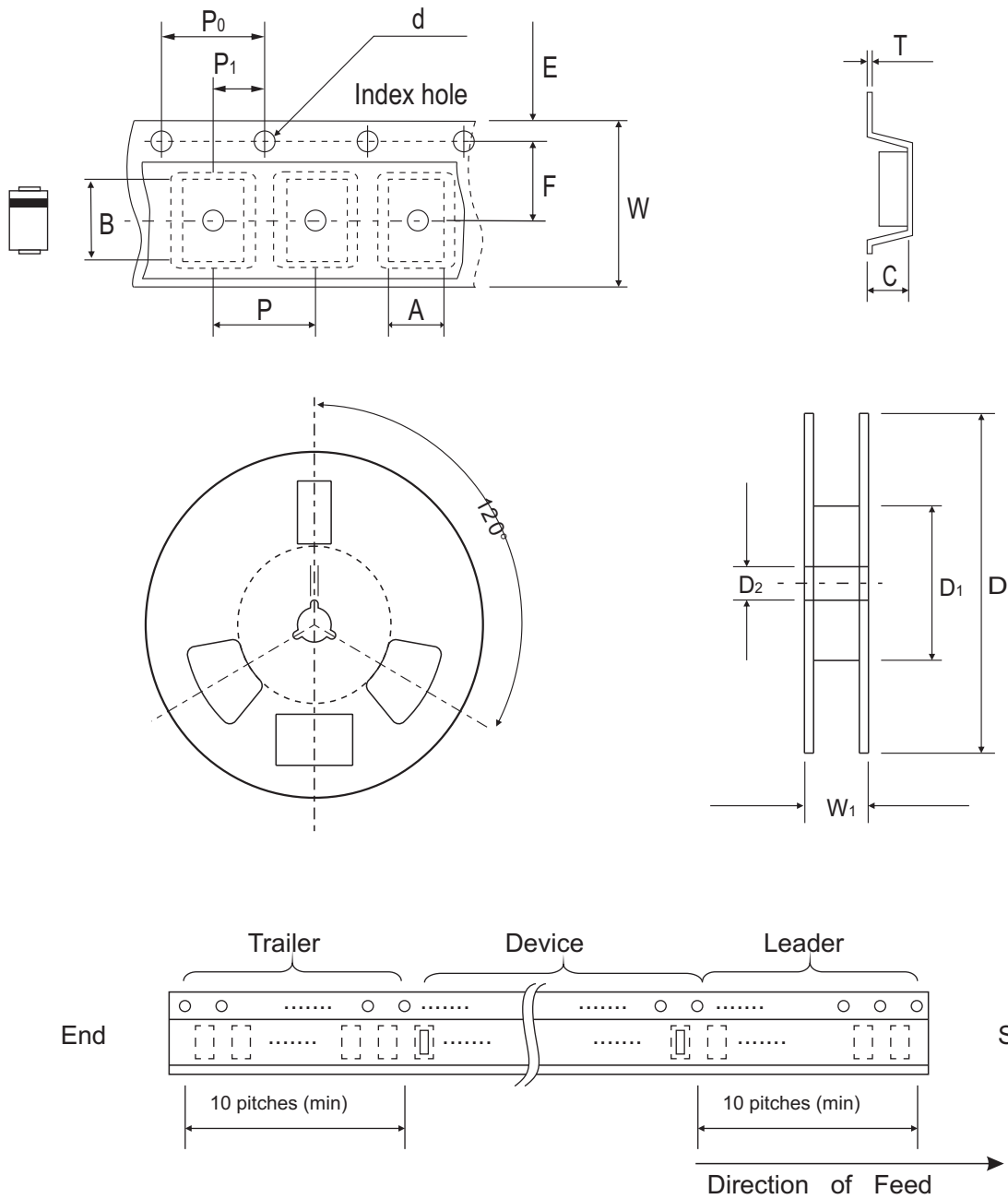


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification

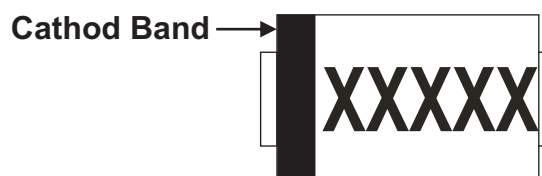


| DO-214AA<br>(SMB) | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1         | D2                |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|-------------------|
|                   | (mm)   | $4.00 \pm 0.10$   | $5.90 \pm 0.10$   | $3.00 \pm 0.10$   | $1.50 \pm 0.10$   | $330 \pm 2.00$    | 50.0 MIN.  | $13.50 \pm 0.50$  |
|                   | (inch) | $0.157 \pm 0.004$ | $0.232 \pm 0.004$ | $0.118 \pm 0.004$ | $0.059 \pm 0.004$ | $12.99 \pm 0.079$ | 1.969 MIN. | $0.531 \pm 0.020$ |

| DO-214AA<br>(SMB) | SYMBOL | E                 | F                 | P                 | $P_0$             | $P_1$             | T                 | W                 | $W_1$             |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                   | (mm)   | $1.75 \pm 0.10$   | $5.50 \pm 0.10$   | $8.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $0.60 \pm 0.10$   | $12.00 \pm 0.30$  | $18.40 \pm 1.00$  |
|                   | (inch) | $0.069 \pm 0.004$ | $0.217 \pm 0.004$ | $0.315 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.236 \pm 0.004$ | $0.472 \pm 0.012$ | $0.724 \pm 0.040$ |

## Marking Code

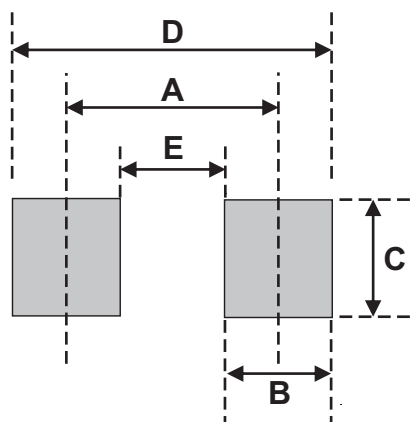
| Part Number   | Marking Code |
|---------------|--------------|
| CDBB220LR-HF  | KL22         |
| CDBB240LR-HF  | KL24         |
| CDBB260LR-HF  | KL26         |
| CDBB2100LR-HF | KL210        |
| CDBB2150LR-HF | KL215        |
| CDBB2200LR-HF | KL220        |



XXXXXX = 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                  |