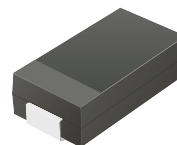


# CDBB320LR-HF Thru. CDBB3200LR-HF

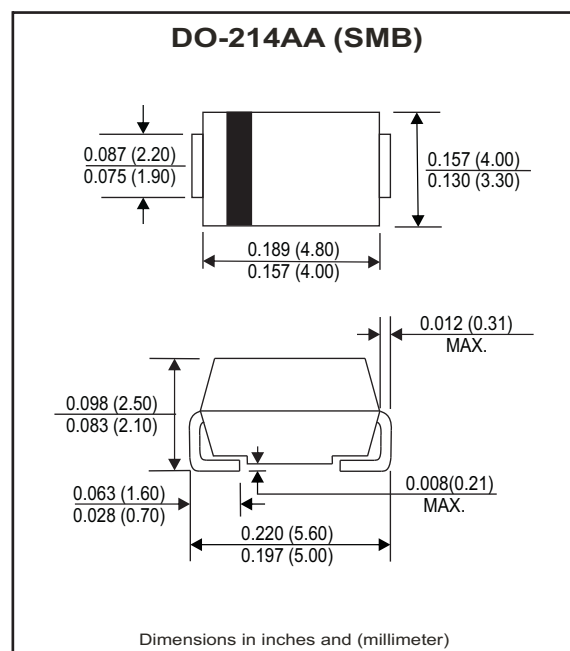
**Reverse Voltage: 20 to 200 Volts****Forward Current: 3.0 Amp****RoHS Device****Halogen Free**

## 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 Ta=25°C unless otherwise noted.

Single phase, half wave, 60Hz, resistive or inductive loaded.

For capacitive load, derate current by 20% .

| Parameter                                         | Symbol    | CDBB 320LR-HF | CDBB 340LR-HF | CDBB 360LR-HF | CDBB 3100LR-HF | CDBB 3150LR-HF | CDBB 3200LR-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 @3.0A, Ta=25°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    |                | °C    |

| Parameter                  | Conditions                                                           | Symbol          | MIN. | TYP. | MAX. | Units |
|----------------------------|----------------------------------------------------------------------|-----------------|------|------|------|-------|
| Forward rectified current  | see Fig.1                                                            | $I_o$           |      |      | 3.0  | A     |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       |      |      | 125  | A     |
| Reverse Current            | $V_R = V_{RRM}$ Ta=25°C                                              | $I_R$           |      |      | 0.5  | mA    |
|                            | $V_R = V_{RRM}$ Ta=100°C                                             | $I_R$           |      |      | 20   | mA    |
| Thermal Resistance         | Junction to ambient                                                  | $R_{\theta JA}$ |      | 55   |      | °C/W  |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse Voltage                             | $C_J$           |      | 250  |      | pF    |
| Storage temperature        |                                                                      | $T_{STG}$       | -50  |      | +175 | °C    |

## RATING AND CHARACTERISTIC CURVES (CDBB320LR-HF Thru. CDBB3200LR-HF)

Fig.1 - Typical Forward Current Derating Curve

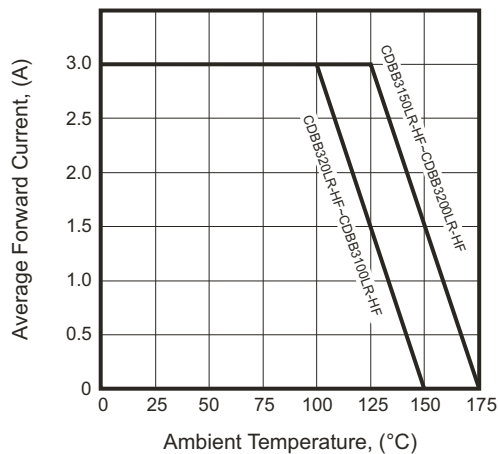


Fig.2 - Typical Forward Characteristics

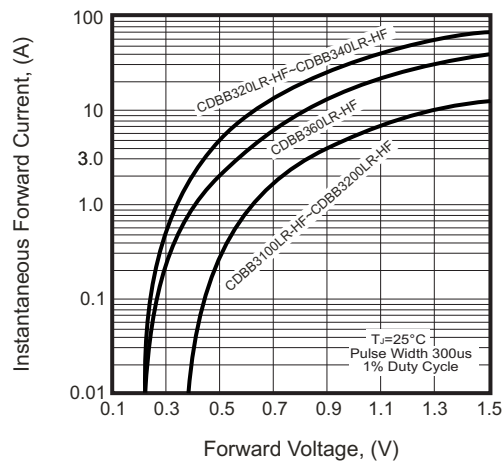


Fig.3 - Maximum Non-repetitive Forward Surge Current

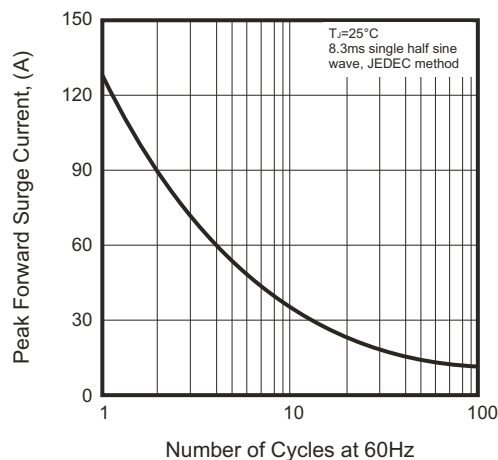


Fig.4 - Typical Junction Capacitance

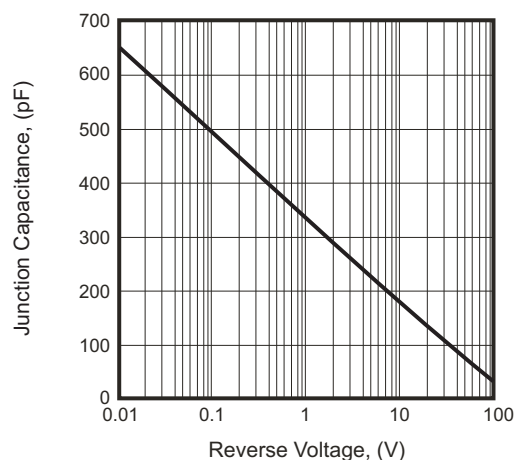
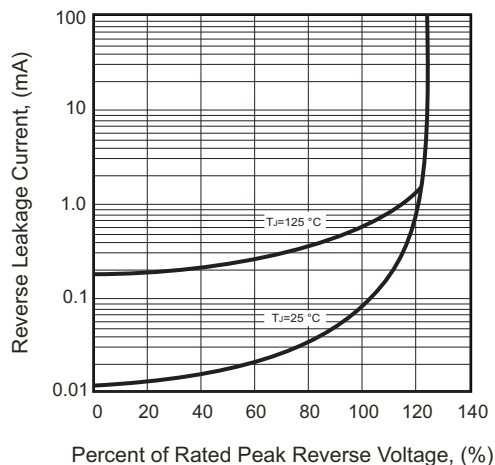
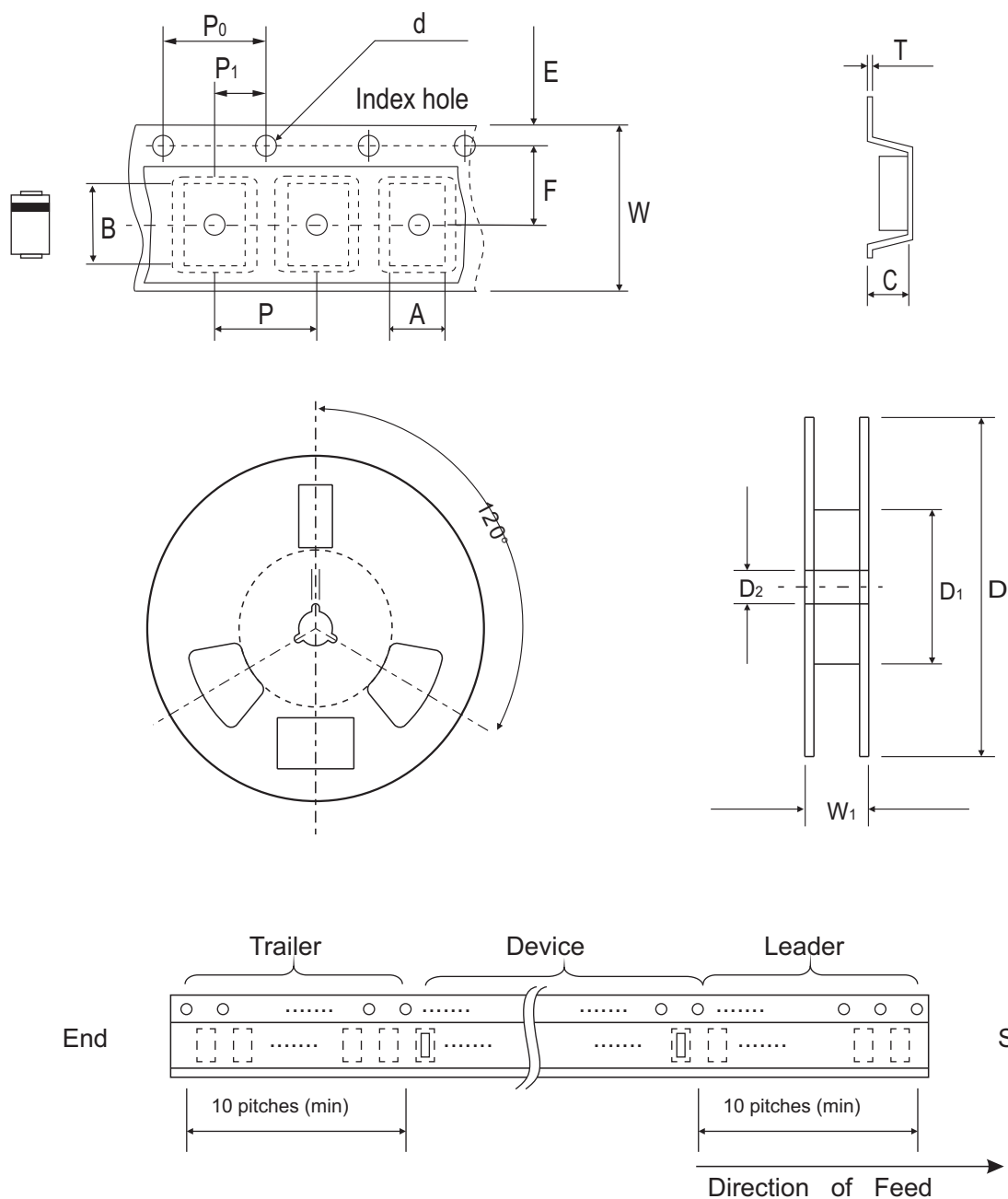


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification

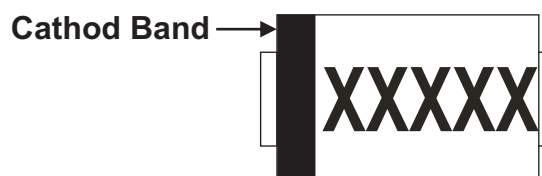


| DO-214AA<br>(SMB) | SYMBOL | A             | B             | C             | d             | D             | D <sub>1</sub> | D <sub>2</sub> |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
|                   | (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   | 12.00 ± 0.30  | 18.40 ± 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  |

## Marking Code

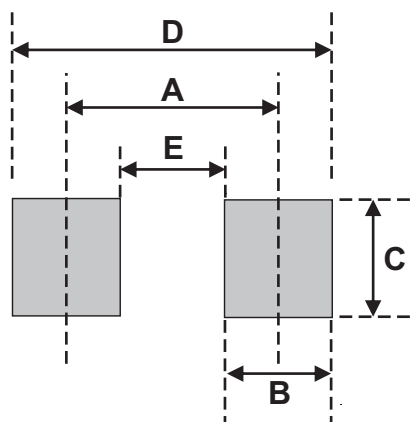
| Part Number   | Marking Code |
|---------------|--------------|
| CDBB320LR-HF  | KL32         |
| CDBB340LR-HF  | KL34         |
| CDBB360LR-HF  | KL36         |
| CDBB3100LR-HF | KL310        |
| CDBB3150LR-HF | KL315        |
| CDBB3200LR-HF | KL320        |



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                  |