

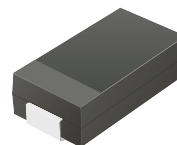
# CDBA120LR-HF Thru. CDBA1200LR-HF

Reverse Voltage: 20 to 200 Volts

Forward Current: 1.0 Amp

RoHS Device

Halogen free

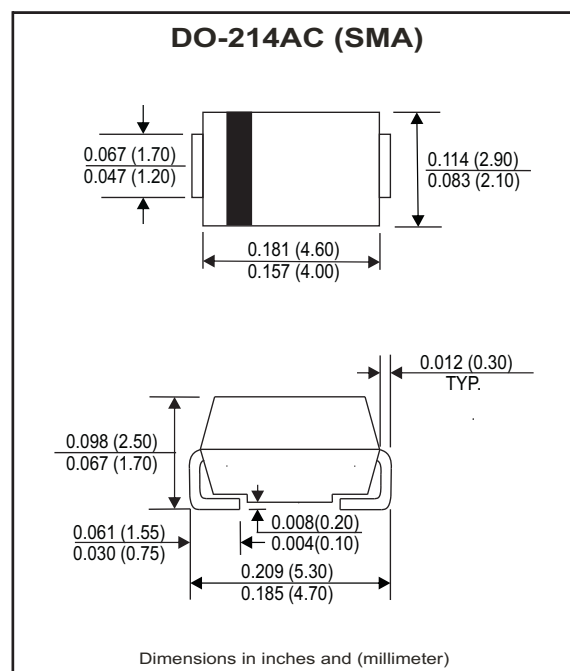


## Features

- 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-214AC / SMA
- Terminals: solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Weight: 0.055 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    | CDBA 120LR-HF | CDBA 140LR-HF | CDBA 160LR-HF | CDBA 1100LR-HF | CDBA 1150LR-HF | CDBA 1200LR-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 @1.0A, 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                                                            | $I_o$           |      |      | 1.0  | A     |
| Forward surge current      | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$       |      |      | 50   | 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                                                  | $R_{\theta JA}$ |      | 88   |      | °C/W  |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse Voltage                             | $C_J$           |      | 120  |      | pF    |
| Storage temperature        |                                                                      | $T_{STG}$       | -50  |      | +175 | °C    |

## RATING AND CHARACTERISTIC CURVES (CDBA120LR-HF Thru. CDBA1200LR-HF)

Fig.1 - Typical Forward Current Derating Curve

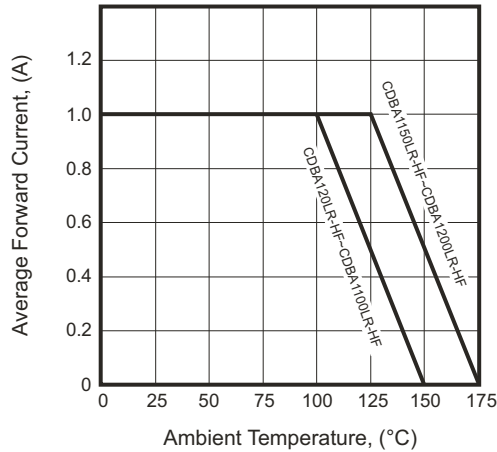


Fig.2 - Typical Forward Characteristics

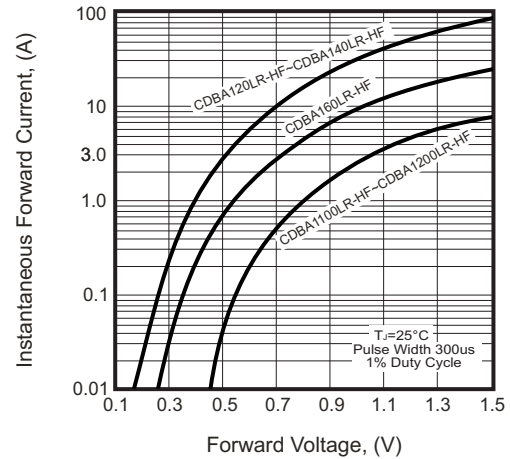


Fig.3 - Maximum Non-repetitive Forward Surge Current

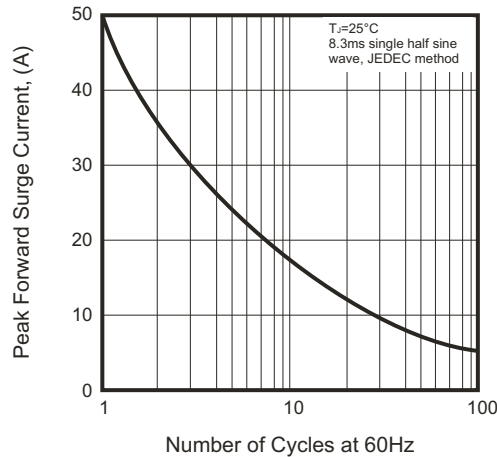


Fig.4 - Typical Junction Capacitance

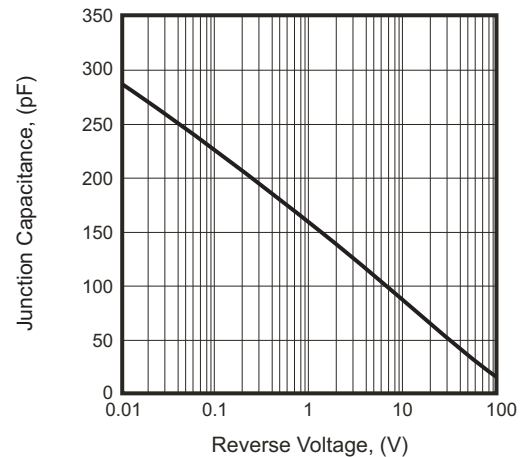
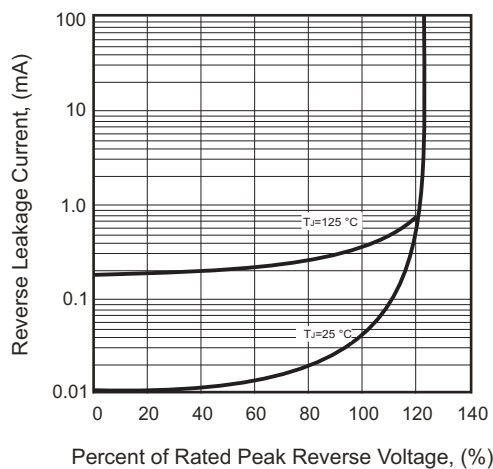
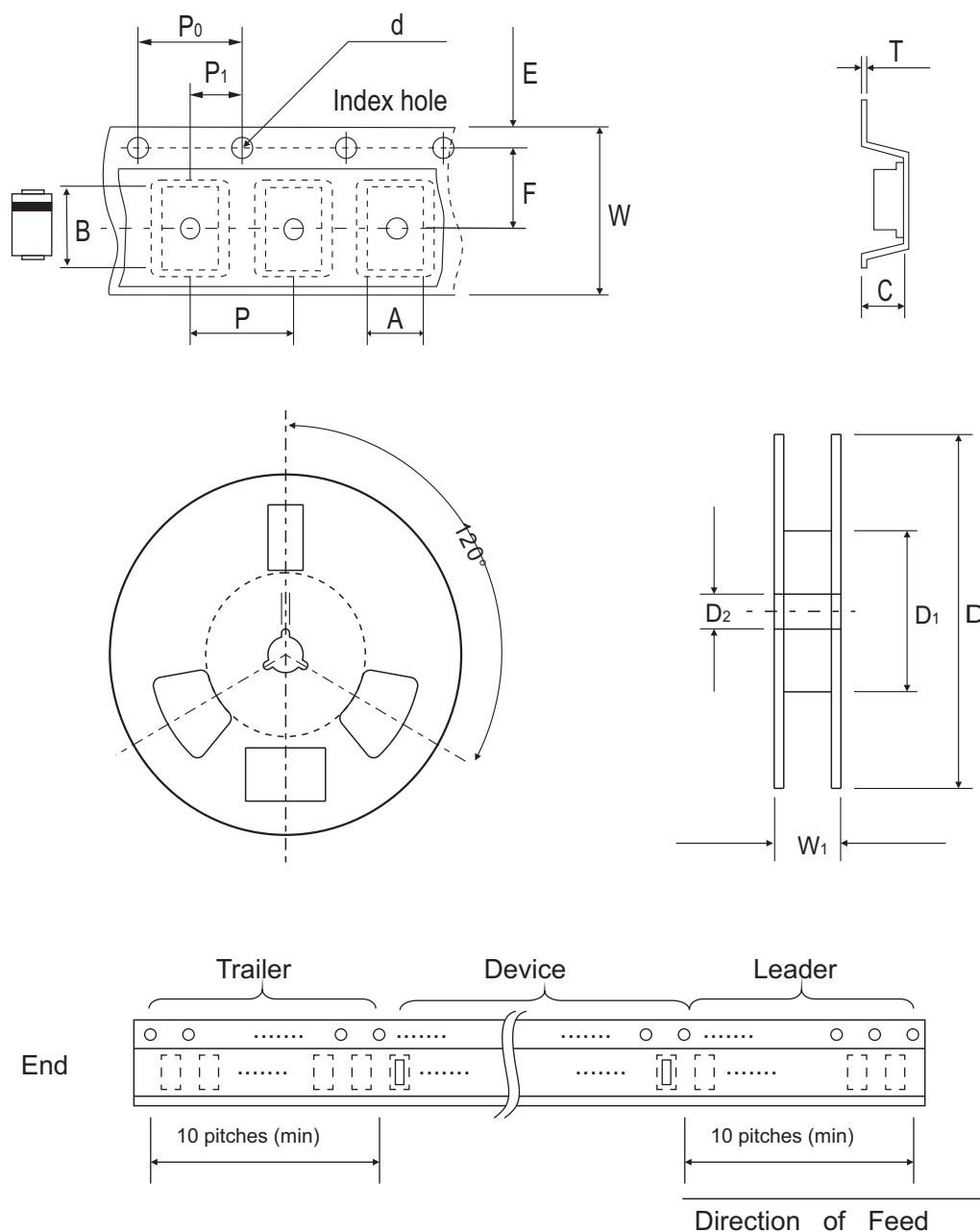


Fig.5 - Typical Reverse Characteristics



## Reel Taping Specification

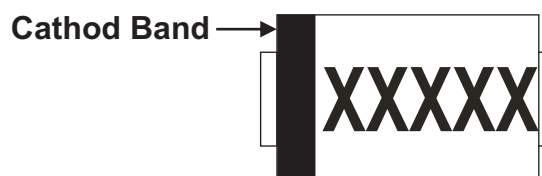


| DO-214AC<br>(SMA) | SYMBOL | A                 | B                 | C                 | d                 | D                 | D1         | D2                |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|------------|-------------------|
|                   | (mm)   | $2.70 \pm 0.10$   | $5.30 \pm 0.10$   | $2.66 \pm 0.10$   | $1.50 \pm 0.10$   | $330 \pm 2.00$    | 62.0 MIN.  | $13.50 \pm 0.50$  |
|                   | (inch) | $0.106 \pm 0.004$ | $0.209 \pm 0.004$ | $0.105 \pm 0.004$ | $0.059 \pm 0.004$ | $12.99 \pm 0.079$ | 2.441 MIN. | $0.531 \pm 0.020$ |

| DO-214AC<br>(SMA) | SYMBOL | E                 | F                 | P                 | $P_0$             | $P_1$             | T                 | W                 | $W_1$             |
|-------------------|--------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                   | (mm)   | $1.75 \pm 0.10$   | $5.50 \pm 0.10$   | $4.00 \pm 0.10$   | $4.00 \pm 0.10$   | $2.00 \pm 0.10$   | $0.60 \pm 0.10$   | $12.0 \pm 0.30$   | $18.40 \pm 1.00$  |
|                   | (inch) | $0.069 \pm 0.004$ | $0.217 \pm 0.004$ | $0.157 \pm 0.004$ | $0.157 \pm 0.004$ | $0.079 \pm 0.004$ | $0.236 \pm 0.004$ | $0.472 \pm 0.012$ | $0.724 \pm 0.039$ |

## Marking Code

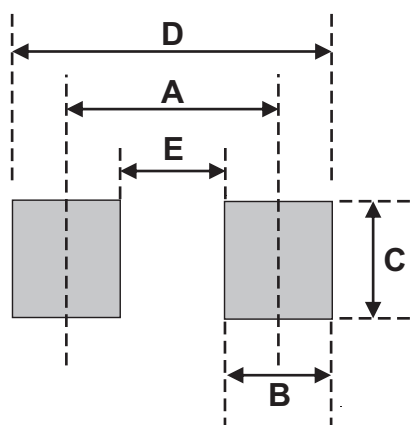
| Part Number   | Marking Code |
|---------------|--------------|
| CDBA120LR-HF  | KL12         |
| CDBA140LR-HF  | KL14         |
| CDBA160LR-HF  | KL16         |
| CDBA1100LR-HF | KL110        |
| CDBA1150LR-HF | KL115        |
| CDBA1200LR-HF | KL120        |



XXXXXX = Product type marking code

## Suggested PAD Layout

| SIZE | DO-214AC (SMA) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 4.00           | 0.157  |
| B    | 2.50           | 0.100  |
| C    | 1.70           | 0.068  |
| D    | 6.50           | 0.256  |
| E    | 1.50           | 0.060  |



## Standard Packaging

| Case Type         | REEL PACK       |                     |
|-------------------|-----------------|---------------------|
|                   | REEL<br>( pcs ) | Reel Size<br>(inch) |
| DO-214AC<br>(SMA) | 5,000           | 13                  |