

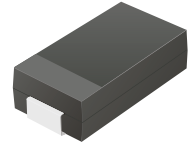
## CDBA240-HF Thru. CDBA2100-HF

Reverse Voltage: 40 to 100 Volts

Forward Current: 2.0 Amp

RoHS Device

Halogen Free

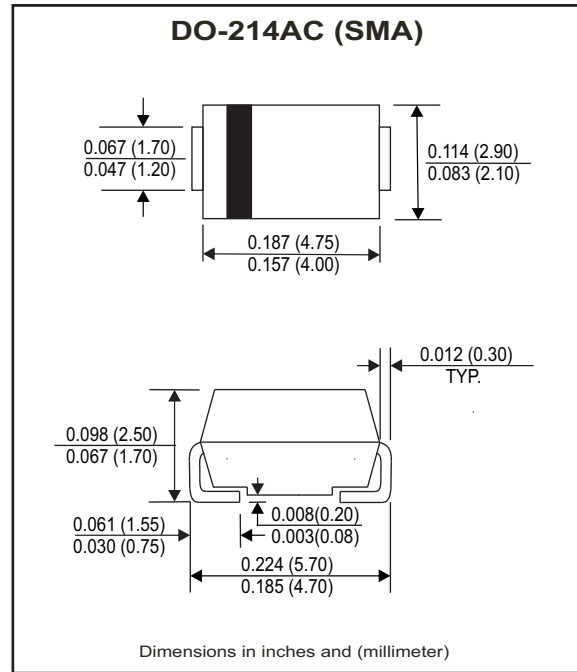


### Features

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

| Parameter                                                         | Symbol    | CDBA 240-HF | CDBA 260-HF | CDBA 2100-HF | Units            |
|-------------------------------------------------------------------|-----------|-------------|-------------|--------------|------------------|
| Max. Repetitive peak reverse voltage                              | $V_{RRM}$ | 40          | 60          | 100          | V                |
| Max. DC blocking voltage                                          | $V_{DC}$  | 40          | 60          | 100          | V                |
| Max. RMS voltage                                                  | $V_{RMS}$ | 28          | 42          | 70           | V                |
| Max. instantaneous forward voltage @ 2.0A, $T_A=25^\circ\text{C}$ | $V_F$     | 0.50        | 0.70        | 0.81         | V                |
| Operating Temperature                                             | $T_J$     | -50 to +150 |             |              | $^\circ\text{C}$ |

| 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 on rate load (JEDEC method) | $I_{FSM}$       |      |      | 50   | 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   |      | $^\circ\text{C}/\text{W}$ |
| Diode Junction capacitance | f=1MHz and applied 4V DC reverse Voltage                             | $C_J$           |      | 30   |      | pF                        |
| Storage temperature        |                                                                      | $T_{STG}$       | -50  |      | +175 | $^\circ\text{C}$          |

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## RATING AND CHARACTERISTIC CURVES (CDBA240-HF Thru. CDBA2100-HF)

Fig.1 - Typical Forward Current Derating Curve

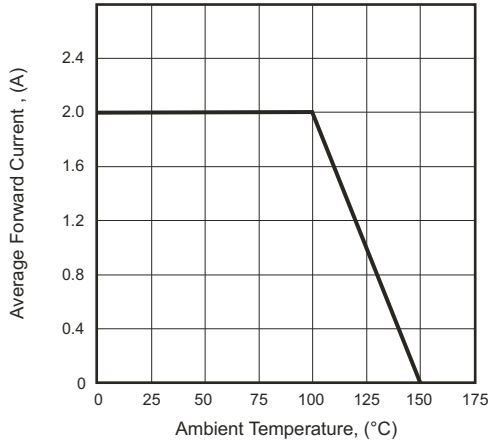


Fig.2 - Typical Forward Characteristics

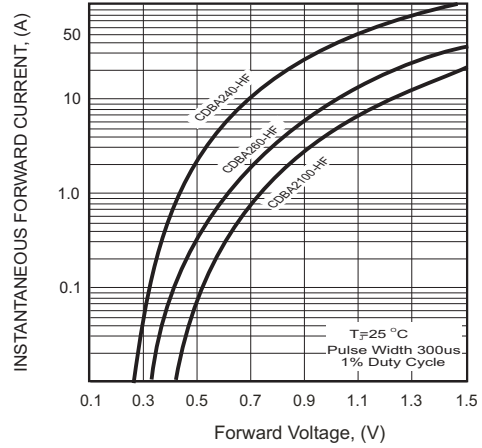


Fig.3 - Maximum Non-repetitive Forward Surge Current

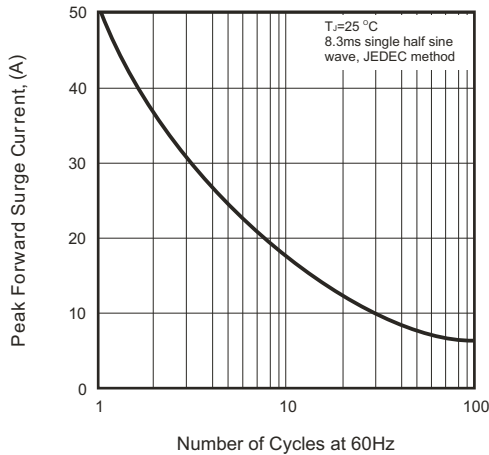


Fig.4 - Typical Junction Capacitance

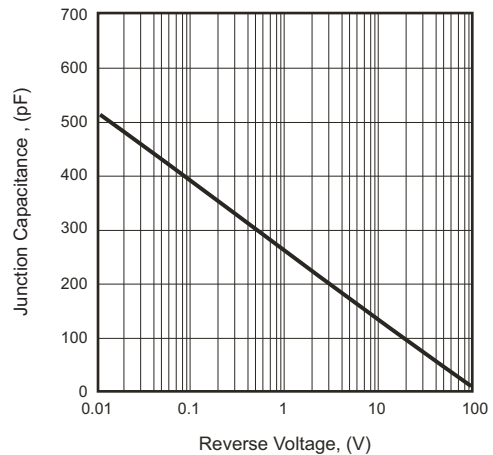
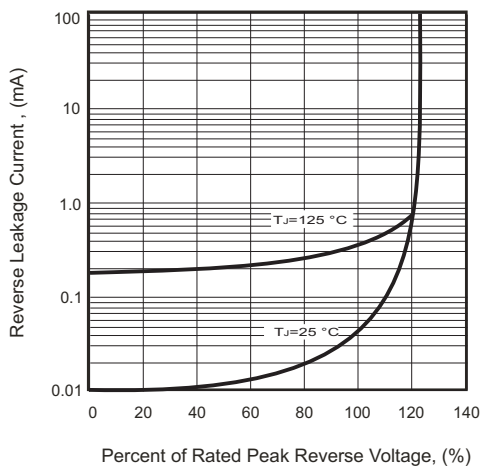
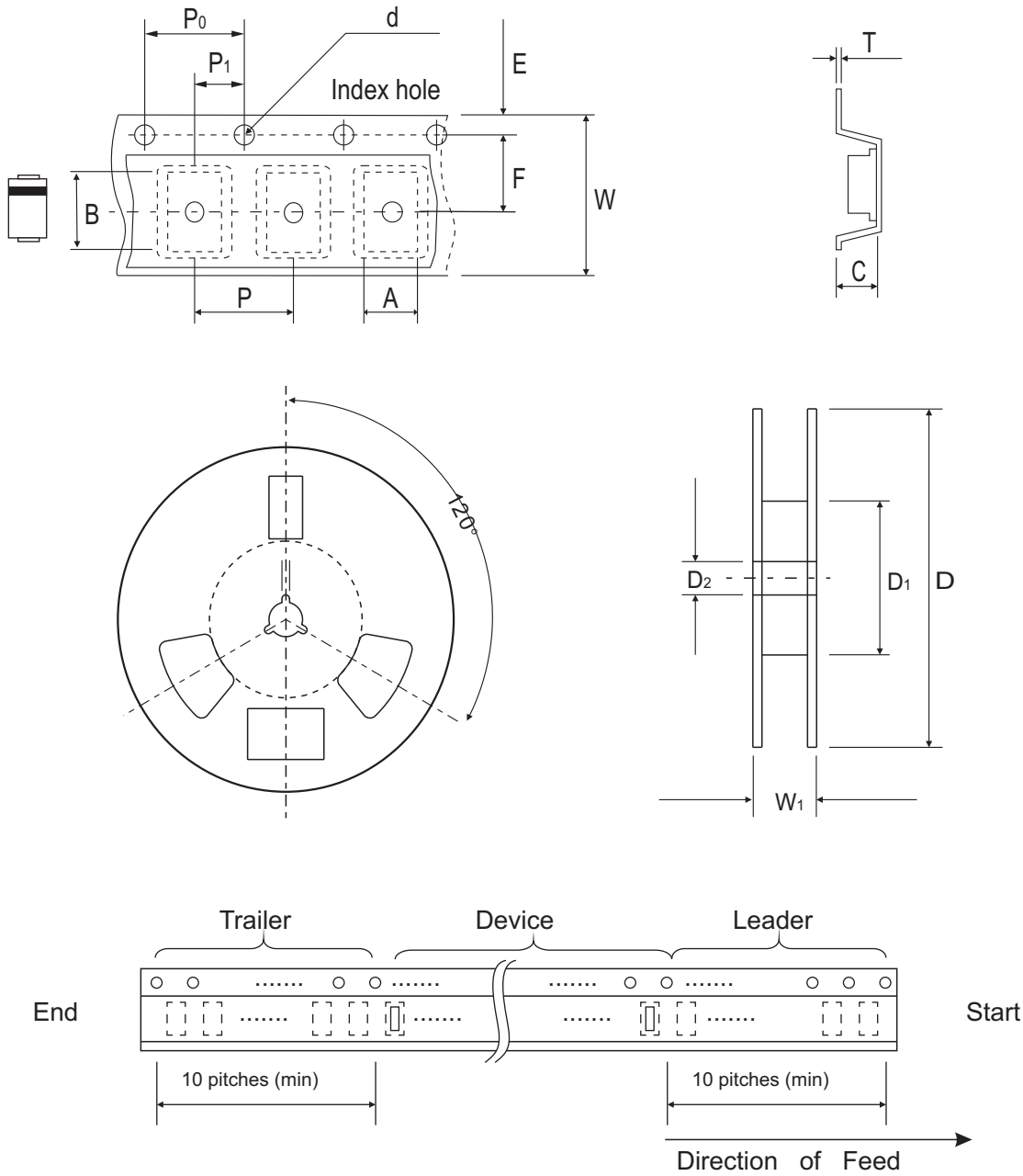


Fig.5 - Typical Reverse Characteristics



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## Reel Taping Specification



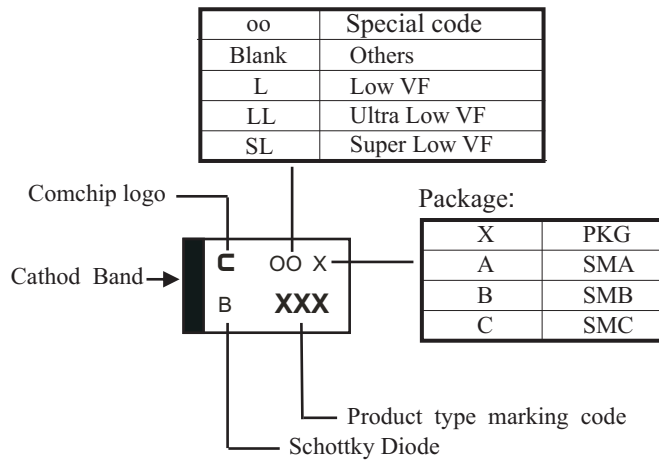
| DO-214AC<br>(SMA) | SYMBOL | A             | B             | C             | d             | D             | D1         | D2            |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|------------|---------------|
|                   | (mm)   | 2.70 ± 0.10   | 5.30 ± 0.10   | 2.66 ± 0.10   | 1.50 ± 0.10   | 330 ± 2.00    | 50.0 MIN.  | 13.50 ± 0.50  |
|                   | (inch) | 0.106 ± 0.004 | 0.209 ± 0.004 | 0.105 ± 0.004 | 0.059 ± 0.004 | 12.99 ± 0.079 | 1.969 MIN. | 0.531 ± 0.020 |

| DO-214AC<br>(SMA) | SYMBOL | E             | F             | P             | P0            | P1            | T             | W             | W1            |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|                   | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.10   | 4.00 ± 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 | 0.157 ± 0.004 | 0.157 ± 0.004 | 0.079 ± 0.004 | 0.024 ± 0.004 | 0.472 ± 0.012 | 0.724 ± 0.040 |

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## Marking Code

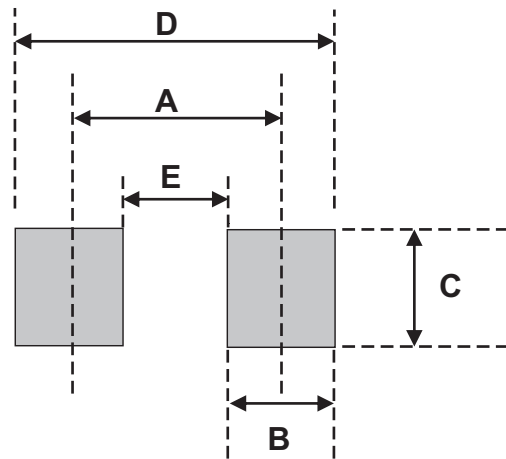
| Part Number | Marking Code |
|-------------|--------------|
| CDBA240-HF  | 240          |
| CDBA260-HF  | 260          |
| CDBA2100-HF | 2100         |



**xxx/xxxx = 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 ( pcs ) | Reel Size (inch) |
| DO-214AC (SMA) | 5,000        | 13               |

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