

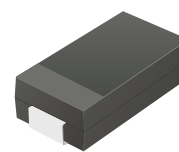
# CEFB201-HF thru. CEFB205-HF

Reverse Voltage: 50 to 600 Volts

Forward Current: 2.0 Amp

RoHS Device

Halogen Free

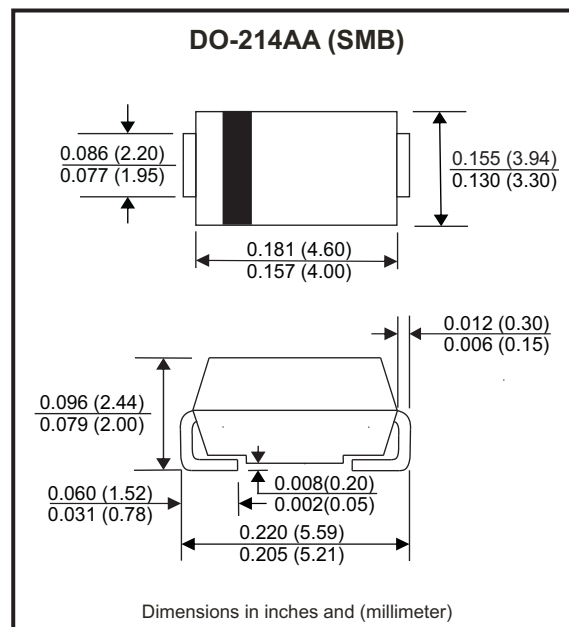


## Features

- Glass Passivated chip junction.
- Very low drop down voltage.
- Super fast recovery time for high efficiency.
- Low reverse leakage.
- High surge current capability.

## Mechanical data

- Case: SMB/DO-214AA, molded plastic.
- Epoxy: UL 94V-0 rated flame retardant.
- Terminals: Solderable per MIL-STD-750, Method 2026.
- Polarity: Color band denotes cathode end.
- Weight: 0.093 grams(approx.).



## Circuit diagram



## Maximum Ratings (at TA=25°C unless otherwise noted)

| Parameter                                                                                                                         |                           | Symbol          | CEFB<br>201-HF | CEFB<br>202-HF | CEFB<br>203-HF | CEFB<br>204-HF | CEFB<br>205-HF | Units                |
|-----------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------------|
| Max. recurrent peak reverse voltage                                                                                               |                           | $V_{RRM}$       | 50             | 100            | 200            | 400            | 600            | V                    |
| Max. DC blocking voltage                                                                                                          |                           | $V_{DC}$        | 50             | 100            | 200            | 400            | 600            | V                    |
| Max. RMS voltage                                                                                                                  |                           | $V_{RMS}$       | 35             | 70             | 140            | 280            | 420            | V                    |
| Max. average forward rectified current (see Fig.1)                                                                                |                           | $I_{(AV)}$      | 2.0            |                |                |                |                | A                    |
| Peak forward surge current, 8.3ms<br>single half sine-wave superimposed<br>on rated load (JEDEC method) $T_L=120^{\circ}\text{C}$ |                           | $I_{FSM}$       | 50             |                |                |                |                | A                    |
| Max. instantaneous forward voltage @2.0A                                                                                          |                           | $V_F$           | 1.0            |                |                | 1.3            | 1.7            | V                    |
| Max. DC reverse current at rated<br>DC blocking voltage                                                                           | $T_A=25^{\circ}\text{C}$  | $I_R$           | 5              |                |                |                |                | $\mu\text{A}$        |
|                                                                                                                                   | $T_A=125^{\circ}\text{C}$ | $I_R$           | 100            |                |                |                |                |                      |
| Typical reverse recovery time (Note 1)                                                                                            |                           | $T_{rr}$        | 35             |                | 25             | 35             |                | nS                   |
| Typical junction capacitance (Note 2)                                                                                             |                           | $C_J$           | 15             |                |                |                |                | pF                   |
| Typical thermal resistance (Note 3)                                                                                               |                           | $R_{\theta JL}$ | 18             |                |                |                |                | $^{\circ}\text{C/W}$ |
|                                                                                                                                   |                           | $R_{\theta JA}$ | 135            |                |                |                |                |                      |
| Operating junction temperature range                                                                                              |                           | $T_J$           | -55 to +150    |                |                |                |                | $^{\circ}\text{C}$   |
| Storage temperature range                                                                                                         |                           | $T_{STG}$       | -55 to +150    |                |                |                |                | $^{\circ}\text{C}$   |

Notes: 1. Reverse recovery test condition:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$ .

2. Measured at 1.0MHZ and applied reverse voltage of 4.0 Volts.

3. Mounted on an FR4 PCB, single sided copper, with 48 $\text{cm}^2$  copper pad area, and mini pad.

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

REV: A

## Rating and Characteristic Curves (CEFB201-HF thru. CEFB205-HF)

Fig.1 - Typical Forward Current Derating Curve

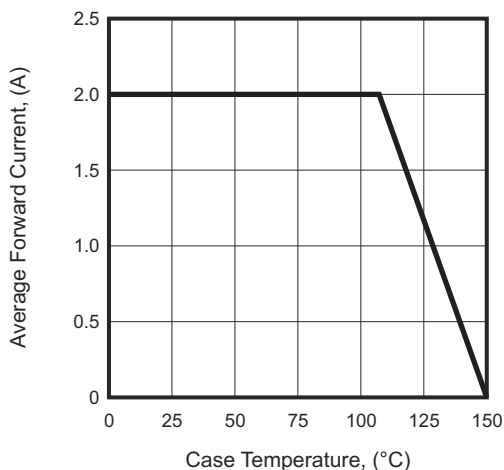


Fig.2 - Maximum Non-repetitive Peak Forward Surge Current

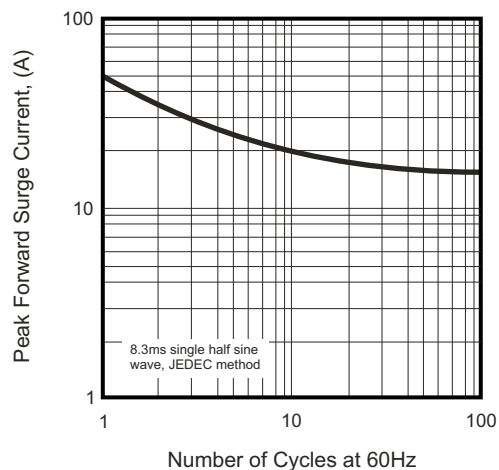


Fig.3 - Typical Instantaneous Forward Characteristics

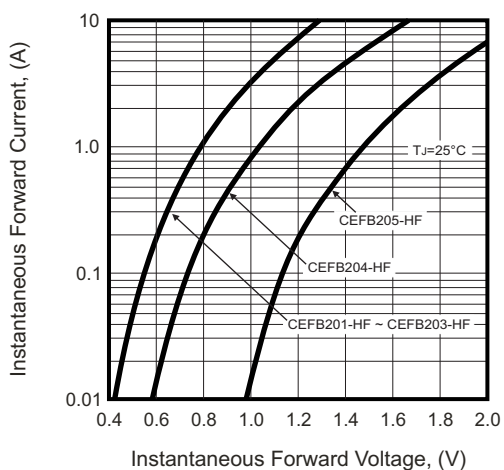


Fig.4 - Typical Reverse Characteristics

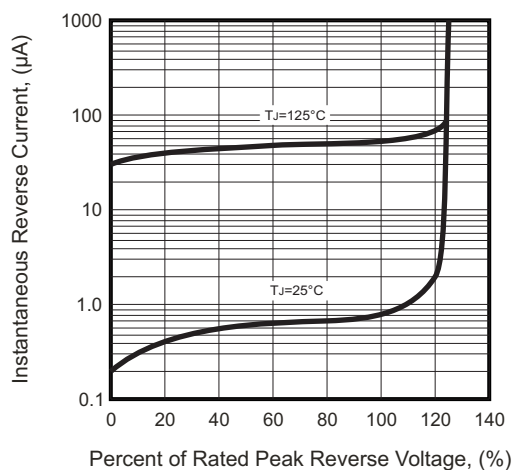
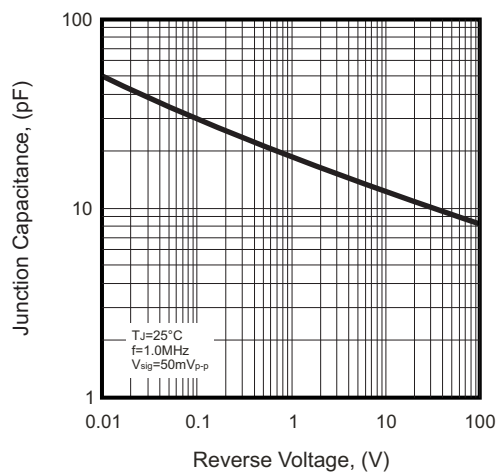
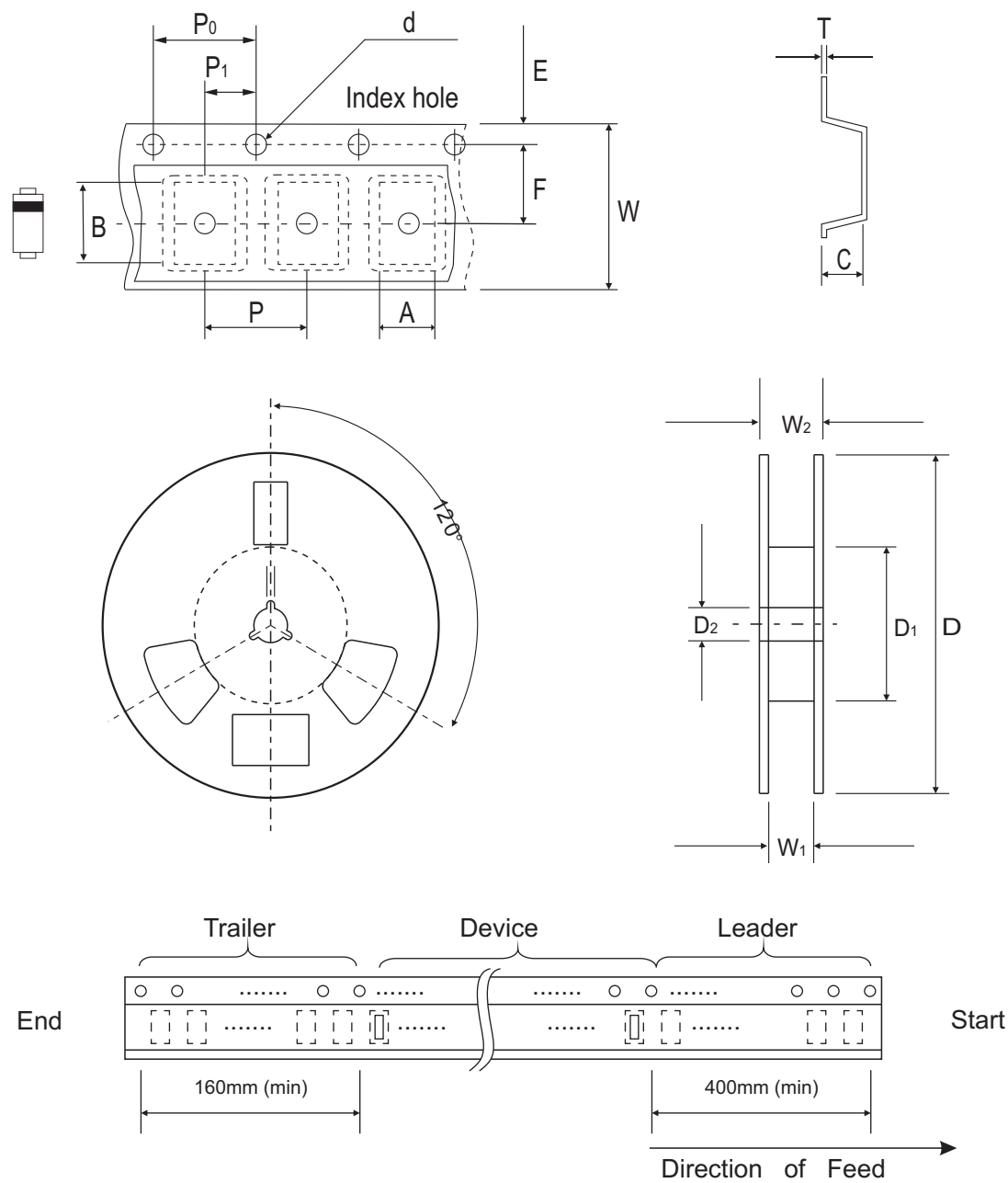


Fig.5 - Typical Junction Capacitance



Reel Taping Specification



|                   |        |       |       |       |       |       |       |                |                |
|-------------------|--------|-------|-------|-------|-------|-------|-------|----------------|----------------|
| DO-214AA<br>(SMB) | SYMBOL | A     | B     | C     | d     | T     | D     | D <sub>1</sub> | D <sub>2</sub> |
|                   | (mm)   | 4.10  | 5.90  | 2.45  | 1.55  | 0.25  | 330.0 | 54.00          | 13.50          |
|                   | (inch) | 0.161 | 0.232 | 0.096 | 0.061 | 0.010 | 13.00 | 2.126          | 0.531          |

|                   |        |       |       |       |                |                |       |                |                |
|-------------------|--------|-------|-------|-------|----------------|----------------|-------|----------------|----------------|
| DO-214AA<br>(SMB) | SYMBOL | E     | F     | P     | P <sub>0</sub> | P <sub>1</sub> | W     | W <sub>1</sub> | W <sub>2</sub> |
|                   | (mm)   | 1.75  | 5.50  | 8.00  | 4.00           | 2.00           | 12.00 | 13.50          | 18.40          |
|                   | (inch) | 0.069 | 0.217 | 0.315 | 0.157          | 0.079          | 0.472 | 0.531          | 0.724          |

Note: The tolerance of carrier tape and top cover is 0.2mm, the tolerance of reel is 2mm.

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## Marking Code

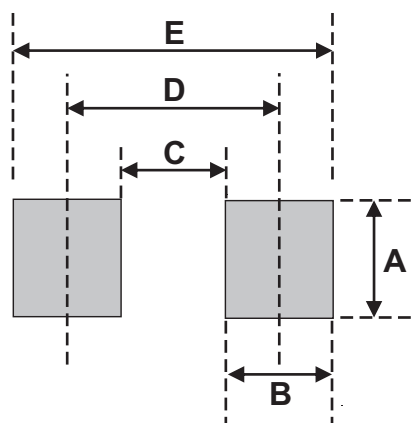
| Part Number | Marking Code |
|-------------|--------------|
| CEFB201-HF  | ES2A         |
| CEFB202-HF  | ES2B         |
| CEFB203-HF  | ES2D         |
| CEFB204-HF  | ES2G         |
| CEFB205-HF  | ES2J         |



XXXX = Product type marking code

## Suggested PAD Layout

| SIZE | DO-214AA (SMB) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 2.30           | 0.091  |
| B    | 2.50           | 0.098  |
| C    | 1.80           | 0.071  |
| D    | 4.30           | 0.169  |
| E    | 6.70           | 0.264  |



Note:

1. The pad layout is for reference purposes only.

## Standard Packaging

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