

# ACDBAT320-HF Thru. ACDBAT3100-HF

Forward current: 3.0A

Reverse voltage: 20 to 100V

RoHS Device

Halogen Free

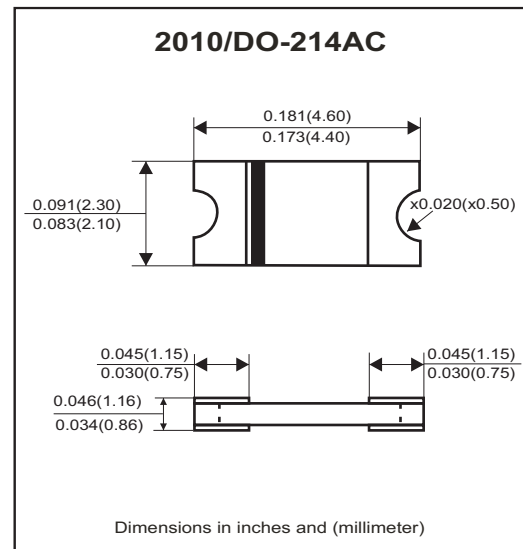


## Features

- Lead less chip form, no lead damage.
- Low power loss, High efficiency.
- High current capability, low VF
- Plastic package has underwriters laboratory flammability classification 94V-0.
- Comply with AEC-Q101

## Mechanical Data

- Case: Packed with FRP substrate and epoxy underfilled.
- Terminals: Pure Tin plated (Lead-Free), solderable per MIL-STD-750, method 2026.
- Polarity: Laser cathode band marking.
- Weight: 0.02 grams (approx).



## Circuit Diagram



## Maximum Ratings (At Ta=25°C, unless otherwise noted)

| Parameter                                                  | Symbol             | ACDBAT320-HF | ACDBAT340-HF | ACDBAT360-HF | ACDBAT3100-HF | Unit |
|------------------------------------------------------------|--------------------|--------------|--------------|--------------|---------------|------|
| Non-repetitive peak reverse voltage                        | V <sub>RM</sub>    | 20           | 40           | 60           | 100           | V    |
| Average forward current                                    | I <sub>F(AV)</sub> | 3            |              |              |               | A    |
| Peak forward surge current<br>@8.3ms single half sine-wave | I <sub>FSM</sub>   | 80           |              |              |               | A    |
| Operating junction temperature range                       | T <sub>J</sub>     | -55 to +125  |              | -55 to +150  |               | °C   |
| Storage temperature                                        | T <sub>STG</sub>   | -55 ~ +150   |              |              |               | °C   |

## Electrical Characteristics (At Ta=25°C, unless otherwise noted)

| Parameter                    | Conditions                        | Type          | Symbol          | Min. | Typ. | Max. | Unit |
|------------------------------|-----------------------------------|---------------|-----------------|------|------|------|------|
| Forward voltage (Note1)      | $I_F=1.0A$                        | ACDBAT320-HF  | $V_F$           | -    | 0.37 | -    | V    |
|                              | $I_F=3.0A$                        | ACDBAT340-HF  |                 | -    | 0.46 | 0.50 |      |
|                              | $I_F=1.0A$                        | ACDBAT360-HF  |                 | -    | 0.42 | -    |      |
|                              | $I_F=3.0A$                        | ACDBAT3100-HF |                 | -    | 0.58 | 0.70 |      |
| Reverse peak reverse current | $V_R=Max.V_{RRM}, T_a=25^\circ C$ |               | $I_{RRM}$       | -    | 0.02 | 0.2  | mA   |
| Junction capacitance         | $V_R=4V, f=1.0MHz$                |               | $C_j$           | -    | 120  | -    | pF   |
| Thermal resistance           | Junction to ambient (Note 2)      |               | $R_{\theta JA}$ | -    | 86   | -    | °C/W |
|                              | Junction to lead (Note 2)         |               | $R_{\theta JL}$ | -    | 24   | -    | °C/W |

Notes: (1) Pulse test width  $p_w=300\mu sec$ , 1% duty cycle.

(2) Mounted on P.C. board with 0.2\*0.2"(5.0\*5.0mm) copper pad areas.

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

REV:A

## RATING AND CHARACTERISTIC CURVES (ACDBAT320-HF Thru. ACDBAT3100-HF)

Fig.1- Typical Forward Current Derating Curve

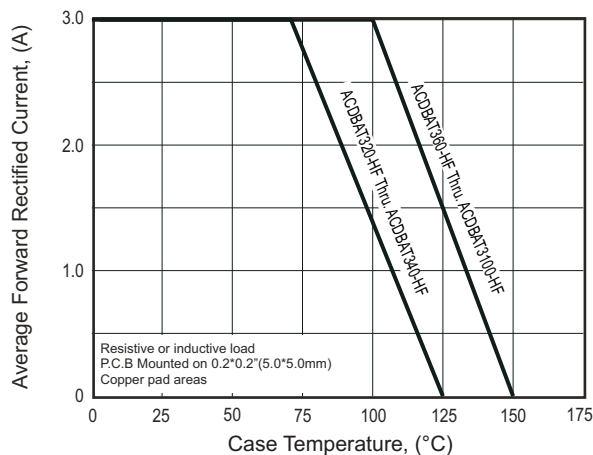


Fig.2- Maximum Non-Repetitive Peak Forward Surge Current

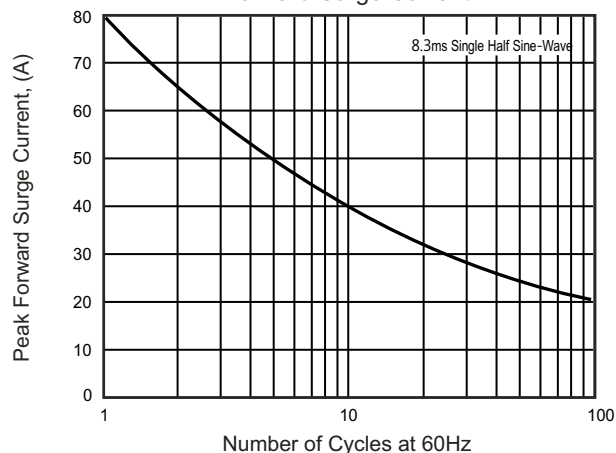


Fig.3- Typical Instantaneous Forward Characteristics

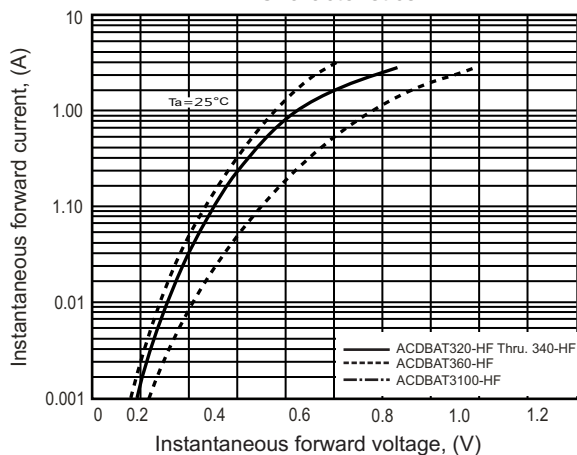


Fig.4- Typical Reverse Characteristics

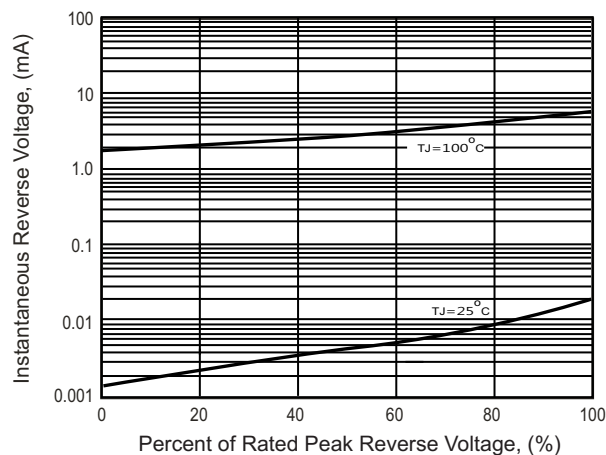
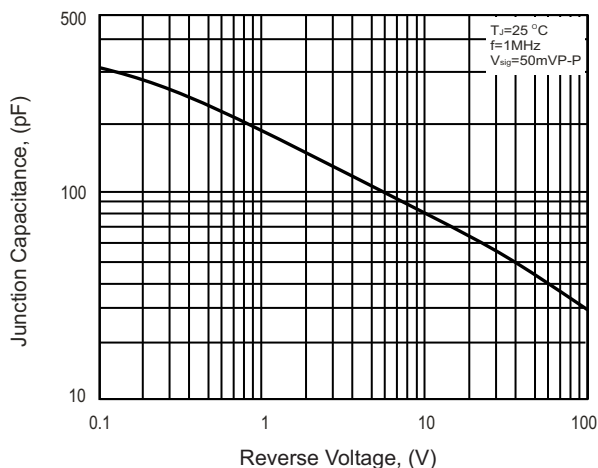
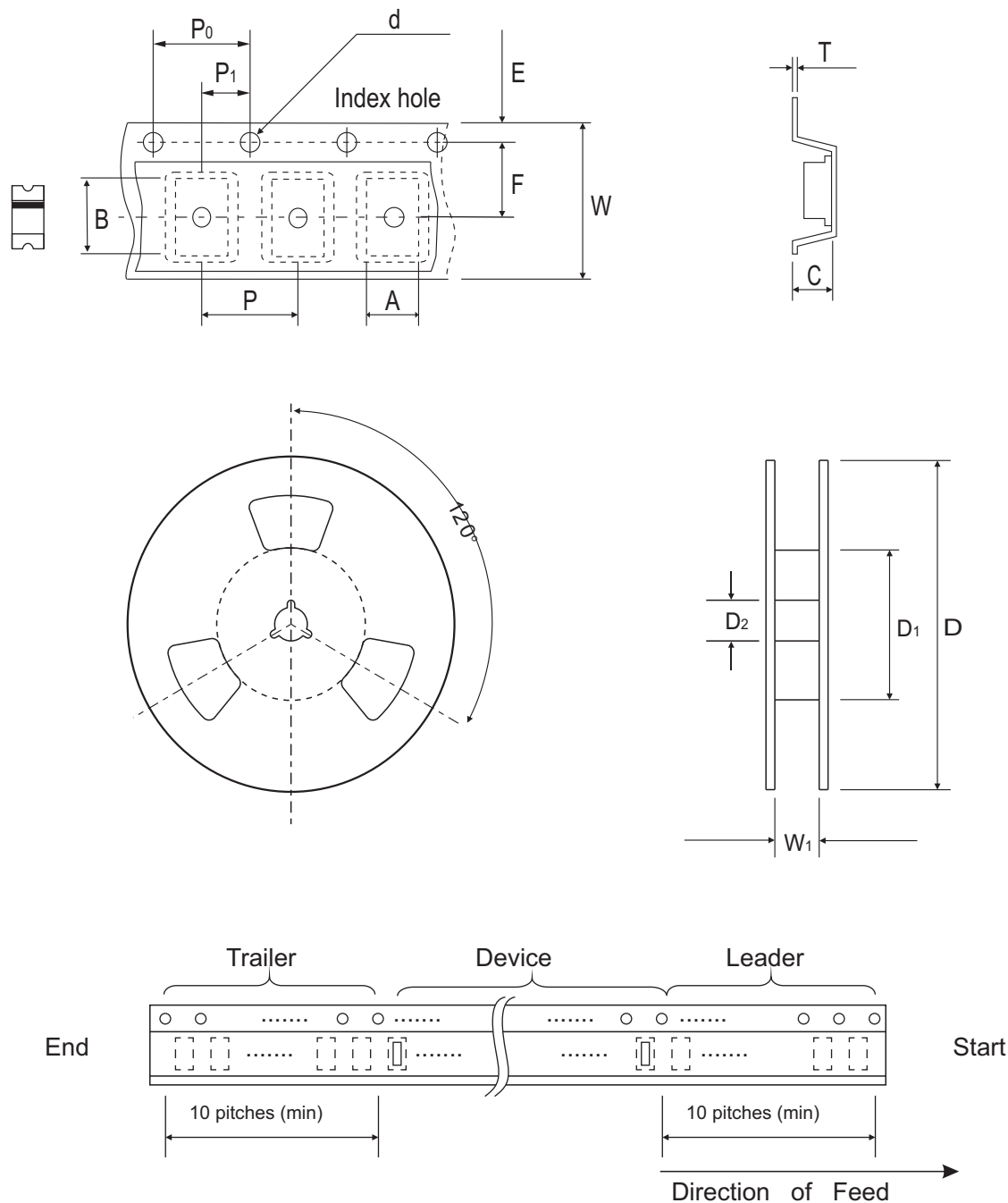


Fig.5- Typical Junction Capacitance



## Reel Taping Specification



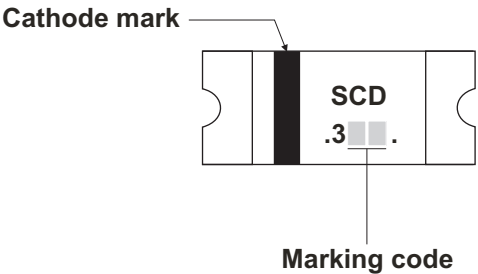
| 2010<br>(DO-214AC) | SYMBOL | A             | B             | C             | d             | D              | D <sub>1</sub> | D <sub>2</sub> |
|--------------------|--------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|
|                    | (mm)   | 4.70 ± 0.10   | 2.40 ± 0.10   | 1.26 ± 0.10   | 1.50 ± 0.10   | 330 ± 2.00     | 50.0 MIN.      | 13.0 ± 0.50    |
|                    | (inch) | 0.185 ± 0.004 | 0.094 ± 0.004 | 0.050 ± 0.004 | 0.059 ± 0.004 | 12.992 ± 0.079 | 1.969 MIN.     | 0.512 ± 0.020  |

| 2010<br>(DO-214AC) | SYMBOL | E             | F             | P             | P <sub>0</sub> | P <sub>1</sub> | W             | W <sub>1</sub> |
|--------------------|--------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|
|                    | (mm)   | 1.75 ± 0.10   | 5.50 ± 0.05   | 8.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.10    | 12.00 ± 0.30  | 14.4 MAX.      |
|                    | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.315 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.472 ± 0.012 | 0.567 MAX.     |

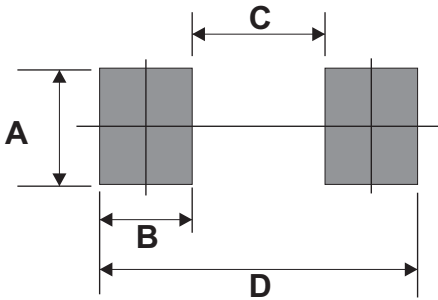
## Marking Code

| Part Number   | Marking Code |
|---------------|--------------|
| ACDBAT320-HF  | 2            |
| ACDBAT340-HF  | 4            |
| ACDBAT360-HF  | 6            |
| ACDBAT3100-HF | 10           |



## Suggested PAD Layout

| SIZE | 2010/DO-214AC |            |
|------|---------------|------------|
|      | (mm)          | (inch)     |
| A    | 1.47MIN.      | 0.058MIN.  |
| B    | 1.27MIN.      | 0.050MIN.  |
| C    | 2.60MAX.      | 0.102MAX.  |
| D    | 5.14REF.      | 0.202 REF. |



## Standard Packaging

| Case Type     | REEL PACK       |                     |
|---------------|-----------------|---------------------|
|               | REEL<br>( pcs ) | Reel Size<br>(inch) |
| 2010/DO-214AC | 3,000           | 7                   |