

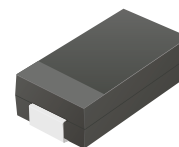
## ACDBA140-HF

**Reverse Voltage: 40 Volts**

**Forward Current: 1.0 Amp**

**RoHS Device**

**Halogen Free**

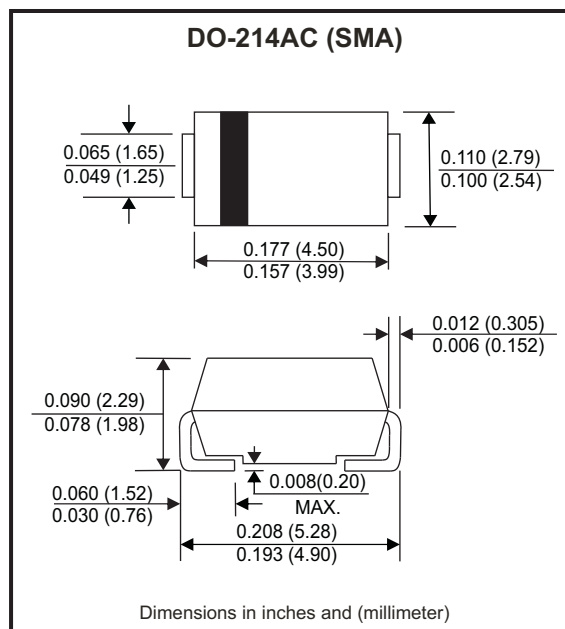


### Features

- Low profile package.
- Ideal for automated placement.
- Guard Ring for over voltage protection.
- Low forward voltage drop.
- Comply with AEC-Q101

### Mechanical data

- Case: DO-214AC / SMA, molded plastic.
- Epoxy: UL flammability classification rate 94V-0 .
- Terminals: Lead free plating (Tin finish).  
Solderable per MIL-STD-202, Method 208.
- Polarity: Indicated by cathode band.
- Weight: 0.062 grams(approx.).



### Circuit diagram



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

| Parameter                         | Conditions                                                           | Symbol    | MIN. | TYP. | MAX. | Unit |
|-----------------------------------|----------------------------------------------------------------------|-----------|------|------|------|------|
| Repetitive peak reverse voltage   |                                                                      | $V_{RRM}$ |      |      | 40   | V    |
| DC blocking voltage               |                                                                      | $V_{DC}$  |      |      | 40   | V    |
| RMS voltage                       |                                                                      | $V_{RMS}$ |      |      | 28   | V    |
| Average forward rectified current |                                                                      | $I_F$     |      |      | 1    | A    |
| Peak forward surge current        | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ |      |      | 30   | A    |
| Operating Temperature range       |                                                                      | $T_J$     | -55  |      | +125 | °C   |
| Storage temperature range         |                                                                      | $T_{STG}$ | -55  |      | +150 | °C   |

### Electrical Characteristics (at TA=25°C unless otherwise noted)

| Parameter                     | Conditions                               | Symbol          | MIN. | TYP. | MAX. | Unit |
|-------------------------------|------------------------------------------|-----------------|------|------|------|------|
| Instantaneous forward voltage | $I_F = 1A, T_A = 25^\circ C$             | $V_F$           |      |      | 0.5  | V    |
| Reverse Current               | $V_R = V_{RRM}, T_A = 25^\circ C$        | $I_R$           |      |      | 0.5  | mA   |
|                               | $V_R = V_{RRM}, T_A = 100^\circ C$       | $I_R$           |      |      | 15   | mA   |
| Junction capacitance (Note 1) | f=1MHz and applied 4V DC reverse Voltage | $C_J$           |      | 65   |      | pF   |
| Thermal Resistance            | Junction to case                         | $R_{\theta JC}$ |      | 40   |      | °C   |

Note: 1. Measured at 1.0MHZ and applied reverse voltage of 4.0V DC.

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

REV: A

Rating and Characteristics Curves (ACDBA140-HF)

Fig.1 - Typical Forward Current Derating Curve

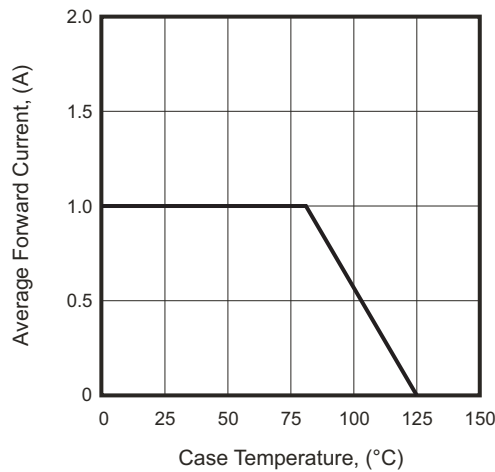


Fig.2 - Typical Forward Characteristics

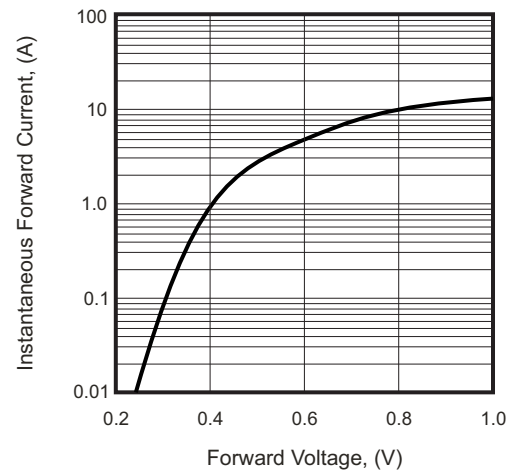


Fig.3 - Maximum Non-repetitive Forward Surge Current

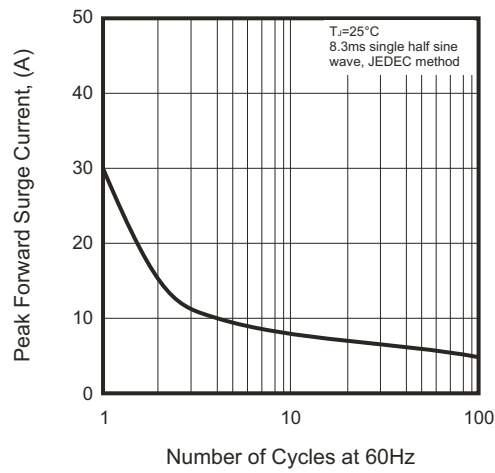


Fig.4 - Typical Reverse Characteristics

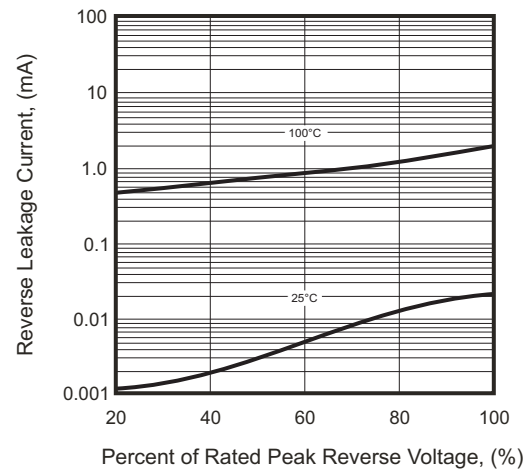
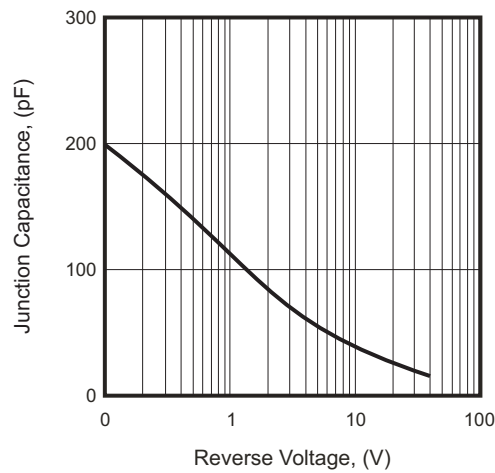
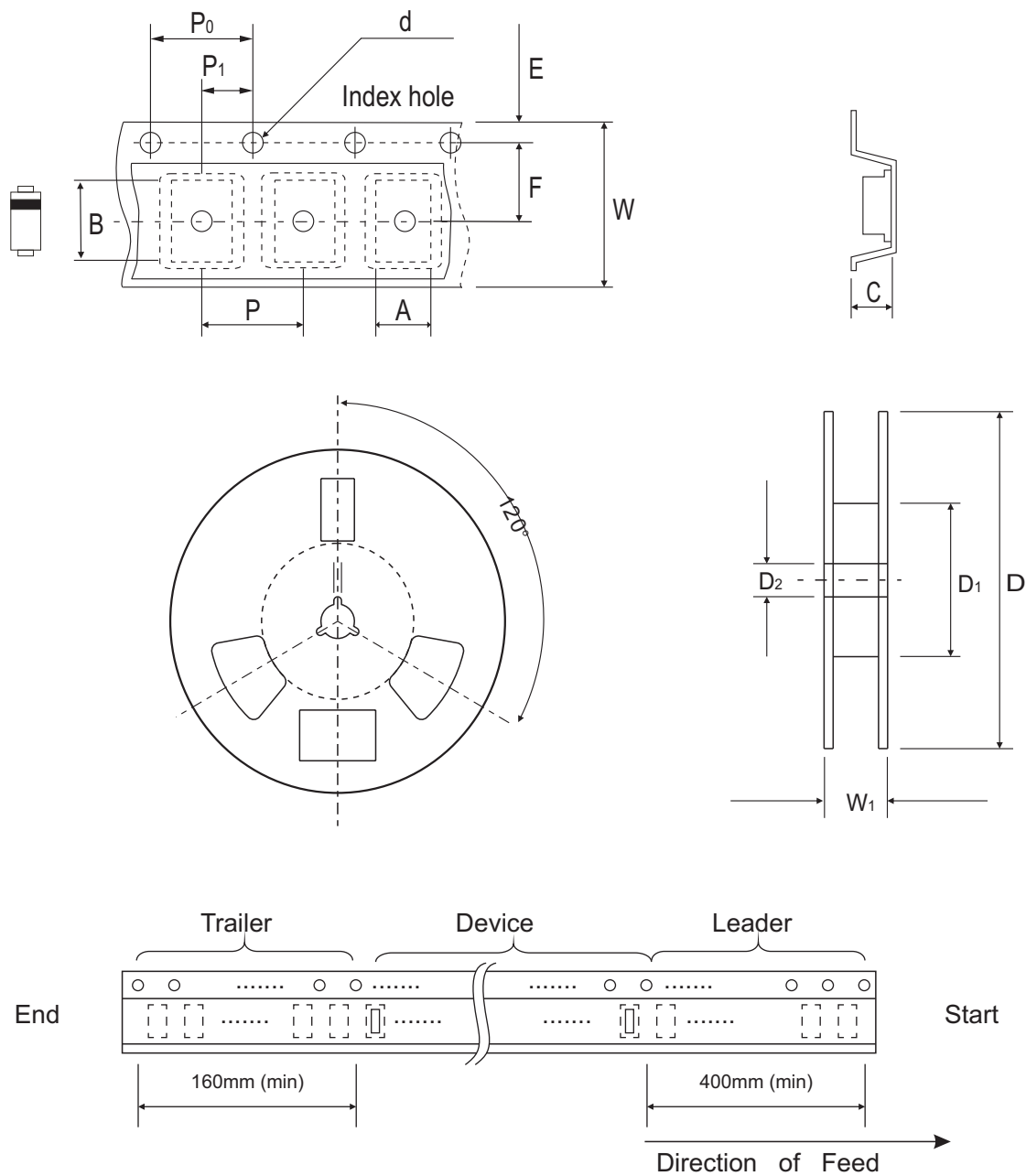


Fig.5 - Typical Junction Capacitance



Reel Taping Specification



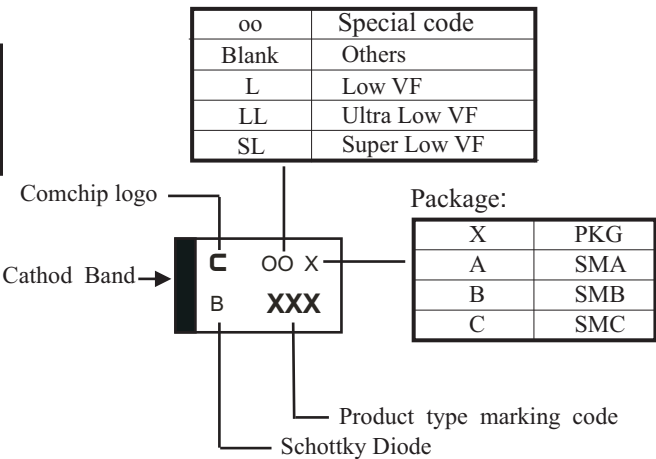
| DO-214AC<br>(SMA) | SYMBOL | A          | B          | C          | d             | D             | D <sub>1</sub> | D <sub>2</sub> |
|-------------------|--------|------------|------------|------------|---------------|---------------|----------------|----------------|
|                   | (mm)   | 2.90 MAX.  | 5.90 MAX.  | 2.66 MAX.  | 1.50 ± 0.10   | 330 ± 2.00    | 50 MIN.        | 13.50 ± 1.00   |
|                   | (inch) | 0.114 MAX. | 0.232 MAX. | 0.105 MAX. | 0.059 ± 0.004 | 13.00 ± 0.079 | 1.969 MIN.     | 0.531± 0.039   |

| DO-214AC<br>(SMA) | 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   | 4.00 ± 0.10   | 4.00 ± 0.10    | 2.00 ± 0.05    | 12.00 ± 0.30  | 18.40 MAX.     |
|                   | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.002  | 0.472 ± 0.012 | 0.724 MAX.     |

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

Marking Code

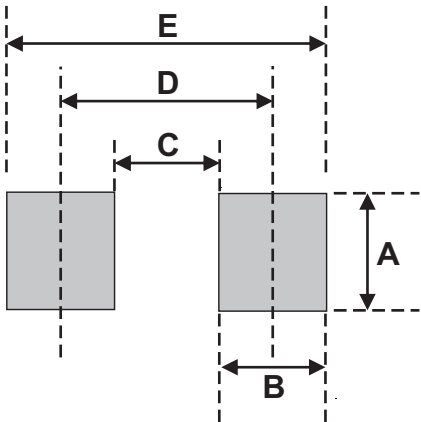
| Part Number | Marking Code |
|-------------|--------------|
| ACDBA140-HF | 140          |



xxx = Product type marking code

Suggested PAD Layout

| SIZE | DO-214AC (SMA) |        |
|------|----------------|--------|
|      | (mm)           | (inch) |
| A    | 1.70           | 0.067  |
| B    | 2.50           | 0.098  |
| C    | 1.50           | 0.059  |
| D    | 4.00           | 0.157  |
| E    | 6.50           | 0.256  |



Note:

1.The pad layout is for reference purposes only.

Standard Packaging

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