

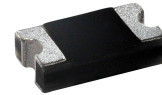
# ACURN101-HF Thru. ACURN105-HF

Forward current: 1.0A

Reverse voltage: 200 to 1000V

RoHS Device

Halogen Free

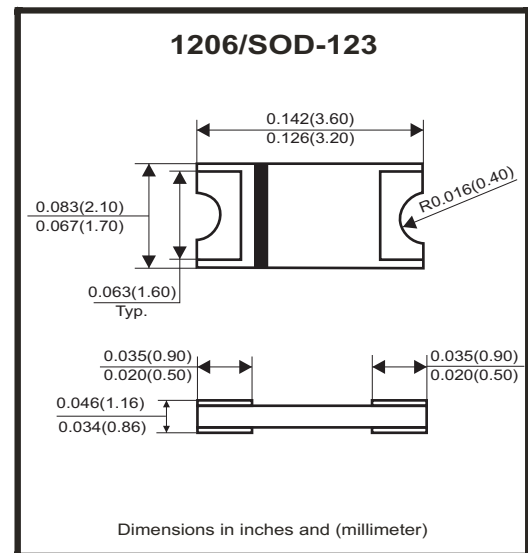


## Features

- GPRC(Glass passivated rectifier chip) inside.
- Glass passivated cavity-free junction.
- Low power loss, High efficiency.
- High current capability
- 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: 0.012 grams (approx).



## Circuit Diagram



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

| Parameter                       | Conditions                                                       | Symbol             | ACURN 101-HF | ACURN 102-HF | ACURN 103-HF | ACURN 104-HF | ACURN 105-HF | Units |
|---------------------------------|------------------------------------------------------------------|--------------------|--------------|--------------|--------------|--------------|--------------|-------|
| Repetitive peak reverse voltage |                                                                  | V <sub>RRM</sub>   | 200          | 400          | 600          | 800          | 1000         | V     |
| Average forward current         |                                                                  | I <sub>F(AV)</sub> | 1.0          |              |              |              |              | A     |
| Peak forward surge current      | 8.3ms single half sine-wave                                      | I <sub>FSM</sub>   | 30           |              |              | 25           |              | A     |
| Reverse recovery time           | I <sub>F</sub> =0.5A,I <sub>R</sub> =1.0A,I <sub>rr</sub> =0.25A | T <sub>rr</sub>    | 50           |              |              | 75           |              | nS    |
| Operating junction temperature  |                                                                  | T <sub>J</sub>     | -65 to +175  |              |              |              |              | °C    |
| Storage temperature             |                                                                  | T <sub>STG</sub>   | -65 to +175  |              |              |              |              | °C    |

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

| Parameter                       | Conditions                             | Symbol          | MIN.        | TYP.                 | MAX.           | Unit |
|---------------------------------|----------------------------------------|-----------------|-------------|----------------------|----------------|------|
| Forward voltage                 | $I_F=0.1A$<br>$I_F=0.5A$<br>$I_F=1.0A$ | $V_F$           | -<br>-<br>- | 0.98<br>1.28<br>1.45 | -<br>-<br>1.70 | V    |
| Repetitive peak reverse current | $V_R=Max. V_{RRM}, T_A=25^\circ C$     | $I_{RRM}$       | -           | 0.08                 | 5              | uA   |
| Junction capacitance            | $V_R=4V, f=1.0MHz$                     | $C_J$           | -           | 10                   | -              | pF   |
| Thermal Resistance              | Junction to ambient (Note)             | $R_{\theta JA}$ | -           | 90                   | -              | °C/W |
|                                 | Junction to lead (Note)                | $R_{\theta JL}$ | -           | 40                   | -              |      |

Notes: 1. Thermal resistance from junction to ambient and from junction to lead P.C.B. mounted on 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 (ACURN101-HF Thru. ACURN105-HF)

Fig.1- Forward current derating curve

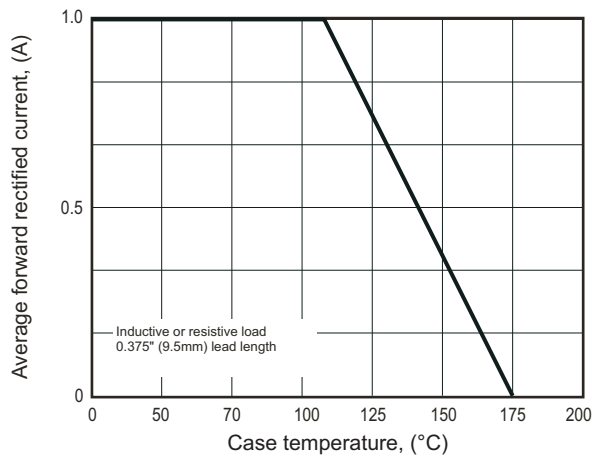


Fig.2- Maximum non-repetitive peak forward surge current

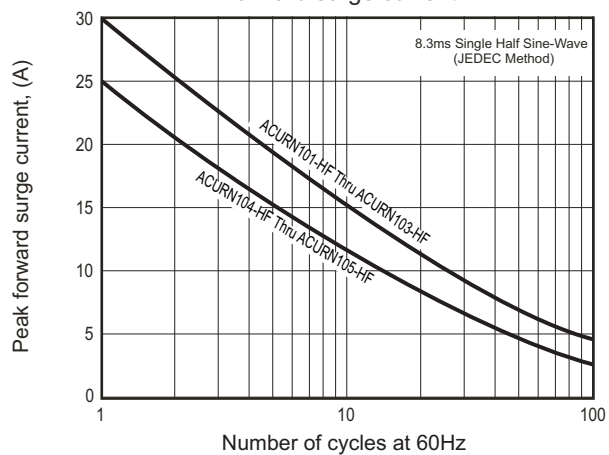


Fig.3- Typical instantaneous forward characteristics

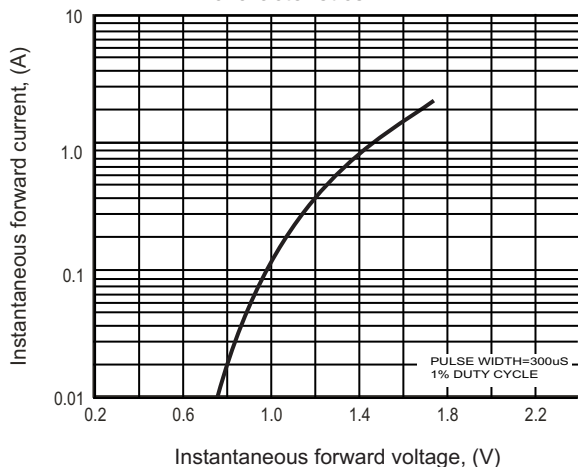


Fig.4- Typical reverse characteristics

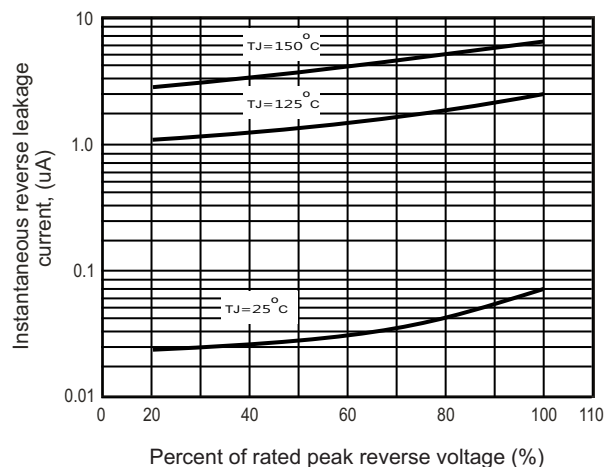
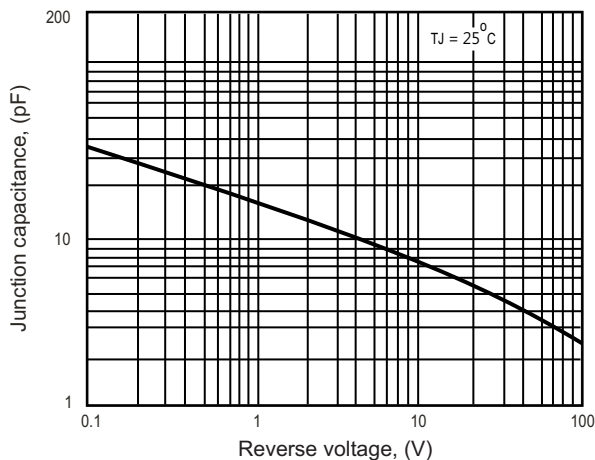
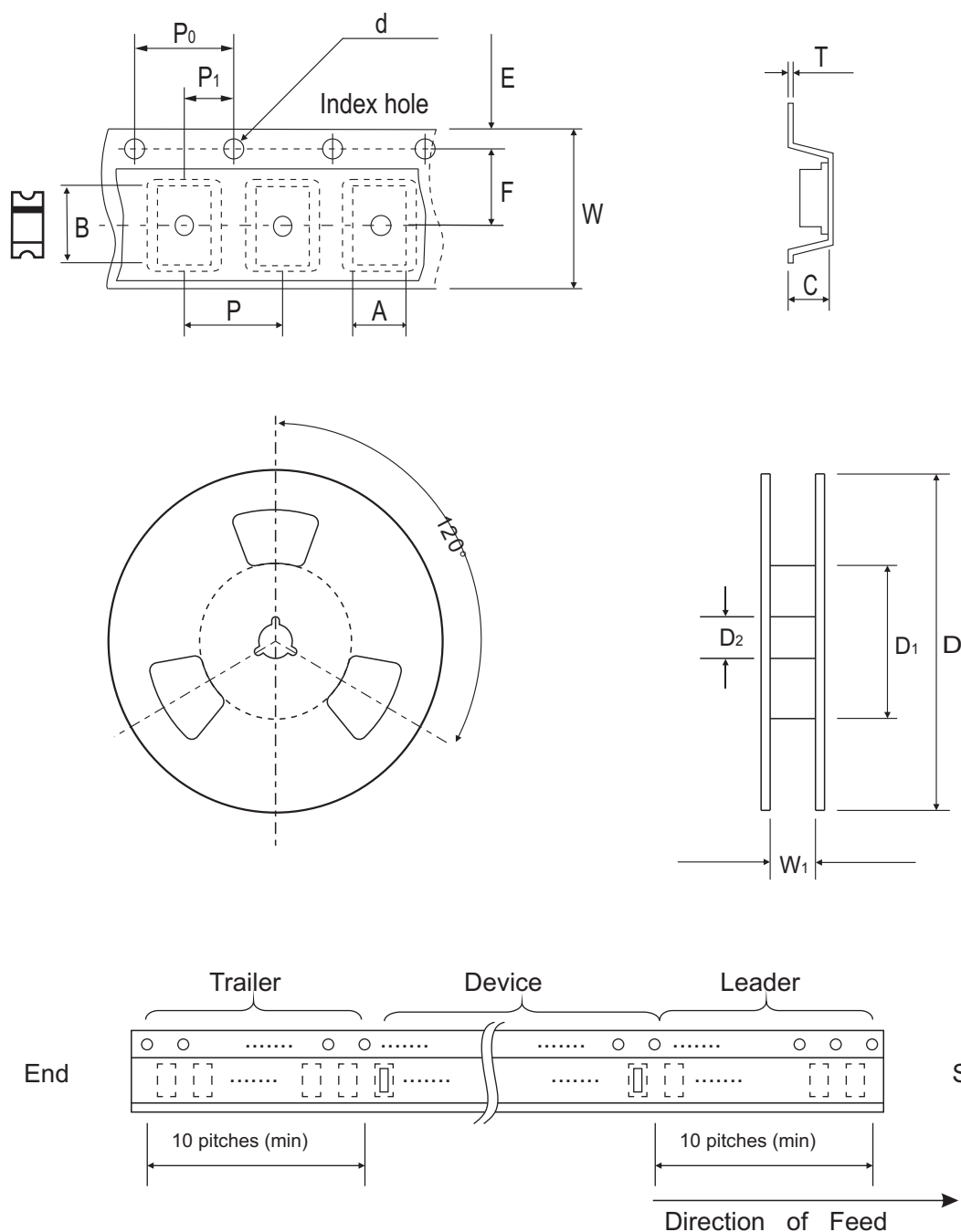


Fig.5 - Typical junction capacitance



## Reel Taping Specification



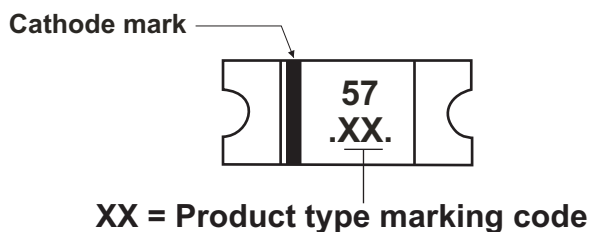
| 1206<br>(SOD-123) | SYMBOL | A             | B             | C             | d             | D             | D <sub>1</sub> | D <sub>2</sub> |
|-------------------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
|                   | (mm)   | 2.20 ± 0.10   | 3.65 ± 0.10   | 1.28 ± 0.10   | 1.50 ± 0.10   | 178 ± 2.00    | 50.0 MIN.      | 13.0 ± 0.50    |
|                   | (inch) | 0.087 ± 0.004 | 0.144 ± 0.004 | 0.050 ± 0.004 | 0.059 ± 0.004 | 7.008 ± 0.079 | 1.969 MIN.     | 0.512 ± 0.020  |

| 1206<br>(SOD-123) | 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 ± 0.10    | 12.00 ± 0.30  | 14.4 MAX.      |
|                   | (inch) | 0.069 ± 0.004 | 0.217 ± 0.002 | 0.157 ± 0.004 | 0.157 ± 0.004  | 0.079 ± 0.004  | 0.472 ± 0.012 | 0.567 MAX.     |

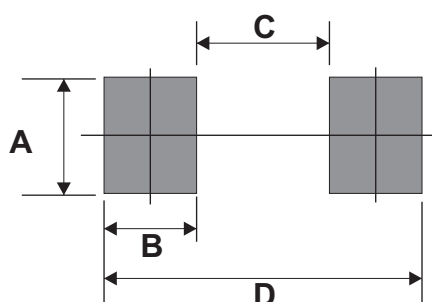
## Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| ACURN101HF  | ZD           |
| ACURN102-HF | ZG           |
| ACURN103-HF | ZJ           |
| ACURN104-HF | ZK           |
| ACURN105-HF | ZM           |



## Suggested PAD Layout

| SIZE | 1206/SOD-123 |           |
|------|--------------|-----------|
|      | (mm)         | (inch)    |
| A    | 1.50MIN.     | 0.059MIN. |
| B    | 1.00         | 0.039     |
| C    | 2.00MAX.     | 0.079MAX. |
| D    | 4.00REF.     | 0.157REF. |



## Standard Packaging

| Case Type    | REEL PACK       |                     |
|--------------|-----------------|---------------------|
|              | REEL<br>( pcs ) | Reel Size<br>(inch) |
| 1206/SOD-123 | 3,000           | 7                   |