



**THE DATASHEET OF
ACEFN103-HF**

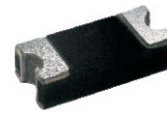


ACEFN103-HF

Forward current: 1.0A

Reverse voltage: 600V

RoHS Device
Halogen Free

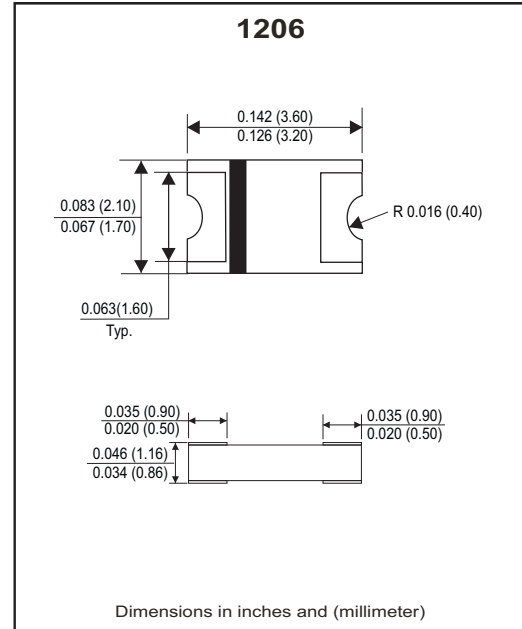


Features

- GPRC(Glass passivated rectifier chip) inside.
- Glass passivated cavity-free junction.
- Low power loss, High efficiency.
- High current capability
- Plastic package has UL 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 | ACEFN103-HF | Units |
|---------------------------------|------------------------------------|-------------|-------------|-------|
| | | Marking | 167 Z. | |
| Repetitive peak reverse voltage | | V_{RRM} | 600 | V |
| Average forward current | $T_L=110^\circ\text{C}$ | $I_{F(AV)}$ | 1.0 | A |
| Peak forward surge current | 8.3ms single half sine-wave | I_{FSM} | 25 | A |
| Reverse recovery time | $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$ | T_{rr} | 35 | nS |
| Operating junction temperature | | T_J | -65 to +175 | °C |
| Storage temperature | | T_{STG} | -65 to +175 | °C |

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

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | Unit |
|---------------------------------|--|-----------------|------|------|------|------|
| Forward voltage | $I_F=0.1A$ | V_F | - | 0.80 | - | V |
| | $I_F=0.5A$ | | - | 1.15 | - | |
| | $I_F=1.0A$ | | - | 1.40 | 1.70 | |
| Repetitive peak reverse current | $V_R = \text{Max. } V_{RRM}, T_A=25^\circ\text{C}$ | I_{RRM} | - | 0.20 | 5 | uA |
| Junction capacitance | $V_R=4V, f=1.0\text{MHz}$ | C_J | - | 10 | - | pF |
| Thermal Resistance | Junction to ambient (Note) | $R_{\theta JA}$ | - | 80 | - | °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:B

RATING AND CHARACTERISTIC CURVES (ACEFN103-HF)

Fig.1- Forward current derating curve

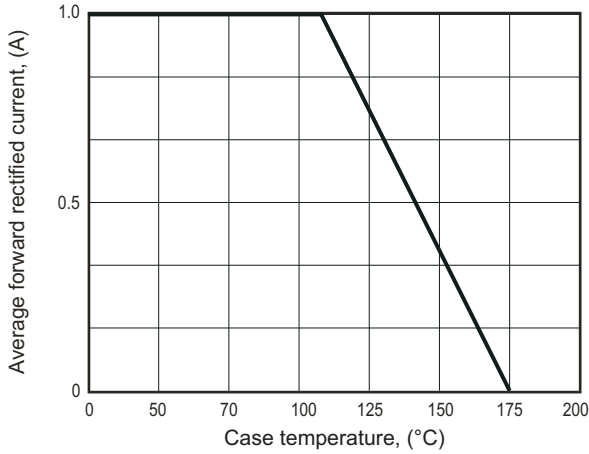


Fig.2- Maximum non-repetitive peak forward surge current

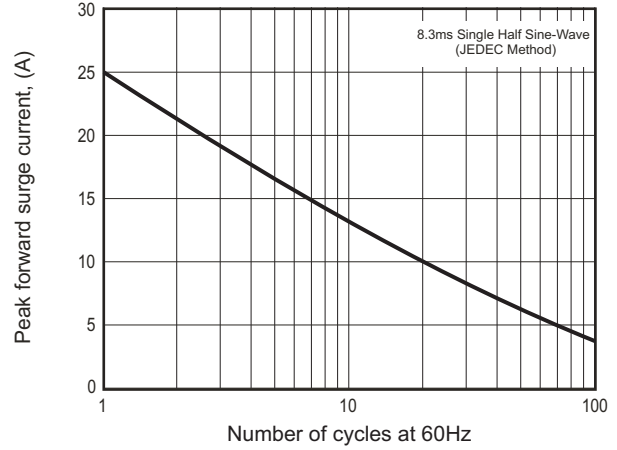


Fig.3- Typical instantaneous forward characteristics

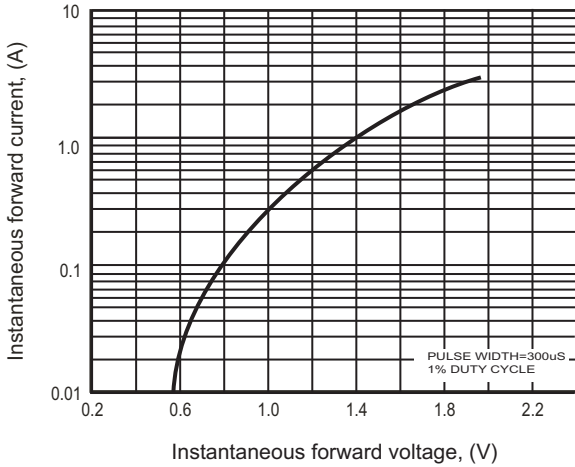


Fig.4- Typical Reverse Characteristics

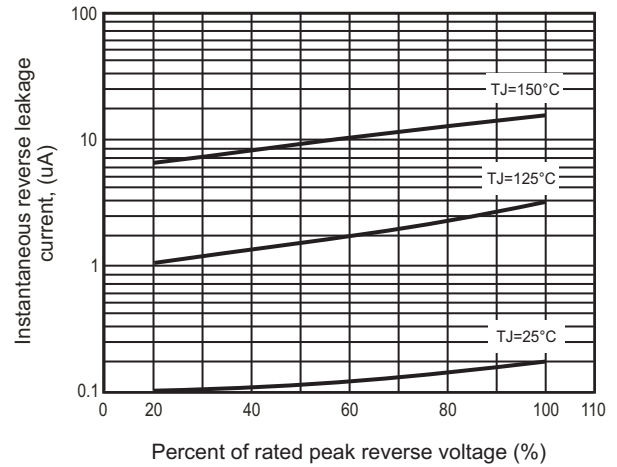
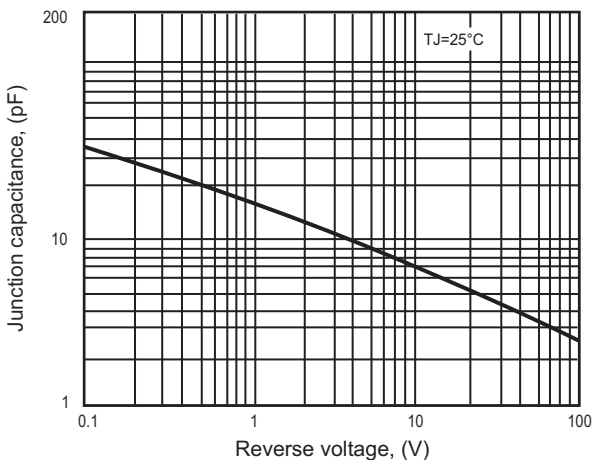
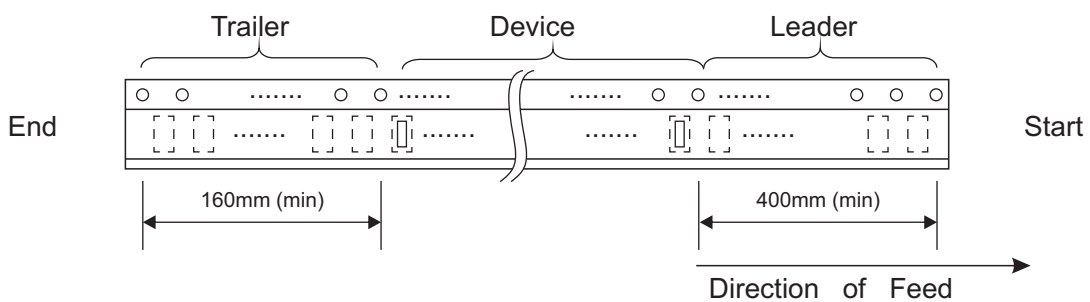
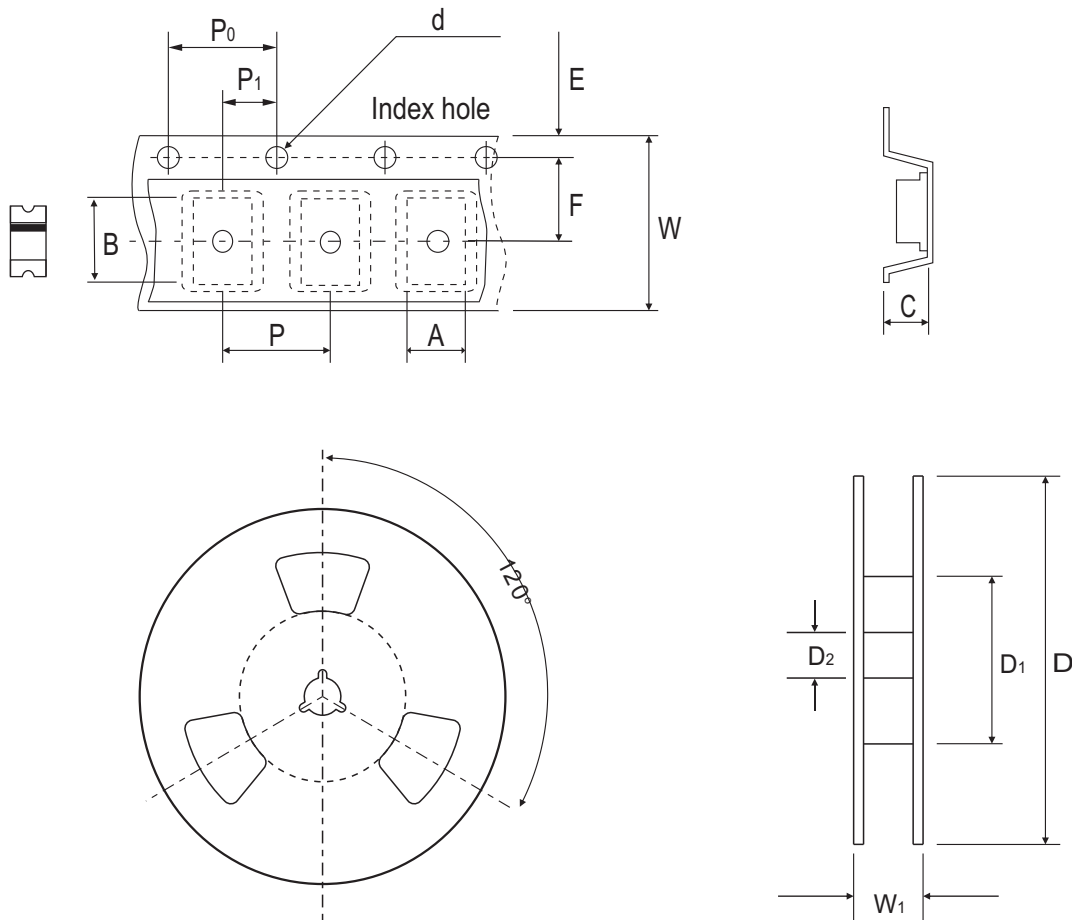


Fig.5 - Typical junction capacitance



Reel Taping Specification

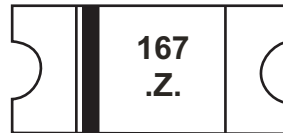


| 1206 | SYMBOL | A | B | C | d | D | D ₁ | D ₂ |
|------|--------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|
| | (mm) | 2.20 ± 0.10 | 3.65 ± 0.10 | 1.28 ± 0.10 | 1.50 ± 0.10 | 178.00 ± 2.00 | 50.00 MIN. | 13.00 ± 0.50 |
| | (inch) | 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 | SYMBOL | E | F | P | P ₀ | P ₁ | W | W ₁ |
|------|--------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|
| | (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 | 18.70 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 | 0.736 MAX. |

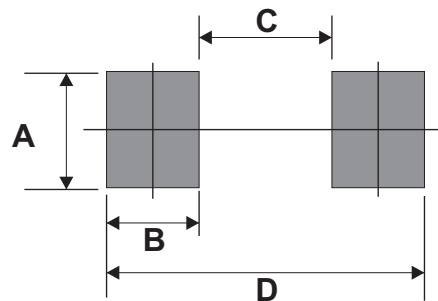
Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| ACEFN103-HF | 167 .Z. |



Suggested PAD Layout

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



Standard Packaging

| Case Type | REEL PACK | |
|-----------|-----------------|---------------------|
| | REEL (pcs) | Reel Size (inch) |
| 1206 | 3,000 | 7 |

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