

## 60V 5A ULTRA LOW VF TMOS Schottky

### Characteristics Summary

| Characteristics               | Values | Units |
|-------------------------------|--------|-------|
| IF(AV)                        | 5      | A     |
| VRRM                          | 60     | V     |
| VF TYP @ 3A, TJ = 25°C        | 0.47   | V     |
| @ 5A, TJ = 25°C               | 0.54   | V     |
| IR <sub>MAX</sub> @ TJ = 25°C | 25     | uA    |

### AD360AF (SMAF)



### Features

- Reduced low forward voltage drop (VF) ; better efficiency and cooler operation.
- Reduced high temperature reverse leakage; Increased reliability against thermal runaway failure in high temperature operation.
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant
- Very small package size as 2.6 X 3.95 X 1.0 (mm)

### Typical Applications

Device optimized for low forward voltage drop to suitable efficiency in general rectification applications.

- Boost Diode, Blocking Diode, Rectifier, Recirculating Diode

### Maximum Ratings Characteristics - ( TA = 25°C unless otherwise specified )

| Parameter                                               | Symbol | Values      | Units  |
|---------------------------------------------------------|--------|-------------|--------|
| DC Blocking Voltage                                     | VRM    | 60          | V      |
| Working Peak Reverse Voltage                            | VRWM   |             | V      |
| Peak Repetitive Reverse Voltage                         | VRRM   |             | V      |
| Average Rectified Forward Current                       | ID     | 5           | A      |
| Non-Repetitive Peak Forward Surge Current 8.3ms         | IFSM   | 85          | A      |
| Typical Thermal Resistance Junction to Ambient (Note 1) | RθJC   | 32          | °C / W |
| Typical Thermal Resistance Junction to Case (Note 1)    | RθJA   | 93          | °C / W |
| Operating Junction Temperature                          | TJ     | -55 to +150 | °C     |
| Storage Junction Temperature                            | TSTG   | -55 to +150 |        |

Note 1 : FR-4 PCB, 2 oz Copper. Minimum recommended pad layout

### Electrical Characteristics - ( TA = 25°C unless otherwise specified )

| Parameter            | Test Conditions   |            | Symbol | Typ. | Max.  | Units |
|----------------------|-------------------|------------|--------|------|-------|-------|
| Forward Voltage      | IF = 2 A          | TJ = 25°C  | VF*    | 0.44 | 0.48  | V     |
|                      | IF = 3 A          |            |        | 0.47 | 0.51  |       |
|                      | IF = 5 A          |            |        | 0.54 | 0.59  |       |
|                      | IF = 5 A          | TJ = 125°C |        | 0.50 | ----- |       |
| Reverse Current      | VR = 60V          | TJ = 25°C  | IR*    | 9    | 25    | uA    |
|                      |                   | TJ = 125°C |        | 4    | 10    | mA    |
| Junction Capacitance | VR = 5V, f = 1MHz |            | Cj     | 264  |       | pF    |

\* Short duration pulse test used to minimize self-heating effect.

## Characteristics Curves

(  $T_A = 25^{\circ}\text{C}$  unless otherwise specified )

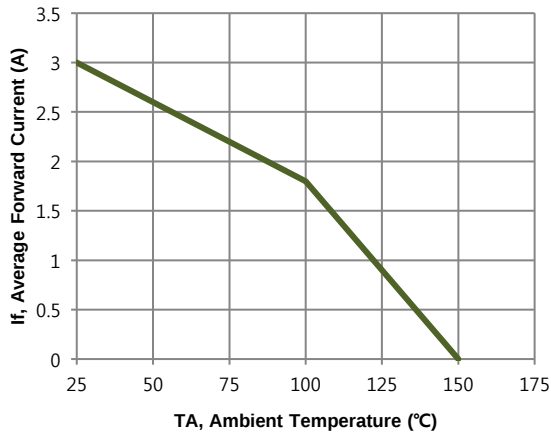


Figure 1 : DC Forward Current Derating

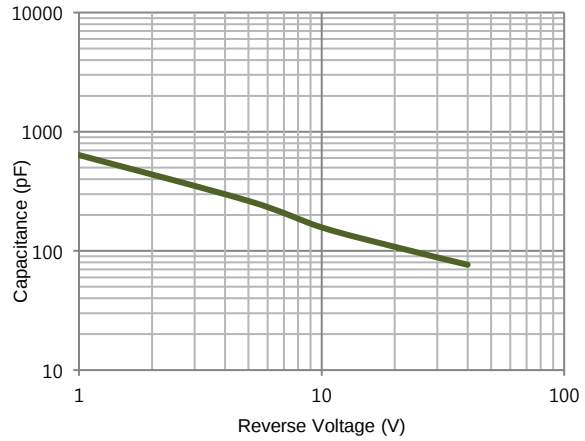


Figure 2 : Typical Junction Capacitance

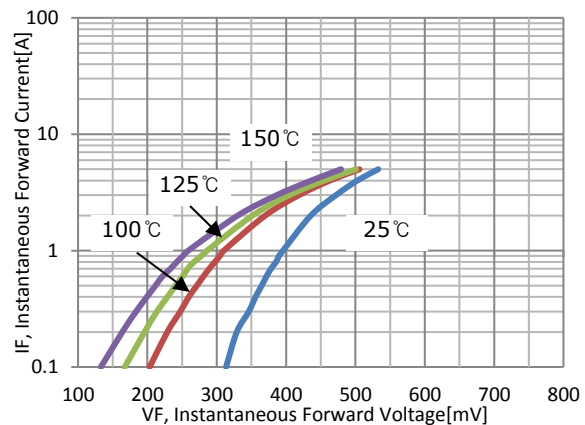
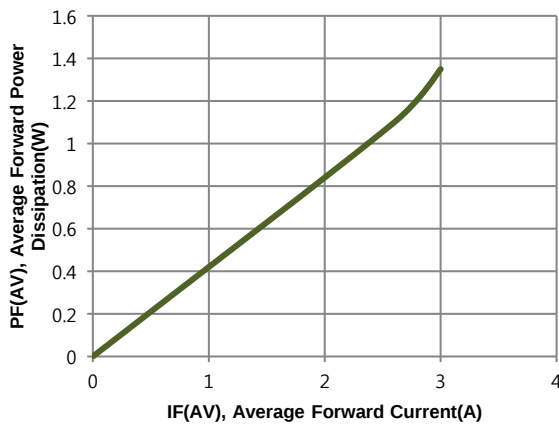


Figure 4. Typical Forward Voltage

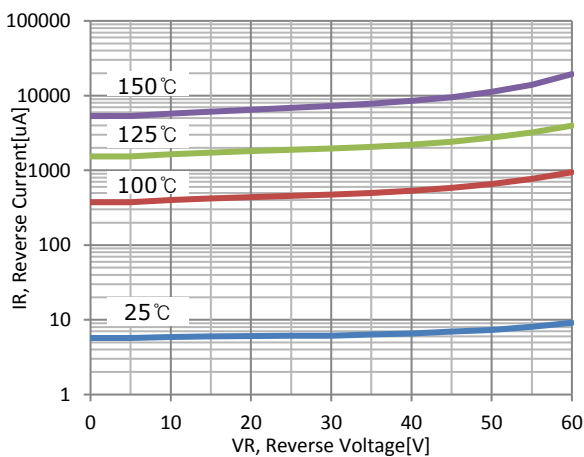


Figure 5. Typical Reverse Current

## Ordering Information

| Part No | Package | Packing        | Finish | Halogen | Packing Unit |
|---------|---------|----------------|--------|---------|--------------|
| AD360AF | SMAF    | 7" Reel & Tape | Sn     | Free    | 3,000ea      |

## Marking Layout

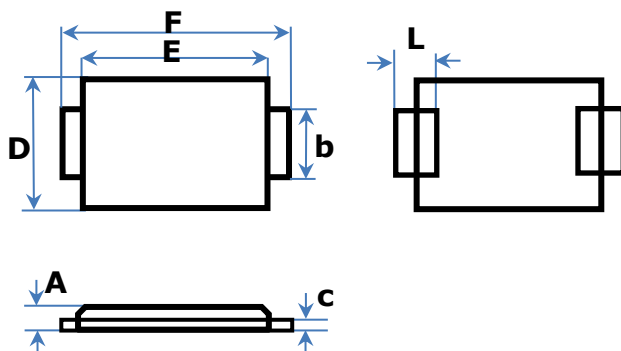
**1<sup>ST</sup> Line : Device Name**

**2<sup>nd</sup> Line : Date Code**

- YY : Last two digit of calendar year
- WW : Work week code
- C : Assembly site



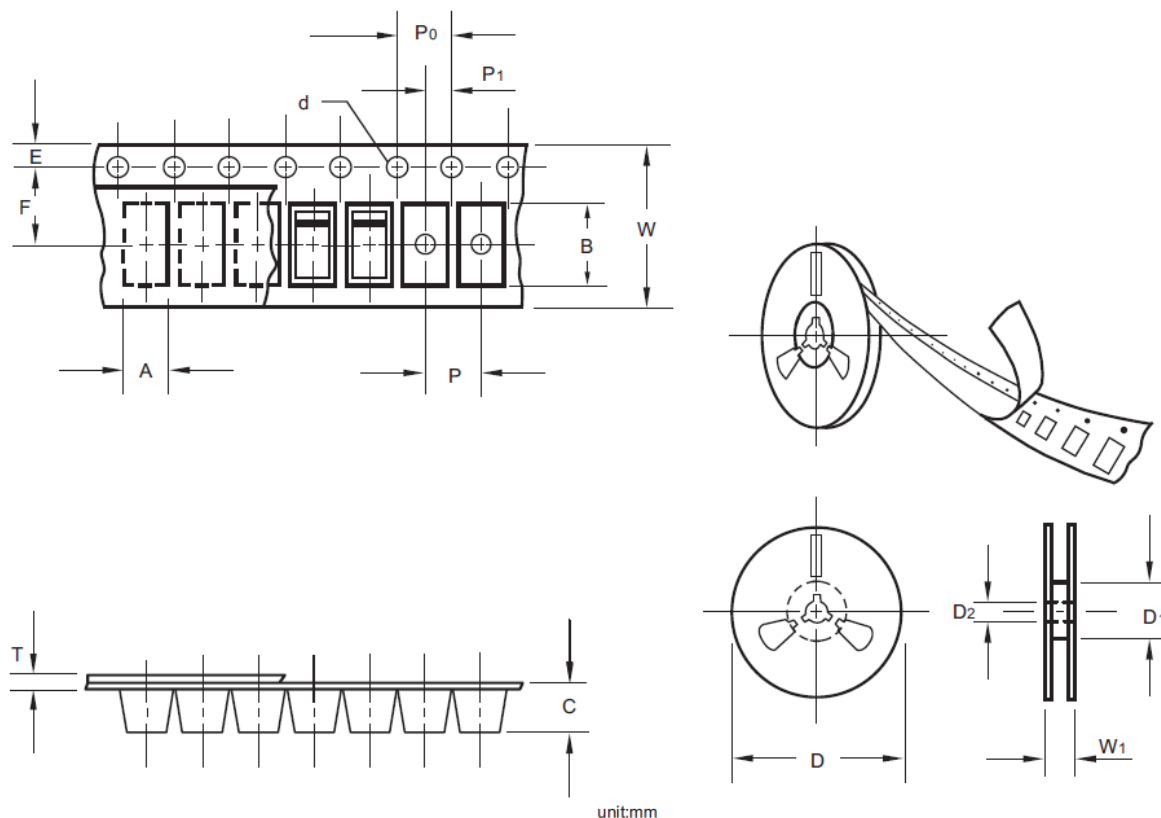
## Package Dimensions



| SMAF |      | unit : mm |      |  |
|------|------|-----------|------|--|
| DIM  | MIN  | MAX       | TYP  |  |
| A    | 0.90 | 1.10      | 1.00 |  |
| b    | 1.30 | 1.70      | 1.50 |  |
| c    | 0.10 | 0.30      | 0.20 |  |
| D    | 2.30 | 2.90      | 2.60 |  |
| E    | 3.60 | 4.30      | 3.95 |  |
| F    | 4.80 | 5.30      | 5.05 |  |
| L    | 0.80 | 1.30      | 1.05 |  |



## Reel Packing Method



unit:mm

| Item                      | Symbol         | Tolerance | SMAF   |
|---------------------------|----------------|-----------|--------|
| Carrier width             | A              | 0.1       | 3.00   |
| Carrier length            | B              | 0.1       | 5.50   |
| Carrier depth             | C              | 0.1       | 1.20   |
| Sprocket hole             | d              | 0.1       | 1.50   |
| 13" Reel outside diameter | D              | 2.0       | 330.00 |
| 13" Reel inner diameter   | D <sub>1</sub> | min       | 50.00  |
| 7" Reel outside diameter  | D              | 2.0       | 178.00 |
| 7" Reel inner diameter    | D <sub>1</sub> | min       | 62.00  |
| Feed hole diameter        | D <sub>2</sub> | 0.5       | 13.00  |
| Sprocket hole position    | E              | 0.1       | 1.75   |
| Punch hole position       | F              | 0.1       | 5.50   |
| Punch hole pitch          | P              | 0.1       | 4.00   |
| Sprocket hole pitch       | P <sub>0</sub> | 0.1       | 4.00   |
| Embossment center         | P <sub>1</sub> | 0.1       | 2.00   |
| Overall tape thickness    | T              | 0.1       | 0.25   |
| Tape width                | W              | 0.3       | 12.00  |
| Reel width                | W <sub>1</sub> | 1.0       | 11.40  |

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Revision History

| No | Date       | Contents                        |
|----|------------|---------------------------------|
| 0  | 2016-09-09 | Initial Brief Datasheet Release |
| 1  | 2018-01-06 | IFSM Update                     |
| 2  | 2019-01-11 | Junction Capacitance Updated    |

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### **AP Semiconductor Co., Ltd**

Contact. **Tel** 82.70.4693.2299 **FAX** 82.70.4000.4009

E-mail: [sales@apsemi.com](mailto:sales@apsemi.com)

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