

## 100V 20A Ultra Low VF Schottky

### Characteristics Summary

| Characteristics                   | Values      | Units   |
|-----------------------------------|-------------|---------|
| IF(AV)                            | 20          | A       |
| VRRM                              | 100         | V       |
| VF @ 10A, TJ = 25°C               | 0.54        | V, typ. |
| TJ Operating Junction Temperature | -40 to +150 | °C      |

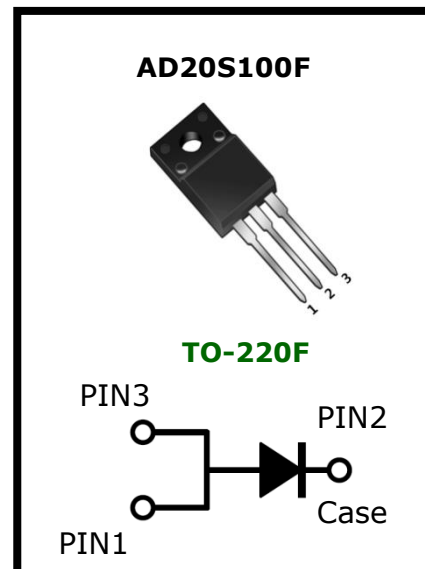
### Features

- Ultra Low Forward Voltage ( VF ) Drop
- Very Low Reverse Leakage in high temperature.
- Softest, fast switching capability
- 150°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

### Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications.

- DC/DC Converters
- AC/DC Converters





## Maximum Ratings Characteristics

( TA = 25°C unless otherwise specified )

| Parameter                                                                                     | Symbol           | Values      | Units  |
|-----------------------------------------------------------------------------------------------|------------------|-------------|--------|
| DC Blocking Voltage                                                                           | V <sub>RM</sub>  | 100         | V      |
| Working Peak Reverse Voltage                                                                  | V <sub>RWM</sub> |             | V      |
| Peak Repetitive Reverse Voltage                                                               | V <sub>RRM</sub> |             | V      |
| Average Rectified Forward Current Per device<br>(Rated VR-20Khz Square Wave) – 50% duty cycle | I <sub>D</sub>   | 20          | A      |
| Peak Forward Surge Current – 1/2 60hz                                                         | I <sub>FSM</sub> | 200         | A      |
| Peak Repetitive Reverse Surge Current (2uS-1Khz)                                              | I <sub>RRM</sub> | 1           | A      |
| Typical Thermal Resistance<br>Package = TO-220F                                               | R <sub>θJC</sub> | 4           | °C / W |
| Isolation voltage (TO-220F only)                                                              | V <sub>AC</sub>  | 1500        | V      |
| Maximum Rate of Voltage Change ( at Rated VR)                                                 | dv/dt            | 10000       | V/uS   |
| Operating Junction Temperature                                                                | T <sub>J</sub>   | -40 to +150 | °C     |
| Storage Junction Temperature                                                                  | T <sub>STG</sub> | -40 to +150 |        |

## Electrical Characteristics

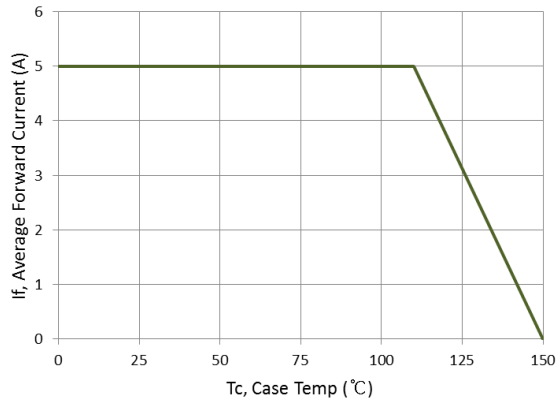
( TA = 25°C unless otherwise specified )

| Parameter                               | Test Conditions   |            | Symbol | Typ.  | Max.  | Units |
|-----------------------------------------|-------------------|------------|--------|-------|-------|-------|
| Instantaneous Forward Voltage           | IF = 5 A          | TJ = 25°C  | VF*    | 0.46  | ----- | V     |
|                                         | IF = 10 A         |            |        | 0.54  | 0.57  |       |
|                                         | IF = 20 A         |            |        | 0.65  | 0.71  |       |
|                                         | IF = 20 A         | TJ = 125°C |        | ----- | 0.65  |       |
| Instantaneous Reverse Current           | VR = 100V         | TJ = 25°C  | IR*    | 17    | 40    | uA    |
|                                         |                   | TJ = 125°C |        | 10    | 20    | mA    |
| Junction Capacitance                    | VR = 5V, f = 1MHz |            | CJ     | 803   |       | pF    |
| * Pulse width < 300 uS, Duty cycle < 2% |                   |            |        |       |       |       |

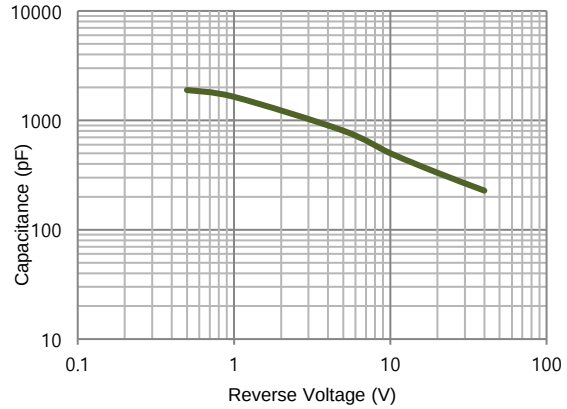


## Characteristics Curves

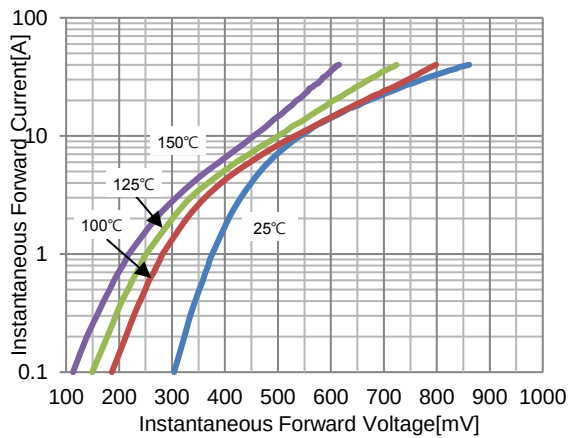
(  $T_A = 25^\circ\text{C}$  unless otherwise specified )



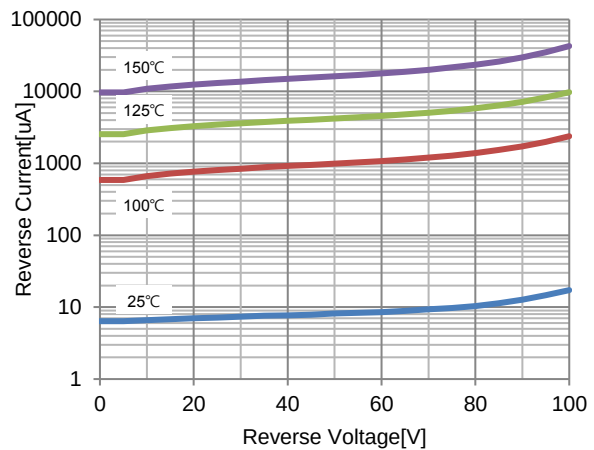
**Figure 1 : Current Derating, Case**



**Figure 2 : Typical Junction Capacitance**



**Figure 3 : Typical Forward Voltage**

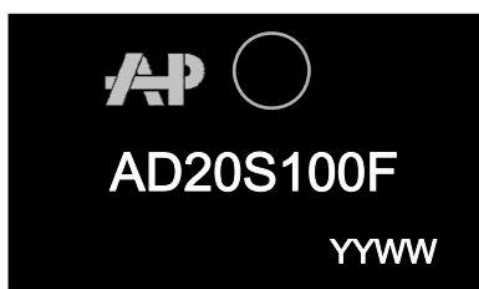


**Figure 4 : Typical Reverse Current**

## Ordering Information

| Part No   | Package | Packing | Finish | Halogen | Packing Unit |
|-----------|---------|---------|--------|---------|--------------|
| AD20S100F | TO-220F | Tube    | Sn     | Free    | 5,000ea      |

## Marking Layout



### LOGO IMAGE



**1<sup>ST</sup> Line : Company logo**

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

- YY : Last one digit of calendar year
- ww : Work week calendar

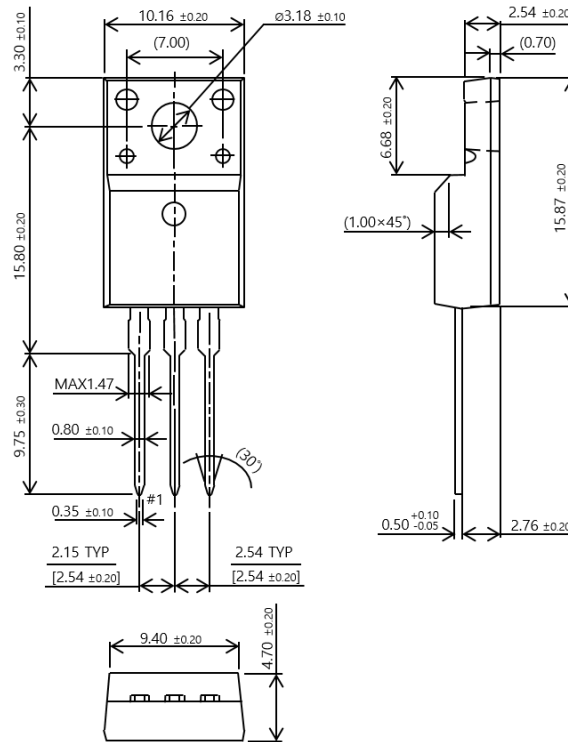
**3<sup>rd</sup> Line : Device name**

- F : TO-220F PKG code



## Package Dimensions

TO-220F



## Revision History

| No | Date       | Contents                        |
|----|------------|---------------------------------|
| 0  | 2017-01-03 | Initial Brief Datasheet Release |
| 1  | 2019-01-11 | Junction Capacitance Updated    |
|    |            |                                 |

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## IMPORTANT NOTICE

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