



# UD1006FR

## Planar Ultrafast Rectifier Low VF type, 10A, 600V, 1.3V, TO-220F-2FS

ON Semiconductor®

<http://onsemi.com>

### Features

- VRRM=600V
- VF=1.3V max (IF=10A)
- t<sub>rr</sub>=60ns(typ) (IF=0.5A, IR=1A)
- Halogen free compliance

### Specifications

Absolute Maximum Ratings at Ta=25°C

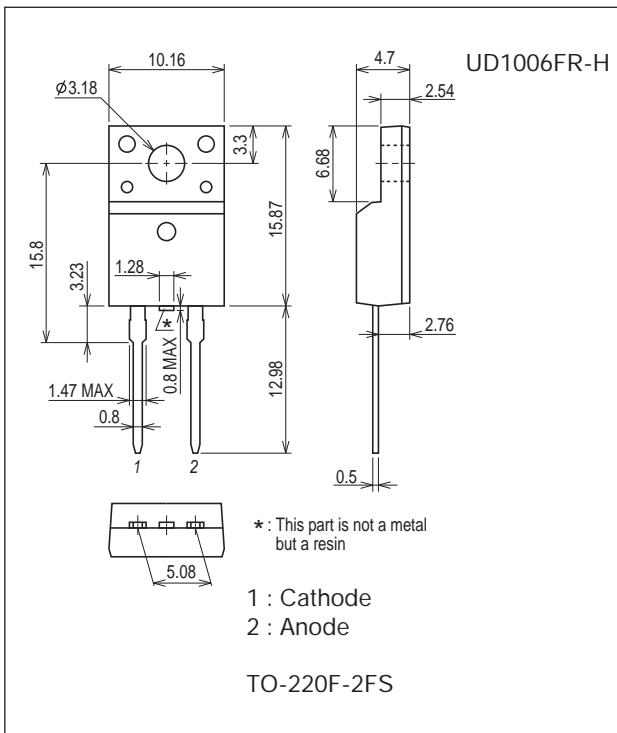
| Parameter                                | Symbol               | Conditions   | Ratings     | Unit |
|--|----------------------|--|-------------|------|
| Repetitive Peak Reverse Voltage          | VRRM                 |  | 600         | V    |
| Nonrepetitive Peak Reverse Surge Voltage | VRSM                 |  | 600         | V    |
| Average Output Current                   | I <sub>O</sub>       | 50Hz resistive load, Sine wave Tc=79°C                             | 10          | A    |
| R.M.S Forward Current                    | I <sub>F</sub> (RMS) | Tc=25°C (SANYO's ideal heat dissipation condition) Package limited | 18          | A    |
| Surge Forward Current                    | I <sub>FSM</sub>     | Sine wave 10ms 1pulse  | 120         | A    |
| Junction Temperature                     | T <sub>j</sub>       |  | 150         | °C   |
| Storage Temperature                      | T <sub>stg</sub>     |  | -55 to +150 | °C   |

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

### Package Dimensions

unit : mm (typ)

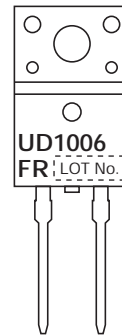
7532-001



### Product & Package Information

- Package : TO-220F-2FS
- JEITA, JEDEC : SC-67
- Minimum Packing Quantity : 50pcs./magazine

### Marking



### Electrical Connection



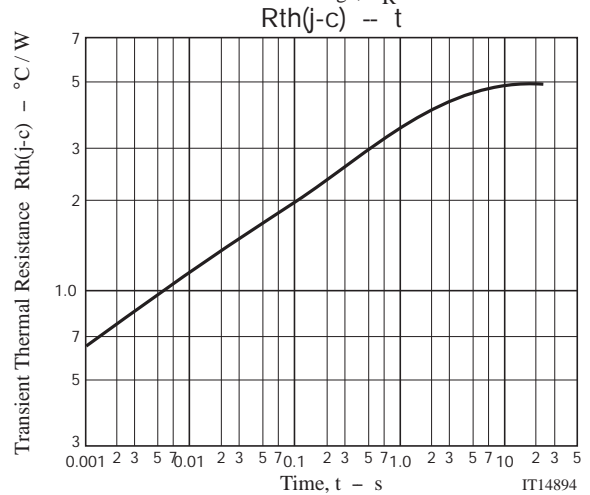
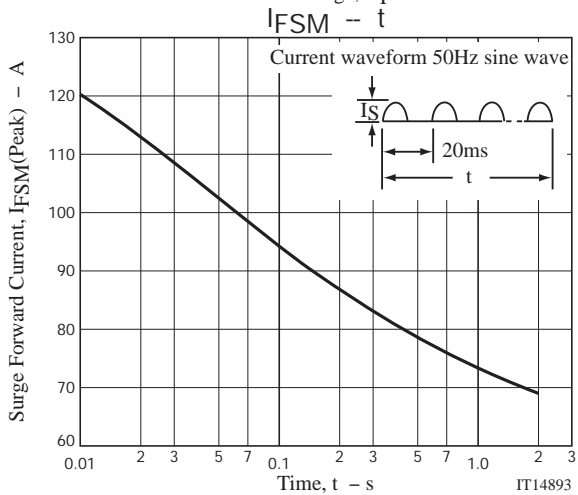
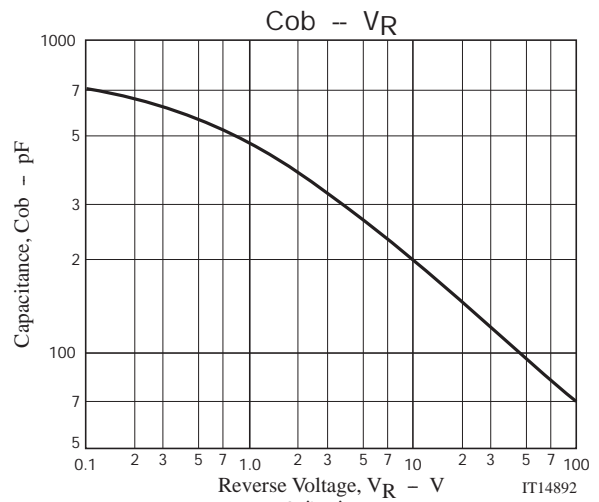
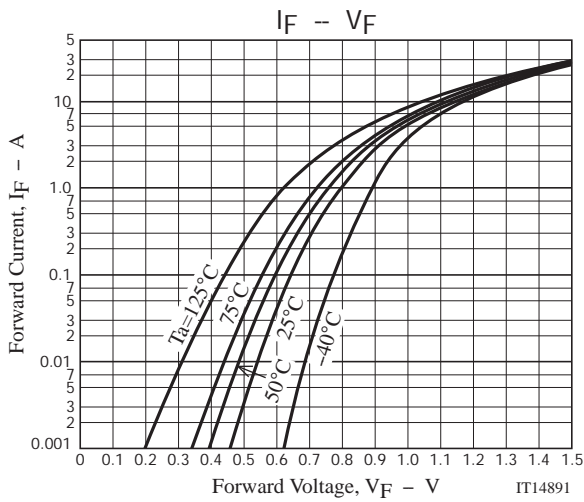
# UD1006FR

## Electrical Characteristics at Ta=25°C

| Parameter             | Symbol        | Conditions                   | Ratings |     |     | Unit          |
|-----------------------|---------------|------------------------------|---------|-----|-----|---------------|
|                       |               |                              | min     | typ | max |               |
| Reverse Voltage       | $V_R$         | $I_R=1mA$                    | 600     |     |     | V             |
| Forward Voltage       | $V_F$         | $I_F=10A$                    |         | 1.1 | 1.3 | V             |
| Reverse Current       | $I_R$         | $V_R=600V$                   |         |     | 100 | $\mu A$       |
| Reverse Recovery Time | $t_{rr1}$     | $I_F=10A, di/dt=100A/\mu s$  |         | 100 | 150 | ns            |
|                       | $t_{rr2}$     | $I_F=0.5A, I_R=1A$           |         | 60  |     | ns            |
| Thermal Resistance    | $R_{th(j-c)}$ | Junction -Case : Smoothed DC |         |     | 4.9 | $^{\circ}C/W$ |

## Ordering Information

| Device     | Package     | Shipping        | memo                     |
|------------|-------------|-----------------|--------------------------|
| UD1006FR-H | TO-220F-2FS | 50pcs./magazine | Pb Free and Halogen Free |



# UD1006FR

## Magazine Specification

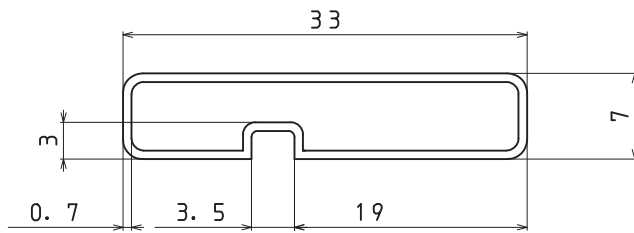
UD1006FR-H

### 1. Packing Format

| Package Name | Magazine Name | Maximum Number of devices contained (pcs) |           |           | Packing format   |  |
|--------------|---------------|---|-----------|-----------|--|--|
|              |               | Magazine                                  | Inner box | Outer box | Inner BOX  | Outer BOX  |
| TO-220F-2FS  | TO-220F       | 50  | 1,000     | 4,000     | SPD-0V0001<br>20 magazines contained<br>Dimensions:mm (external)<br>568×150×55 | SPT-081029<br>4 inner boxes contained<br>Dimensions:mm (external)<br>590×225×178 |

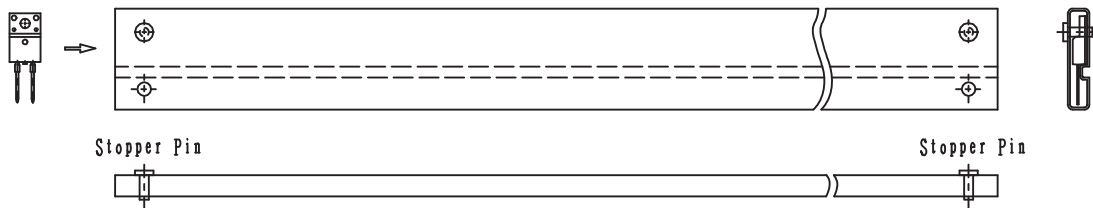
### 2. Magazine dimensions

(unit:mm)

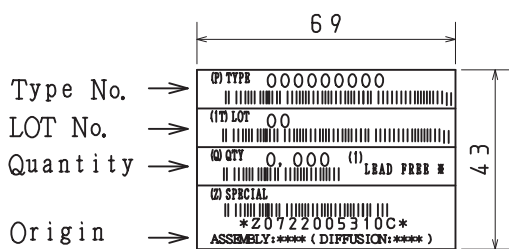


Tolerance=±0.3mm  
 Thickness=0.7±0.2mm  
 Length =532.5±2mm  
 Material =PVC (Antistatic treatment)

### 3. Storage method to magazine

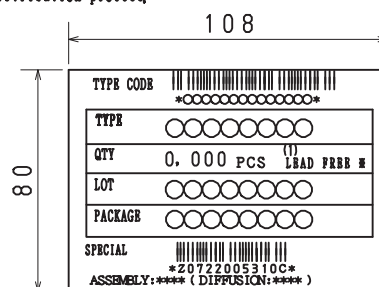


### 4. Inner box label (unit:mm)



### 5. Outer box label (unit:mm)

It is a label at the time of factory shipments.  
 The form of a label may change in physical distribution process.



**NOTE (1)**

The LEAD FREE # description shows that the surface treatment of the terminal is lead free.

| Label       | JEITA Phase    |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |



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