

**SURFACE MOUNT GLASS PASSIVATED  
FAST RECOVERY SILICON RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 Volts CURRENT 2.0 Amperes**

**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* P/N suffix V means AEC-Q101 qualified, e.g:FFM201AV
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

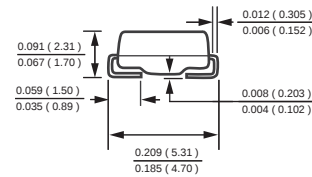
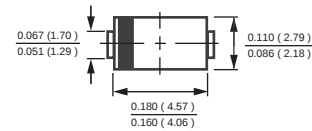
- \* Epoxy : Device has UL flammability classification 94V-0

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



**DO-214AC**



Dimensions in inches and (millimeters)

**MAXIMUM RATINGS** (At TA = 25°C unless otherwise noted)

| RATINGS                                                                                           | SYMBOL           | FFM201A      | FFM202A | FFM203A | FFM204A | FFM205A | FFM206A | FFM207A | UNITS            |
|---------------------------------------------------------------------------------------------------|------------------|--------------|---------|---------|---------|---------|---------|---------|------------------|
| Maximum Recurrent Peak Reverse Voltage                                                            | VRRM             | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts            |
| Maximum RMS Voltage                                                                               | VRMS             | 35           | 70      | 140     | 280     | 420     | 560     | 700     | Volts            |
| Maximum DC Blocking Voltage                                                                       | VDC              | 50           | 100     | 200     | 400     | 600     | 800     | 1000    | Volts            |
| Maximum Average Forward Rectified Current at TA = 55°C                                            | IO               | 2.0          |         |         |         |         |         |         | Amps             |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM             | 60           |         |         |         |         |         |         | Amps             |
| Typical Current Squared Time                                                                      | I <sup>2</sup> T | 15           |         |         |         |         |         |         | A <sup>2</sup> S |
| Maximum Thermal Resistance                                                                        | (Note 2) RθJL    | 20           |         |         |         |         |         |         | °C/W             |
|                                                                                                   | (Note 3) RθJA    | 60           |         |         |         |         |         |         | °C/W             |
| Typical Junction Capacitance (Note 1)                                                             | CJ               | 50           |         |         |         |         |         |         | pF               |
| Operating and Storage Temperature Range                                                           | TJ, TSTG         | -55 to + 150 |         |         |         |         |         |         | °C               |

**ELECTRICAL CHARACTERISTICS** (At TA = 25°C unless otherwise noted)

| CHARACTERISTICS                                                  | SYMBOL | FFM201A | FFM202A | FFM203A | FFM204A | FFM205A | FFM206A | FFM207A | UNITS |
|------------------------------------------------------------------|--------|---------|---------|---------|---------|---------|---------|---------|-------|
| Maximum Forward Voltage at 2.0A DC                               | VF     | 1.3     |         |         |         |         |         |         | Volts |
| Maximum Full Load Reverse Current, Full cycle Average at TA=55°C | IR     | 20      |         |         |         |         |         |         | uAmps |
| Maximum DC Reverse Current at @TA = 25°C                         |        | 2.0     |         |         |         |         |         |         | uAmps |
| Rated DC Blocking Voltage @TA = 150°C                            |        | 2.0     |         |         |         |         |         |         | mAmps |
| Maximum Reverse Recovery Time (Note 4)                           | trr    | 150     |         |         | 250     |         | 500     |         | nSec  |

- NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
2. Thermal resistance junction to terminal 6.0mm<sup>2</sup> copper pads to each terminal.  
3. Thermal resistance junction to ambient, 6.0mm<sup>2</sup> copper pads to each terminal.  
4. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A

## RATING AND CHARACTERISTIC CURVES ( FFM201A THRU FFM207A)

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

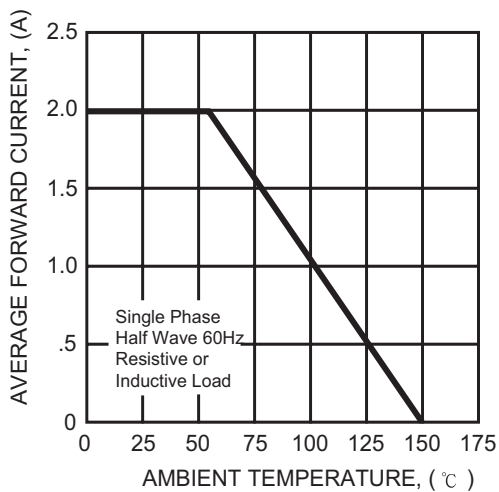


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

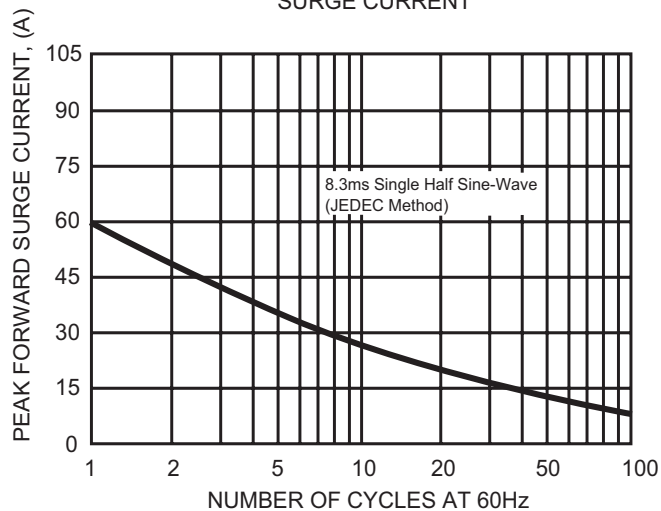


FIG. 3 - MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

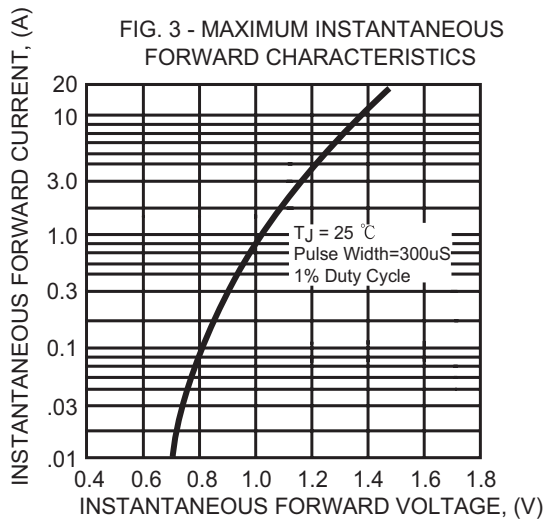


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

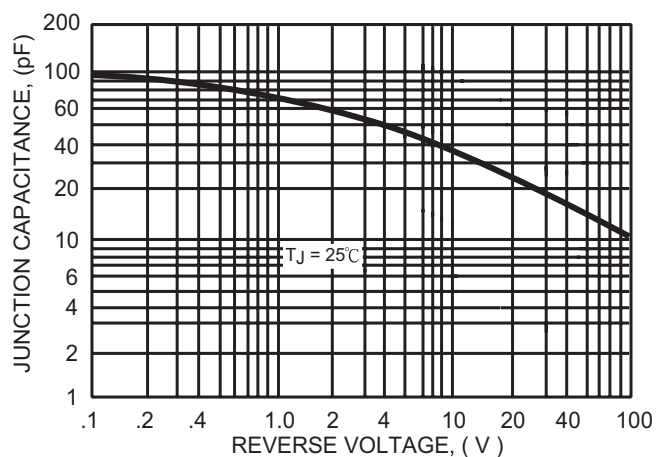
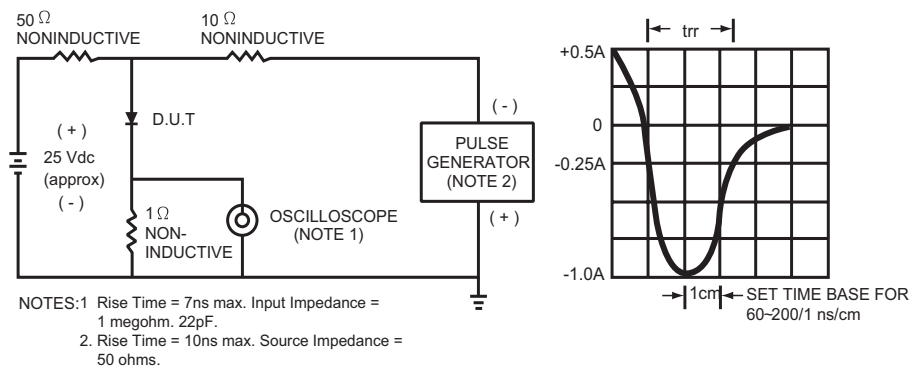
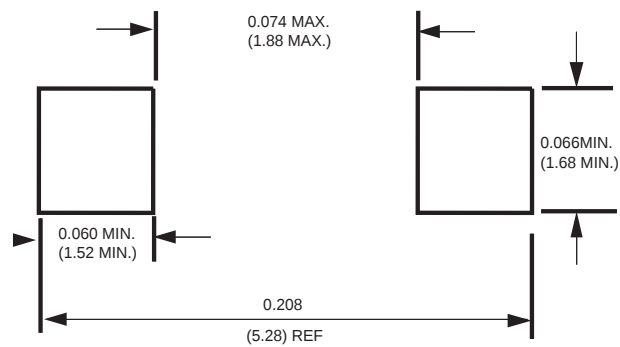


FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



## Mounting Pad Layout



Dimensions in inches and (millimeters)

## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SMA     | -W           | 7,500       | 15,000           | ---                  | ---             | 330           | 360*355*360      | 120,000       | 15.2             |

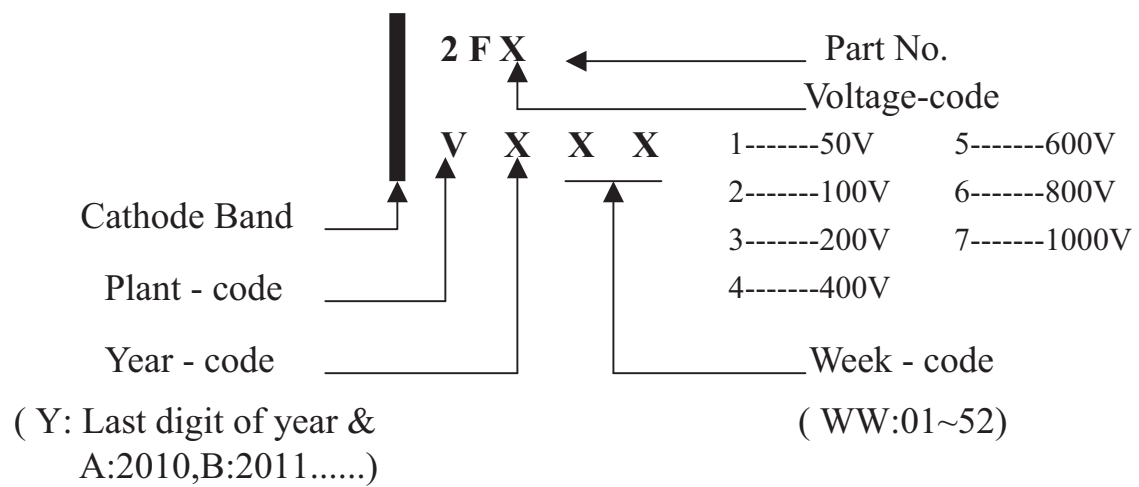
| PACKAGE | PACKING CODE | EA PER REEL | EA PER INNER BOX | COMPONENT SPACE (mm) | TAPE SPACE (mm) | REEL DIA (mm) | CARTON SIZE (mm) | EA PER CARTON | GROSS WEIGHT(Kg) |
|---------|--------------|-------------|------------------|----------------------|-----------------|---------------|------------------|---------------|------------------|
| SMA     | -T           | 2,000       | 8,000            | ---                  | ---             | 178           | 390*205*310      | 64,000        | 7.8              |



## 1. Internal Circuit



## 2. Marking on the body



## DISCLAIMER NOTICE

Rectron Inc reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. Rectron Inc or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on RECTRON data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. Rectron Inc does not assume any liability arising out of the application or use of any product or circuit.

Rectron products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of Rectron Inc. Customers using or selling Rectron components for use in such applications do so at their own risk and shall agree to fully indemnify Rectron Inc and its subsidiaries harmless against all claims, damages and expenditures.