

## Surface Mount General Purpose Silicon Rectifiers

**Reverse Voltage - 50 to 1000 V**

**Forward Current - 3 A**

### FEATURES

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ Ideal for automated placement
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

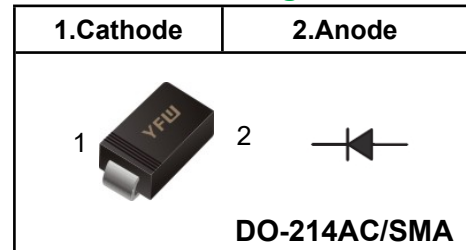
- ◆ Case: DO-214AC/SMA
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.07g / 0.002oz

### 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 current derate by 20 %.

### Pinning



### Marking Code

|            |                |
|------------|----------------|
| <b>S3A</b> | <b>YFW S3A</b> |
| <b>S3B</b> | <b>YFW S3B</b> |
| <b>S3D</b> | <b>YFW S3D</b> |
| <b>S3G</b> | <b>YFW S3G</b> |
| <b>S3J</b> | <b>YFW S3J</b> |
| <b>S3K</b> | <b>YFW S3K</b> |
| <b>S3M</b> | <b>YFW S3M</b> |

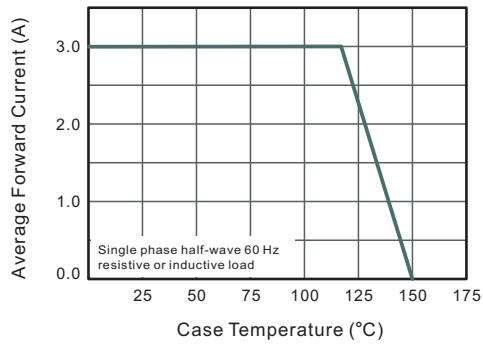
| Parameter                                                                                                                     | Symbols                        | S3A        | S3B | S3D | S3G | S3J | S3K | S3M  | Units              |
|-------------------------------------------------------------------------------------------------------------------------------|--------------------------------|------------|-----|-----|-----|-----|-----|------|--------------------|
| Maximum Repetitive Peak Reverse Voltage                                                                                       | $V_{RRM}$                      | 50         | 100 | 200 | 400 | 600 | 800 | 1000 | V                  |
| Maximum RMS voltage                                                                                                           | $V_{RMS}$                      | 35         | 70  | 140 | 280 | 420 | 560 | 700  | V                  |
| Maximum DC Blocking Voltage                                                                                                   | $V_{DC}$                       | 50         | 100 | 200 | 400 | 600 | 800 | 1000 | V                  |
| Maximum Average Forward Rectified Current at $T_c = 125\text{ }^\circ\text{C}$                                                | $I_{F(AV)}$                    | 3          |     |     |     |     |     |      | A                  |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                                            | $I_{FSM}$                      | 80         |     |     |     |     |     |      | A                  |
| Maximum Instantaneous Forward Voltage at 3 A                                                                                  | $V_F$                          | 1.1        |     |     |     |     |     |      | V                  |
| Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$<br>at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$ | $I_R$                          | 5<br>125   |     |     |     |     |     |      | $\mu\text{A}$      |
| Typical Junction Capacitance <sup>(1)</sup>                                                                                   | $C_j$                          | 32         |     |     |     |     |     |      | pF                 |
| Typical Thermal Resistance <sup>(2)</sup>                                                                                     | $R_{\theta JA}, R_{\theta JC}$ | 50/16      |     |     |     |     |     |      | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range                                                                                       | $T_j, T_{stg}$                 | -55 ~ +150 |     |     |     |     |     |      | $^\circ\text{C}$   |

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

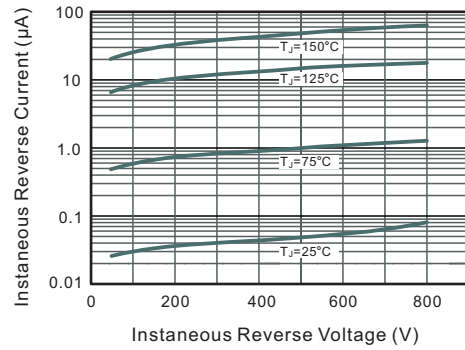
(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

**Ratings And Characteristic Curves**

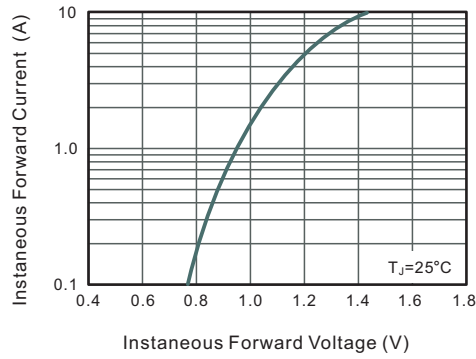
**Fig.1 Forward Current Derating Curve**



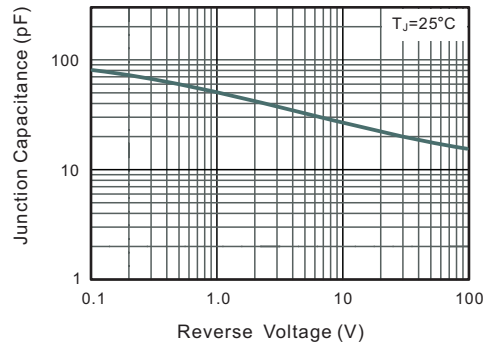
**Fig.2 Typical Instantaneous Reverse Characteristics**



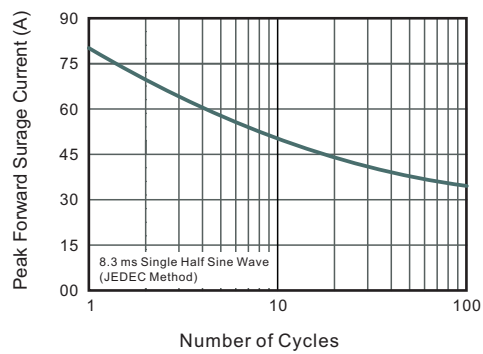
**Fig.3 Typical Forward Characteristic**



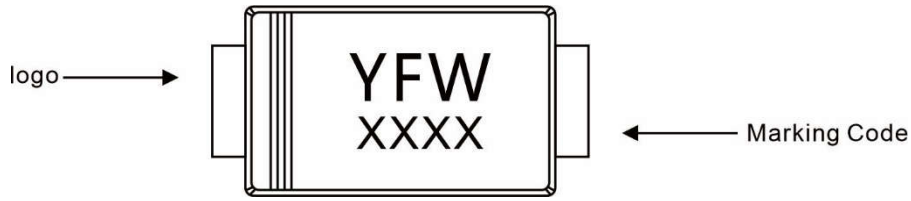
**Fig.4 Typical Junction Capacitance**



**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



**Marking Diagram**



**Ordering information**

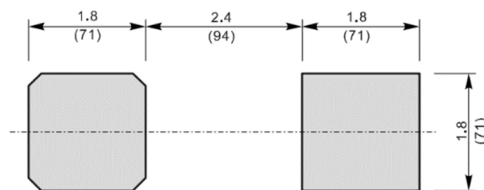
| Package      | Packing Description | Packing Quantity             |
|--------------|---------------------|------------------------------|
| DO-214AC SMA | Tape/Reel, 13"reel  | 5000PCS/Reel 50000PCS/Carton |

**Package Dimensions**

**DO-214AC SMA**

| Dim.           | Millimeter(mm) |      | mil  |      |
|----------------|----------------|------|------|------|
|                | Min.           | Max. | Min. | Max. |
| A              | 1.9            | 2.45 | 75   | 96   |
| D              | 4.0            | 4.5  | 157  | 181  |
| E              | 2.5            | 2.8  | 100  | 110  |
| H <sub>E</sub> | 4.7            | 5.2  | 185  | 205  |
| c              | 0.15           | 0.31 | 6    | 12   |
| e              | 1.3            | 1.8  | 51   | 71   |
| g              | 0.9            | 1.5  | 35   | 59   |
| b              | 0.05           | 0.2  | 2    | 7.9  |
| a              | 0.3            |      | 12   |      |

**The recommended mounting pad size**



Unit :  $\frac{\text{mm}}{\text{mil}}$

## Disclaimer

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