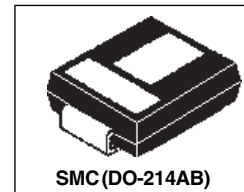


**SURFACE MOUNTABLE  
 ULTRAFAST RECOVERY DIODE**

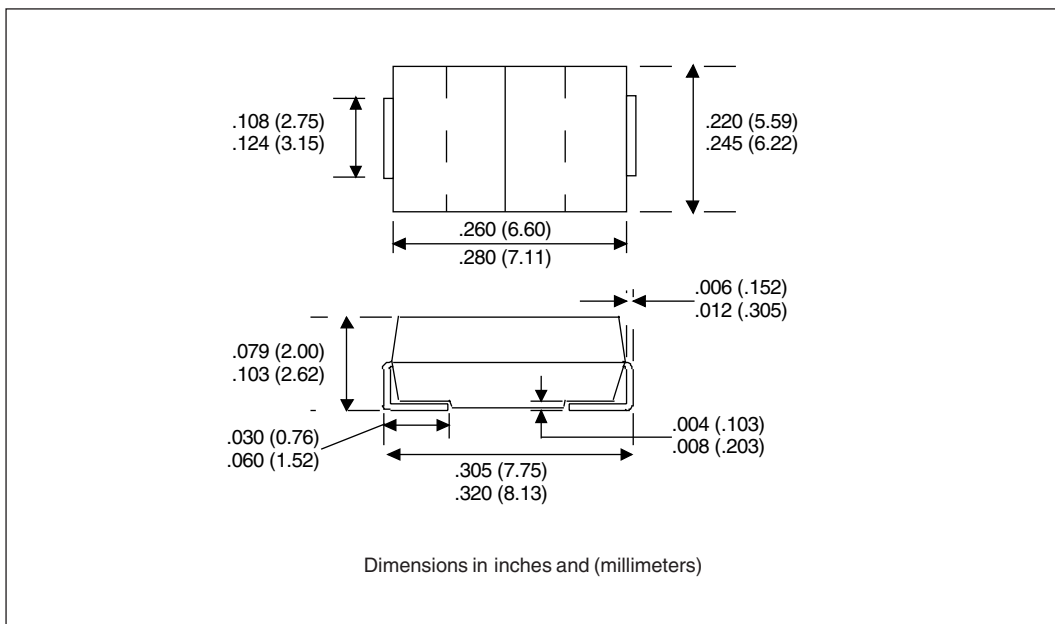


**Major Ratings and Characteristics**

| Characteristics            | 30BF..     |     |          | Units      |
|----------------------------|------------|-----|----------|------------|
|                            | 10 to 20   | 40  | 60 to 80 |            |
| $I_{F(AV)}$                | 3          |     |          | A          |
| $V_{RRM}$                  | 100 to 800 |     |          | V          |
| $I_{FSM}$                  | 100        |     |          | A          |
| $V_F @ 3A, T_J=25^\circ C$ | 1.0        | 1.4 | 1.7      | V          |
| $t_{rr} @ T_J=25^\circ C$  | 50         | 50  | 100      | ns         |
| $T_J$ range                | -50 to 150 |     |          | $^\circ C$ |

**Features**

- For surface mounted applications
- Low profile package
- Built in stress releaf
- Compatible with all pick & palce equipments
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- High temperature soldering:  
260 $^\circ C$ \10 seconds at terminals



## 30BF.. Series

PD-20713 07/99

International  
 IOR Rectifier

### Voltage Ratings

| Part Number | $V_{RRM}$ , maximum peak reverse voltage<br>V | $V_{DC}$ , maximum blocking voltage<br>V | $I_{FRM}$<br>100°C<br>μA |
|-------------|---|--|--------------------------|
| 30BF10      | 100   | 100                                      | 500                      |
| 30BF20      | 200   | 200                                      |                          |
| 30BF40      | 400   | 400                                      |                          |
| 30BF60      | 600   | 600                                      |                          |
| 30BF80      | 800   | 800                                      |                          |

### Maximum Ratings and Electrical Characteristics

| Parameters   | 30BF..   |     |          | Units | Conditions   |
|--|----------|-----|----------|-------|--|
|  | 10 to 20 | 40  | 60 to 80 |       |  |
| $I_{F(AV)}$ Maximum Average Forward Current                      | 3        |     |          | A     | @ $T_L = 75^\circ\text{C}$   |
| $I_{FSM}$ Peak Forward Surge Current                             | 100      |     |          | A     | 8.3ms single half sine wave superimposed on rated load (JEDEC Method) $T_A = 55^\circ\text{C}$ |
| $V_{FM}$ Max. Instantaneous Forward Voltage                      | 1.0      | 1.4 | 1.7      | V     | @ 3A   |
| $I_{RM}$ Maximum DC Reverse Current at Rated DC Blocking Voltage | 10       |     |          | μA    | $T_A = 25^\circ\text{C}$   |
|  | 500      |     |          |       | $T_A = 100^\circ\text{C}$  |
| $t_{rr}$ Reverse Recovery Time                                   | 50       | 50  | 100      | ns    | $I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$                                  |
| $C_J$ Typical Junction Capacitance                               | 75       | 75  | 50       | pf    | @ 1.0MHz applied reverse voltage of 4.0V   |

Ratings at 25°C ambient temperature unless otherwise specified.

Resistive or inductive load.

For capacitive load, derate current by 20%.

### Mechanical Specifications

| Parameters                           | 30BF..       | Units  | Conditions                                   |
|--------------------------------------|--------------|--------|--|
| $R_{thJ}$ Maximum Thermal Resistance | 15           | °C/W   | 8.0mm <sup>2</sup> (.013mm thick) land areas |
| $T_J$ Operating Temperature Range    | -50 to 150   | °C     |  |
| $T_{stg}$ Storage Temperature Range  | -50 to 150   | °C     |  |
| wt Approximate Weight                | 0.21 (0.007) | g (oz) |  |
| Case Style                           | DO-214AB     |        | JEDEC molded plastic                         |

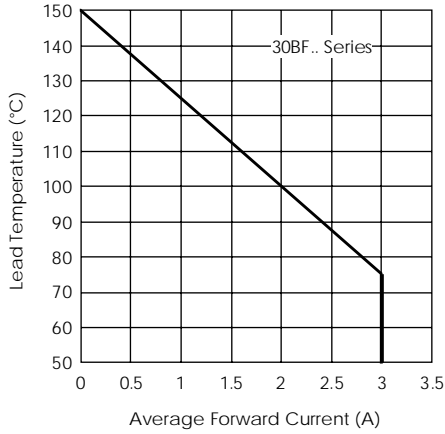


Fig. 1 - Maximum Average Forward Current Rating

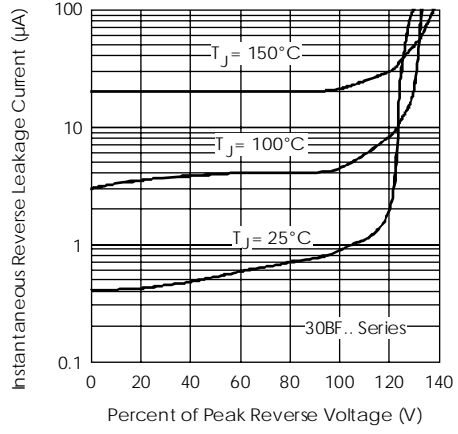


Fig. 2 - Typical Reverse Characteristics

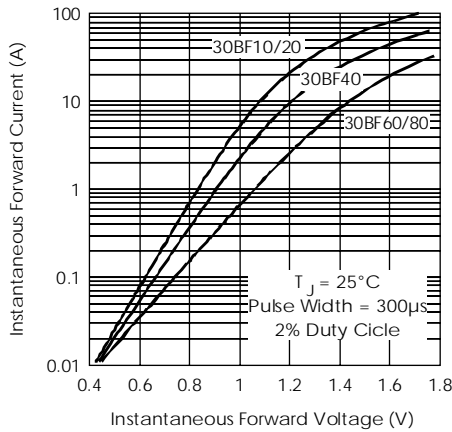


Fig. 3 - Typical Forward Characteristics

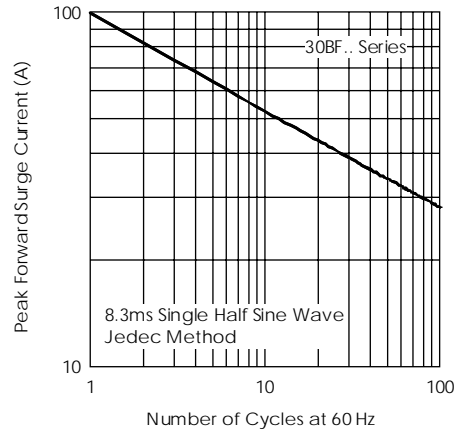


Fig. 4 - Max. Non-Repetitive Forward Surge Characteristic

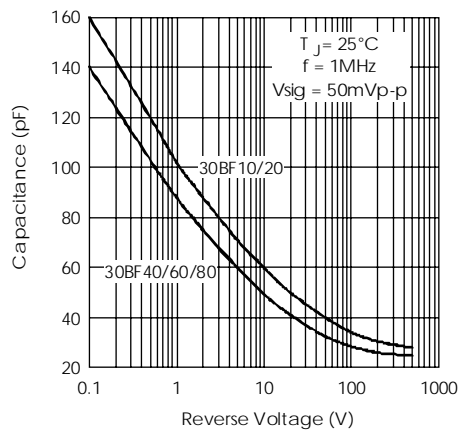
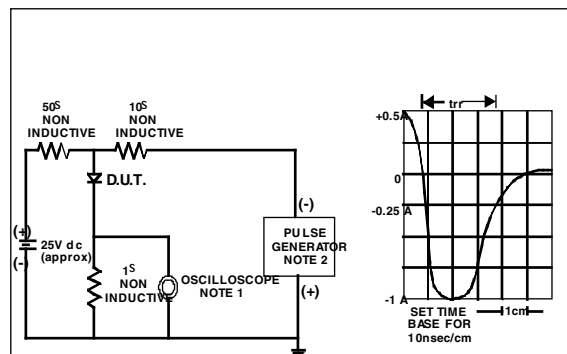


Fig. 5 - Typical Junction Capacitance



Reverse Recovery Time Characteristic and Test Circuit Diagram

Ordering Information Table

| Device Code |   |   |    |
|-------------|---|---|----|
| 30          | B | F | 80 |
| ①           | ② | ③ | ④  |

- 1** - Current Rating x 10: 30 = 3A
- 2** - B = DO-214AB (SMC) Surface Mount
- 3** - F = Ultrafast Recovery
- 4** - Voltage code: Code =  $V_{RRM} / 10$

Tape & Reel Information

The diagram illustrates the dimensions for the tape and reel. The top part shows a cross-section of the carrier tape with two components. The width of the tape is 12mm, and the distance between the two components is 8mm. An arrow labeled 'FEED DIRECTION' points to the right. The bottom part shows a top view of a three-spoke reel with an outer diameter of 330mm (13 inches) and a width of 12mm (0.47 inches).

NOTE:  
 1. OUTLINE CONFORMS TO EIA-481.

Dimensions in millimeters and (inches)

This datasheet has been download from:

[www.datasheetcatalog.com](http://www.datasheetcatalog.com)

Datasheets for electronics components.