

**SURFACE MOUNTABLE  
 ULTRAFAST RECOVERY DIODE**

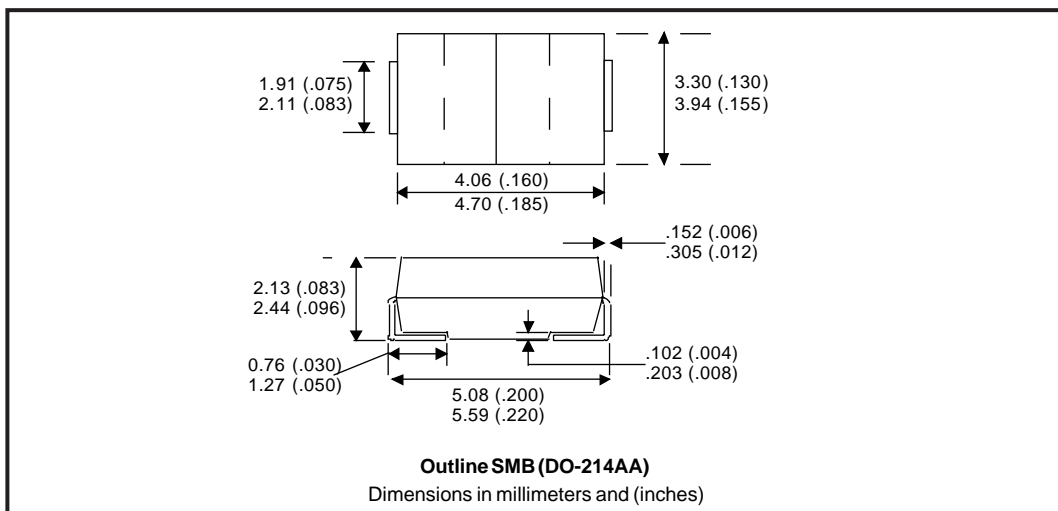


**Major Ratings and Characteristics**

| Characteristics                    | 10BF..     |     |     |    |    | Units            |
|------------------------------------|------------|-----|-----|----|----|------------------|
|                                    | 10         | 20  | 40  | 60 | 80 |                  |
| $I_{F(AV)}$                        | 1          |     |     |    |    | A                |
| $V_{RRM}$                          | 100 to 800 |     |     |    |    | V                |
| $I_{FSM}$                          | 30         |     |     |    |    | A                |
| $V_F$ @ 1A, $T_J=25^\circ\text{C}$ | 0.95       | 1.4 | 1.7 |    |    | V                |
| $t_{tr}$ @ $T_J=25^\circ\text{C}$  | 35         | 50  | 100 |    |    | ns               |
| $T_J$ range                        | -50 to 150 |     |     |    |    | $^\circ\text{C}$ |

**Features**

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



## 10BF.. Series

Preliminary Data Sheet PD-20482 rev. B 06/99

International  
 Rectifier

### Voltage Ratings

| Part Number | $V_{RRM}$ , maximum peak reverse voltage<br>V | $V_{DC}$ , maximum blocking voltage<br>V | $I_{RRM}$<br>100°C<br>μA |
|-------------|-----------------------------------------------|------------------------------------------|--------------------------|
| 10BF10      | 100                                           | 100                                      | 100                      |
| 10BF20      | 200                                           | 200                                      |                          |
| 10BF40      | 400                                           | 400                                      |                          |
| 10BF60      | 600                                           | 600                                      |                          |
| 10BF80      | 800                                           | 800                                      |                          |

### Maximum Ratings and Electrical Characteristics

| Parameters                                                          | 10BF..       |     |     |    |    | Units  | Conditions                                                                                      |
|---------------------------------------------------------------------|--------------|-----|-----|----|----|--------|-------------------------------------------------------------------------------------------------|
|                                                                     | 10           | 20  | 40  | 60 | 80 |        |                                                                                                 |
| $I_{F(AV)}$ Maximum Average Forward Current                         | 1            |     |     |    |    | A      | @ $T_L = 100^\circ\text{C}$                                                                     |
| $I_{FSM}$ Peak Forward Surge Current                                | 30           |     |     |    |    | A      | 8.3ms single half sine waves superimposed on rated load (JEDEC Method) $T_A = 55^\circ\text{C}$ |
| $V_{FM}$ Max. Instantaneous Forward Voltage                         | 0.95         | 1.4 | 1.7 |    |    | V      | @ 3A                                                                                            |
| $I_{RM}$ Maximum DC Reverse Current<br>at Rated DC Blocking Voltage | 10           |     |     |    |    | μA     | $T_A = 25^\circ\text{C}$                                                                        |
|                                                                     | 100          |     |     |    |    |        | $T_A = 100^\circ\text{C}$                                                                       |
| $t_{rr}$ Reverse Recovery Time                                      | 35           | 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                                  | 10           | 15  |     |    |    | pf     | @ 1.0MHz applied reverse voltage of 4.0V                                                        |
| $R_{thJ}$ Maximum Thermal Resistance                                | 35           | 30  |     |    |    | °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                                                          | SMB/DO-214AA |     |     |    |    |        | JEDEC molded plastic                                                                            |

Ratings at 25°C ambient temperature unless otherwise specified.  
 Resistive or inductive load.  
 For capacitive load, derate current by 20%.

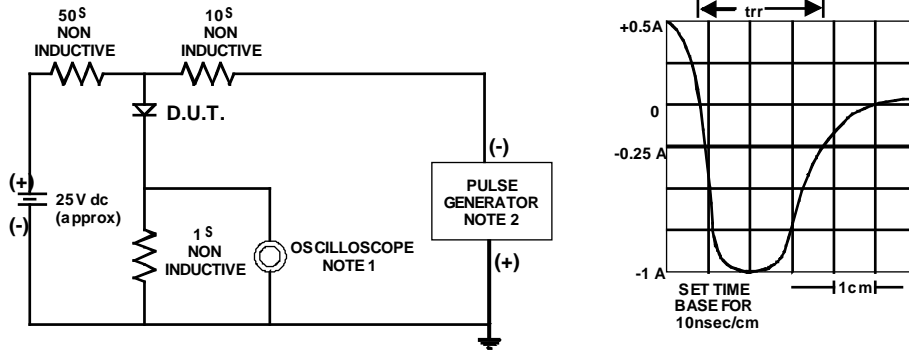


Fig. 1 - Reverse Recovery Time Characteristic and Test Circuit Diagram

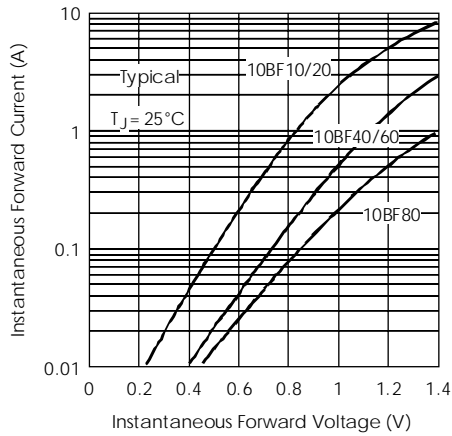


Fig. 2 - Typical Forward Characteristics

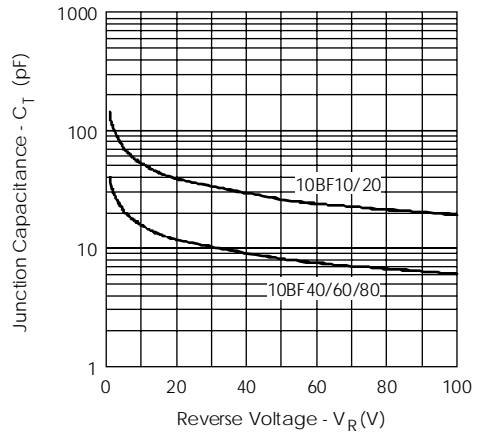


Fig. 3 - Typical Junction Capacitance

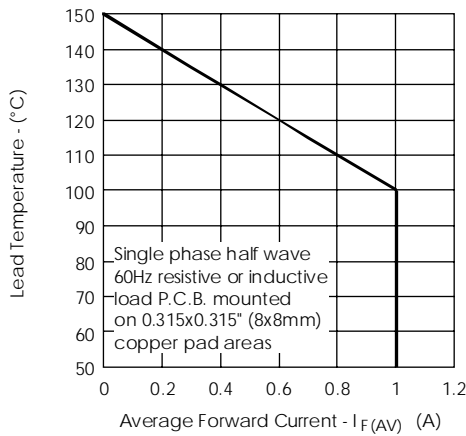


Fig. 4 - Forward Current Derating Curve

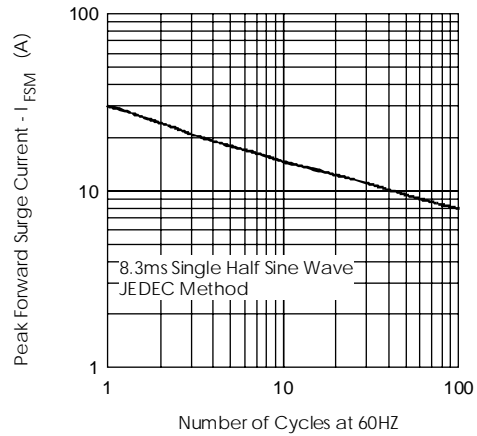


Fig. 5 - Peak Forward Surge Current

# 10BF.. Series

Preliminary Data Sheet PD-20482 rev. B 06/99

## Ordering Information Table

| Device Code |   |   |    |
|-------------|---|---|----|
| 10          | B | F | 80 |
| ①           | ② | ③ | ④  |

|          |   |                                     |
|----------|---|-------------------------------------|
| <b>1</b> | - | Current Rating x 10: 10 = 1A        |
| <b>2</b> | - | B = DO-214AA (SMB) Surface Mount    |
| <b>3</b> | - | F = Ultrafast Recovery              |
| <b>4</b> | - | Voltage code: Code = $V_{RRM} / 10$ |

## Tape & Reel Information

