

**SURFACE MOUNTABLE
 ULTRAFAST RECOVERY DIODE**

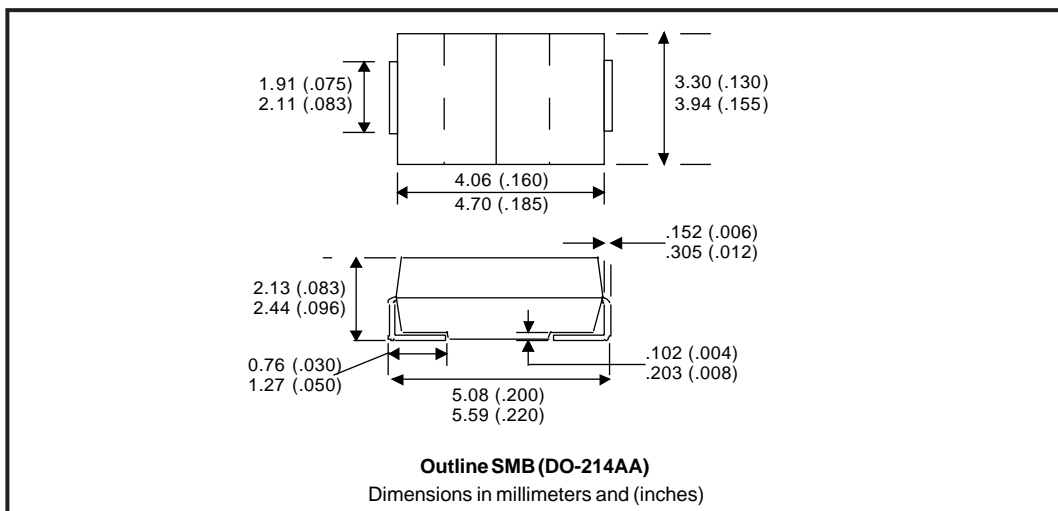


Major Ratings and Characteristics

| 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 V | V_{DC} , maximum blocking voltage V | I_{RRM} 100°C 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 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 ² (.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%.

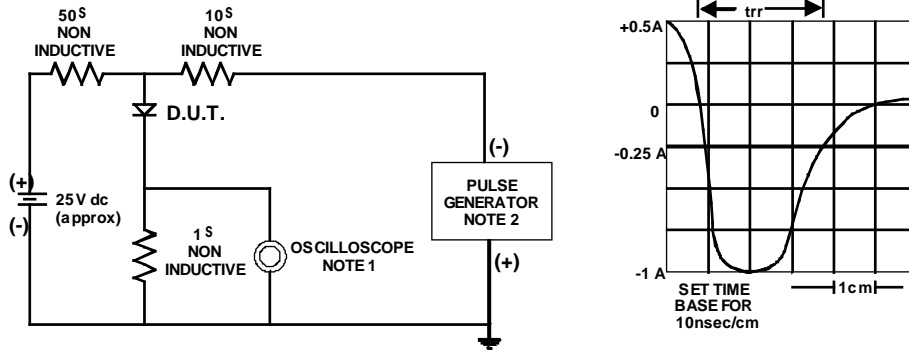


Fig. 1 - Reverse Recovery Time Characteristic and Test Circuit Diagram

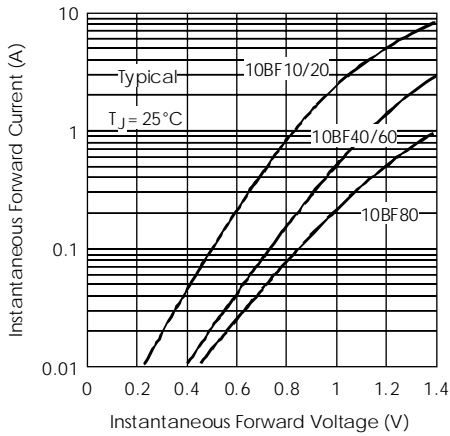


Fig. 2 - Typical Forward Characteristics

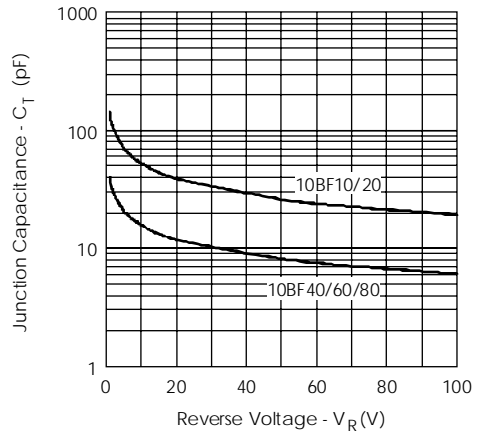


Fig. 3 - Typical Junction Capacitance

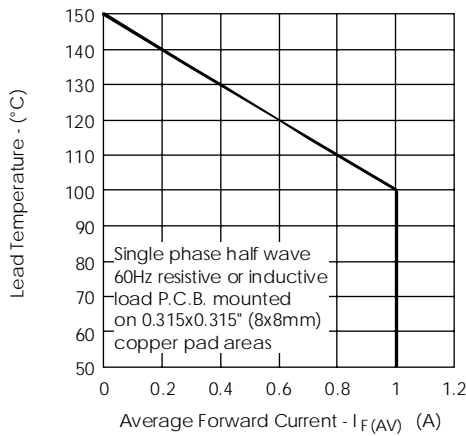


Fig. 4 - Forward Current Derating Curve

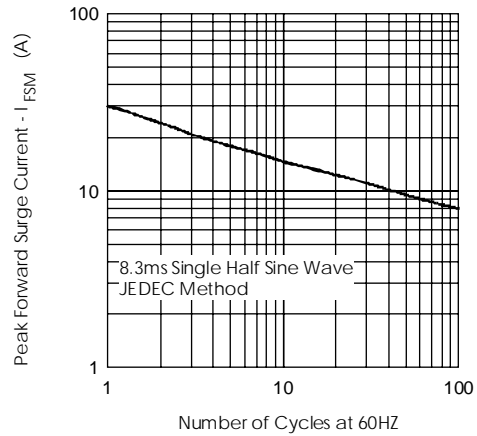


Fig. 5 - Peak Forward Surge Current

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Ordering Information Table

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

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

Tape & Reel Information

