
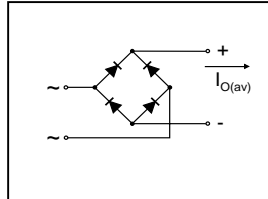


### 1A Single Phase D.I.L. Rectifier Bridge

#### Features

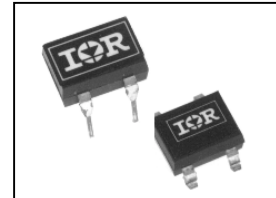
- Glass passivated chips
- Leads on standard 0.1" grid
- Suitable for automatic insertion
- High surge current capability
- Fully characterised data
- Wide temperature range
- Surface mount option
- Lead free terminals solderable as per MIL-STD-750 Method 2026
- High temperature soldering guaranteed 260°C/8-10 secs
- Polarity symbols marked on the case
- UL E160375 approved 



$$I_{O(av)} = 1.0 \text{ A}$$

$$V_{RRM} \text{ range}$$

$$50 \text{ to } 1000 \text{ V}$$



#### Description

The DF Series of Single Phase Rectifier Bridges consists of four silicon junctions encapsulated in a 4 pin D.I.L. package. These devices are intended for general use in industrial and consumer equipment.

#### Electrical Specification

|               |  | DF...      | Units                       | Conditions   |
|---------------|--|------------|-----------------------------|--|
| $I_O$         | Maximum DC output current                            | 1.0        | A                           | $T_{amb} = 40^\circ\text{C}$ , Resistive or inductive load |
|               |  | 0.8        | A                           | $T_{amb} = 40^\circ\text{C}$ , Capacitive load             |
| $I_{FSM}$     | Maximum peak one cycle, non-repetitive surge current | 30         | A                           | $t = 10\text{ms}, 20\text{ms}$                             |
|               |  | 31         | A                           | $t = 8.3\text{ms}, 16.7\text{ms}$                          |
| $I^2t$        | Maximum $I^2t$ capability for fusing                 | 4.5        | $\text{A}^2\text{s}$        | $t = 10\text{ms}$  |
|               |  | 4.1        | $\text{A}^2\text{s}$        | $t = 8.3\text{ms}$   |
|               |  | 6.4        | $\text{A}^2\text{s}$        | $t = 10\text{ms}$  |
|               |  | 5.8        | $\text{A}^2\text{s}$        | $t = 8.3\text{ms}$   |
| $I^2\sqrt{t}$ | Maximum $I^2\sqrt{t}$ capability for fusing          | 64         | $\text{A}^2\sqrt{\text{s}}$ | $t = 0.1 \text{ to } 10\text{ms}$ , no voltage reapplied   |
| $V_{FM}$      | Maximum peak forward voltage per diode               | 1.0        | V                           | $I_{FM} = 1.0\text{A}$ , $T_J = 25^\circ\text{C}$          |
| $I_{RM}$      | Typical peak reverse leakage per diode               | 5          | $\mu\text{A}$               | $T_J = 25^\circ\text{C}$ , 100% $V_{RRM}$                  |
|               |  | 100        | $\mu\text{A}$               | $T_J = 150^\circ\text{C}$ , 100% $V_{RRM}$                 |
| $f$           | Operating frequency range                            | 50 to 1000 | Hz                          |  |
| $V_{RRM}$     | Maximum repetitive peak reverse voltage range        | 50 to 1000 | V                           |  |

#### Thermal and Mechanical Specifications

|            |  | DF...       | Units            | Conditions |
|------------|--|-------------|------------------|------------|
| $T_J$      | Operating and storage temperature range  | - 55 to 150 | $^\circ\text{C}$ |            |
| $T_{stg}$  | Storage temperature range                |             |                  |            |
| $R_{thJA}$ | Thermal resistance, junctions to ambient | 60          | K/W              |            |
| W          | Approximate weight                       | 0.6 (0.02)  | g (oz)           |            |

**Voltage Specifications**

| Part Number   | $V_{RRM}$ Maximum repetitive peak reverse voltage<br>V | $V_{RSM}$ Maximum non-repetitive peak reverse voltage<br>V |
|---------------|--|--|
| DF005M/DF005S | 50   | 80   |
| DF01M/DF01S   | 100  | 150  |
| DF02M/DF02S   | 200  | 300  |
| DF04M/DF04S   | 400  | 500  |
| DF06M/DF06S   | 600  | 700  |
| DF08M/DF08S   | 800  | 900  |
| DF10M/DF10S   | 1000   | 1100   |

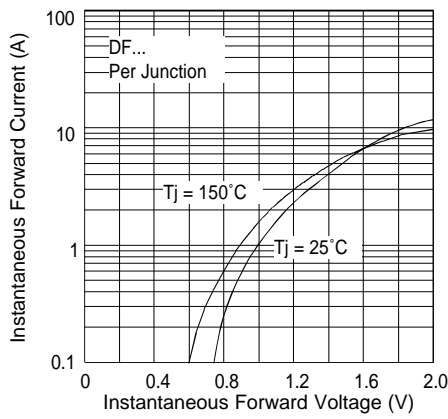


Fig. 1 - Forward Characteristics

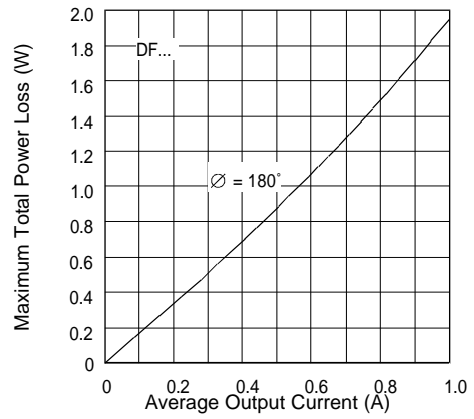


Fig. 2 - Power Loss Characteristics

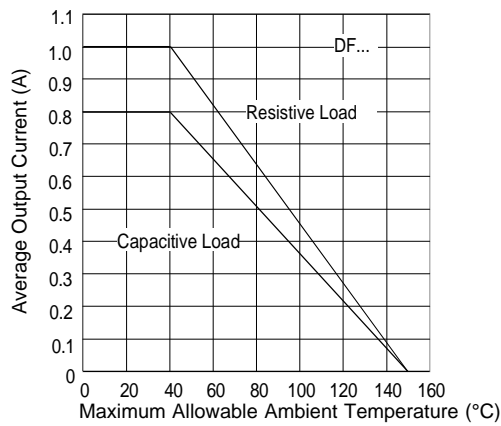


Fig. 3 - Current Ratings

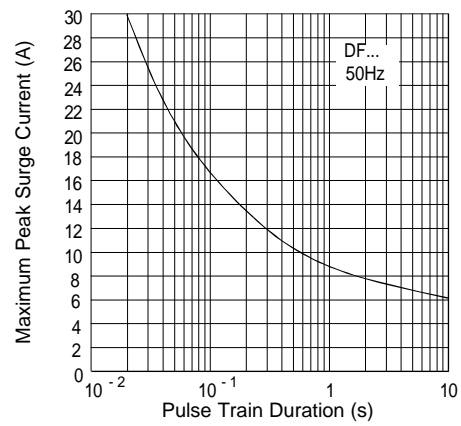
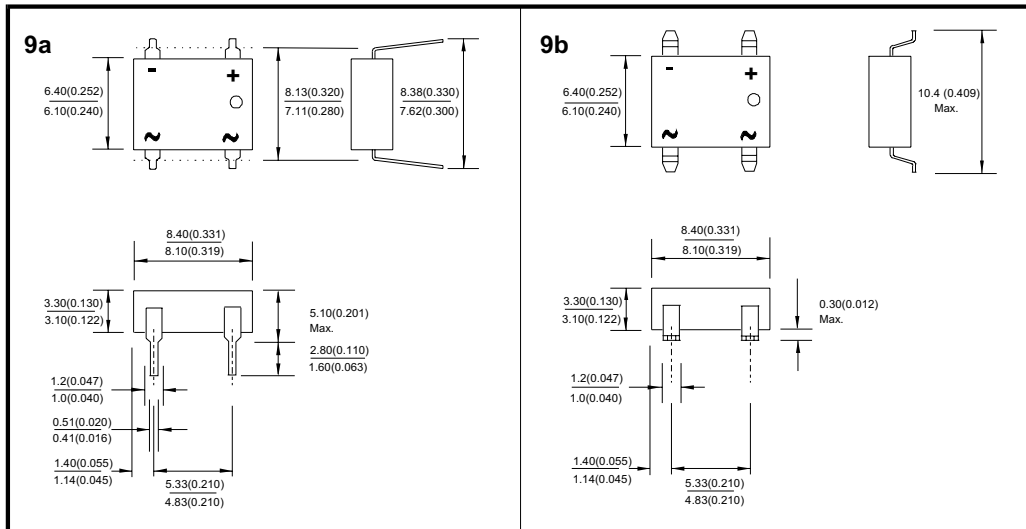


Fig. 4 - Non-Repetitive Surge Ratings

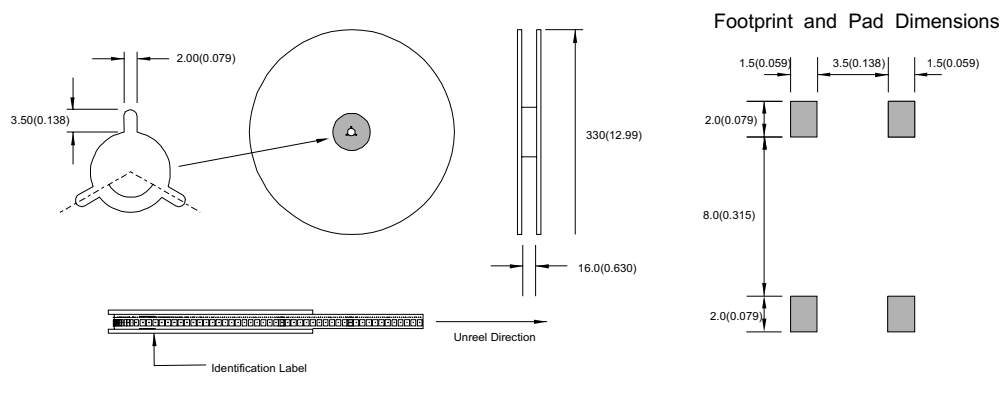
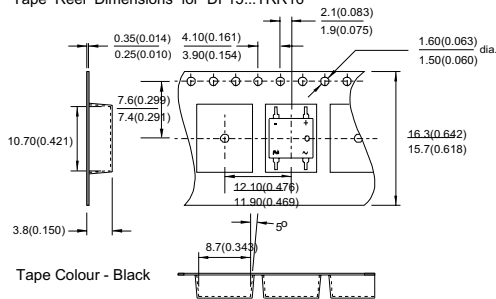
DF..M

DF..S



Tape Reel

Tape Reel Dimensions for DF15...TRR16



All dimensions in millimetres(inches)

## DF SERIES

Bulletin U2788 rev. G 04/03

International  
**IR** Rectifier

### Ordering Information Table

|             |           |  |
|-------------|-----------|--|
| Device Code |           |  |
| <b>DF</b>   | <b>10</b> | <b>S</b>   |
| ①           | ②         | ③  |
| <b>1</b>    | -         | Basic Part Number                                  |
| <b>2</b>    | -         | Voltage Code: Code x 100 = $V_{RRM}$               |
| <b>3</b>    | -         | Terminal Type: M = hole mount<br>S = surface mount |

To specify tape reel option add 'TRR16' suffix. e.g. DF10STRR16

Data and specifications subject to change without notice.  
This product has been designed and qualified for Multiple Level.  
Qualification Standards can be found on IR's Web site.

International  
**IR** Rectifier

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Visit us at [www.irf.com](http://www.irf.com) for sales contact information. 04/03