

# Bridge Rectifier

## **DF01S**

100V / 1A

# DATASHEET

OEM – International Rectifier

Source: International Rectifier Databook 1995

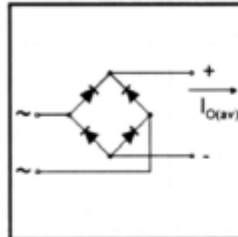
# International Rectifier

PD - 2.493

## 1B / DF Series

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

- Leads on standard 0.1" grid
- Suitable for automatic insertion
- High surge current capability
- Fully characterised data
- Wide temperature range
- Surface mount option



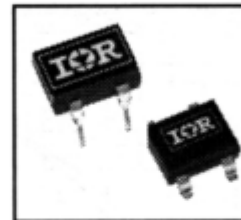
$I_{O(av)} = 1.0 \text{ A}$

$V_{RRM}$  range

50 to 1000V

#### 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 Specifications

	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	$\text{A}^2\text{s}$	$t = 8.3\text{ms}$
$I^2/t$ Maximum $I^2/t$ capability for fusing	64	$\text{A}^2/\text{s}$	$t = 0.1$ to $10\text{ms}$ , no voltage reapplied
			Initial $T_J = T_J \text{ max}$ 100% $V_{RRM}$ 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	mA	$T_J = 25^\circ\text{C}$ , 100% $V_{RRM}$
	100	mA	$T_J = 150^\circ\text{C}$ , 100% $V_{RRM}$
$f$ Operating frequency range	400 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	-40 to 150	$^\circ\text{C}$	
$R_{thJA}$ Thermal resistance, junctions to ambient	60	K/W	
$W$ Approximate weight	0.6 (0.02)	g (oz)	

# 1B / DF Series

## Voltage Specifications

Part Number		$V_{RRM}$ . Maximum repetitive peak reverse voltage	$V_{RSM}$ . Maximum non-repetitive peak reverse voltage
Available in Europe	Available in N. America & Asia	V	V
1B05..	DF005.	50	80
1B01..	DF01.	100	150
1B02..	DF02.	200	300
1B04..	DF04.	400	500
1B06..	DF06.	600	700
1B08..	DF08.	800	900
1B10..	DF10	1000	1100

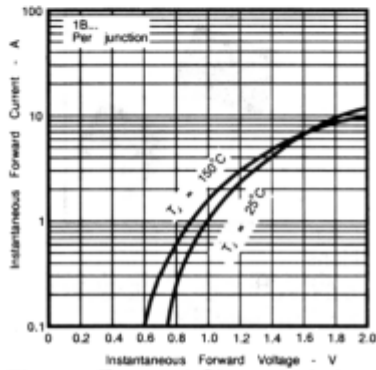


Fig. 1 - Forward Characteristics

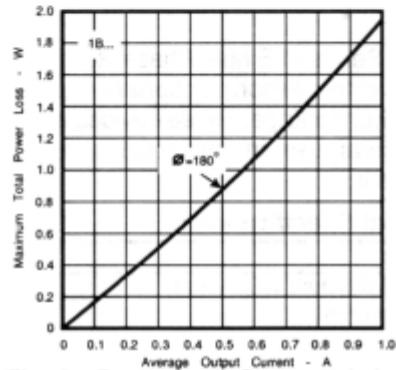


Fig. 2 - Power Loss Characteristics

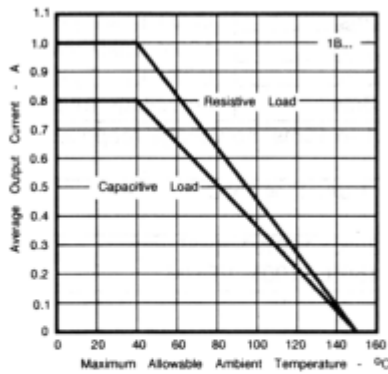


Fig. 3 - Current Ratings

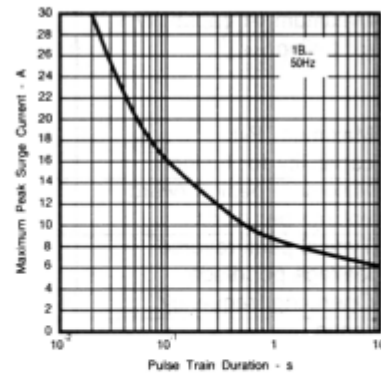


Fig. 4 - Non-Repetitive Surge Ratings

### Part Numbering

To specify standard outline add 'M' suffix. e.g. DF06M etc.

To specify surface mount option (S.M.D.) add 'S' suffix. e.g. DF04S etc.

To specify tape reel option add 'TRR16' or 'TR16' suffix. e.g. 1B06STRR16, DF02STR16 etc.

### Refer to the Appendix Section for the following:

**Appendix B:** Package Outline Mechanical Drawing — See page 341.

**Appendix D:** Tape and Reel Information — See page 342.