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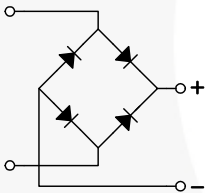


May 2015

## DF005S - DF10S Bridge Rectifiers

### Features

- Maximum Surge Rating:  $I_{FSM} = 50\text{ A}$   
 $I^2t = 10\text{ A}^2\text{Sec}$
- Optimized  $V_F$ : Typical 0.94 V at 1.5 A, 25°C
- Glass Passivated Junctions
- Lead Free Compliant to EU RoHS 2002/95/EU Directives
- Green Molding Compound: IEC61249
- Qualified with IR Reflow and Wave Soldering
- UL Certified, UL #E258596



### Description

With the ever-pressing need to improve power supply efficiency, improve surge rating, improve reliability, and reduce size, the DFxS family sets a standard in performance.

The design offers an surge rating of 50 A. This is important when improving reliability and increasing efficiency. High efficiency designs strive to reduce circuit resistance, which, unfortunately can result in increased inrush surge. As such high surge current ratings can be required to maintain or improve reliability.

The design also offers better efficiency by achieving a 1.5 A  $V_F$  of 1.1 V maximum at 25°C. This lower  $V_F$  also supports cooler and more efficient operation.

Finally, the DFxS achieves all this in a SDIP surface mount form factor, reducing board space and volumetric requirements vs. competitive devices.

### Ordering Information

Part Number	Top Mark	Package	Packing Method
DF005S	DF005S	SDIP 4L	Tape and Reel
DF01S	DF01S	SDIP 4L	Tape and Reel
DF02S	DF02S	SDIP 4L	Tape and Reel
DF04S	DF04S	SDIP 4L	Tape and Reel
DF06S	DF06S	SDIP 4L	Tape and Reel
DF08S	DF08S	SDIP 4L	Tape and Reel
DF10S	DF10S	SDIP 4L	Tape and Reel

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

## Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

### Notes:

1. Device mounted on PCB with 0.5 inch



## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$V_F$	Forward Voltage, per Element	$I_F = 1.5 \text{ A}$			1.1	V
$I_R$	Reverse Current, per Element at Rated $V_R$	$T_A = 25^\circ\text{C}$			5.0	$\mu\text{A}$
		$T_A = 125^\circ\text{C}$			500	
$I^2t$	Rating for Fusing ( $t < 8.35 \text{ ms}$ )				10	$\text{A}^2\text{s}$
$C_J$	Typical Capacitance, per Leg	$V_R = 4.0 \text{ V}$ , $f = 1.0 \text{ MHz}$		25		pF

## Typical Performance Characteristics

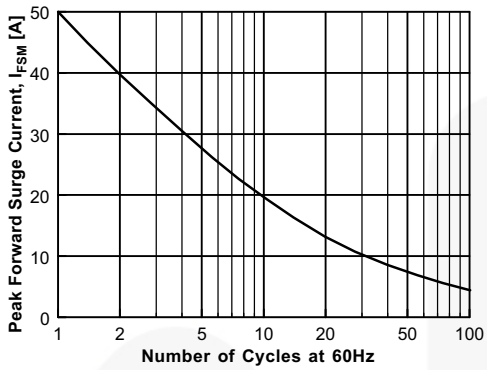


Figure 3. Non-Repetitive Surge Current

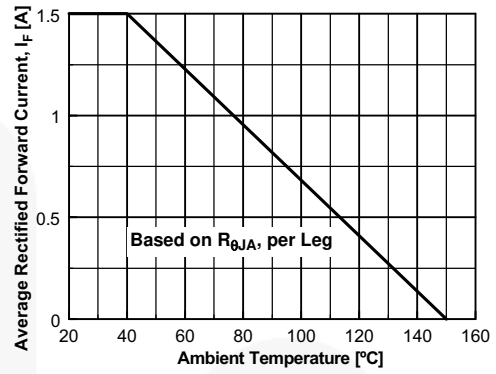


Figure 4. Forward Current Derating Curve

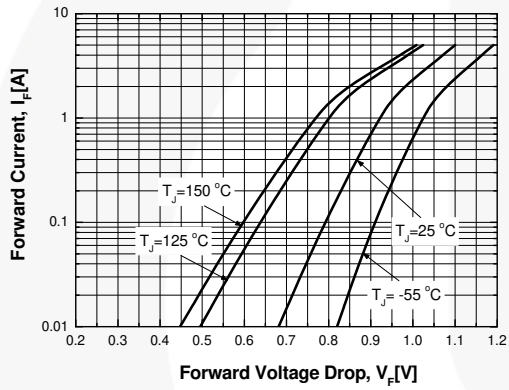


Figure 5. Forward Voltage Characteristics

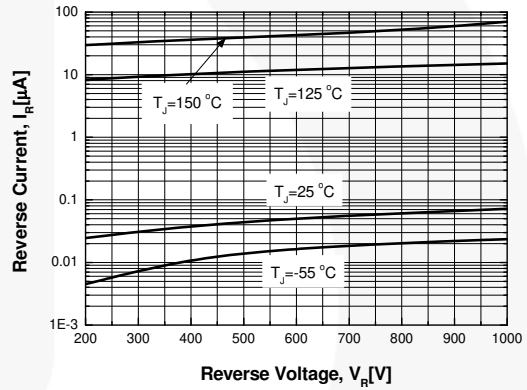
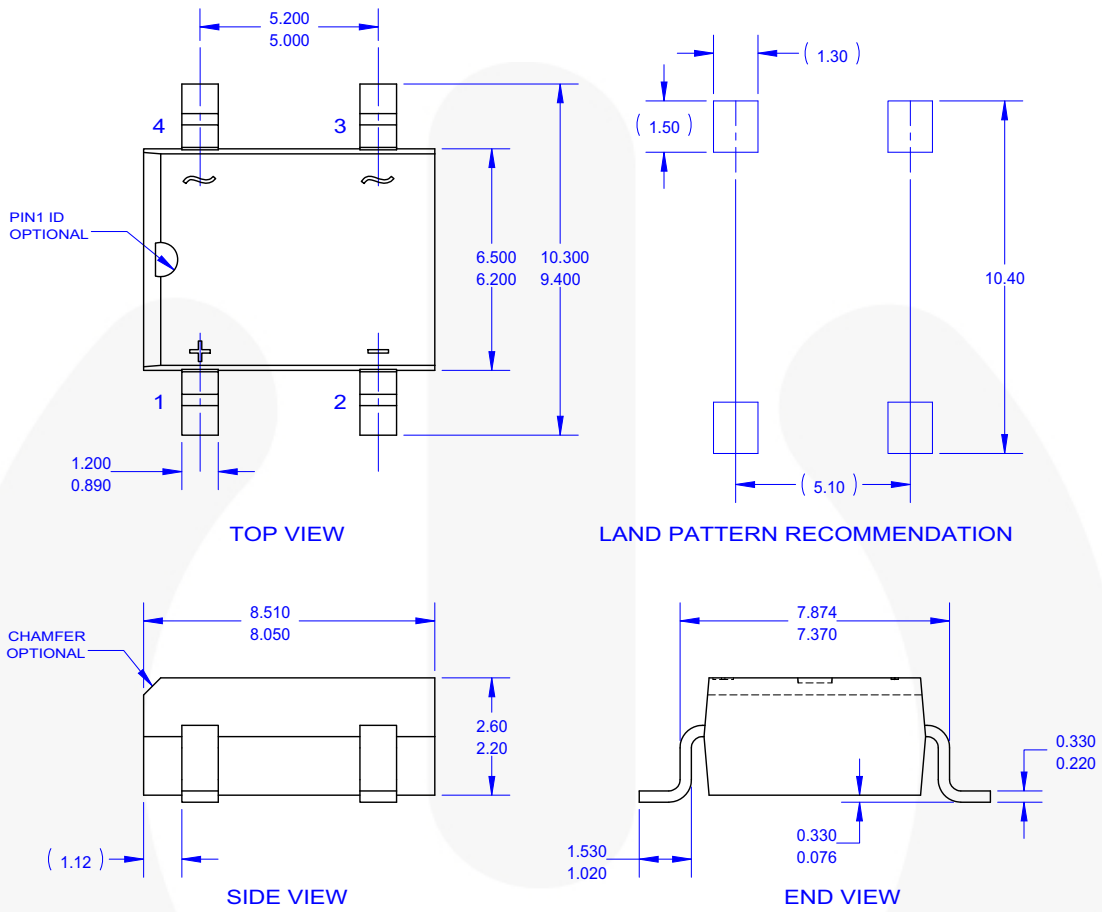


Figure 6. Reverse Current vs. Reverse Voltage

Physical Dimensions



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- C. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
- G. DRAWING FILE NAME: MKT-SDIP04AREV5.




Figure 7. 4-LEAD, SDIP, 6.5 MM WIDE





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