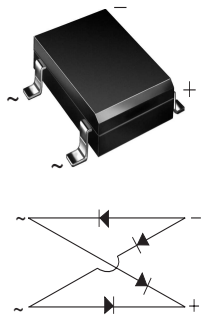
Low Profile Miniature Glass Passivated Single-Phase Surface Mount Bridge Rectifiers

Major Ratings and Characteristics

$I_{F(AV)}$	1.5 A
V_{RRM}	50 V to 1400 V
I_{FSM}	50 A
I_R	5 µA
V_F	1.1 V
T_j max.	150 °C

Case Style Low Profile DFS



Features

- Low Profile: Typical height of 2.5 mm
- UL Recognition, file number E54214
- Ideal for automated placement
- High surge current capability
- Meets MSL level 1, per J-STD-020C

Mechanical Data

Case: Low Profile DFS

Epoxy meets UL-94V-0 Flammability rating

Terminals: Matte tin plated (E3 Suffix) leads, solderable per J-STD-002B and MIL-STD-750, Method 2026

Polarity: As marked on body

Typical Applications

General purpose use in ac-to-dc bridge full wave rectification for SMPS, Lighting Ballaster, Adapter, Battery Charger, Home Appliances, Office Equipment, and Telecommunication applications

Maximum Ratings

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	DFL 1514S	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	1400	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	980	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	1400	V
Maximum average forward output rectified current at T_A = 40 °C[2]	$I_{F(AV)}$	1.5								A
Peak forward surge current single half sine-wave superimposed on rated load	I_{FSM}	50								A
Rating for fusing (t < 8.3 ms)	I^2t	10								A^2sec
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150								°C

Electrical Characteristics

(T_A = 25 °C unless otherwise noted)

Parameter	Test condition	Symbol	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	DFL 1514S	Unit
Max. instantaneous forward voltage drop per leg	at 1.5 A	V_F	1.1								V
Maximum DC reverse current at rated DC blocking voltage per leg	T_A = 25 °C T_A = 125 °C	I_R	5.0 500								µA
Typical junction capacitance per leg (1)		C_J	16								pF

Thermal Characteristics

(T_A = 25 °C unless otherwise noted)

Parameter	Symbol	DFL 15005S	DFL 1501S	DFL 1502S	DFL 1504S	DFL 1506S	DFL 1508S	DFL 1510S	DFL 1514S	Unit
Typical thermal resistance per leg(2)	$R_{\theta JA}$ $R_{\theta JL}$	40 15								°C/W

Notes:

(1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

(2) Units mounted on P.C.B. with 0.51 x 0.51" (13 x 13 mm) copper pads

Ratings and Characteristics Curves

(T_A = 25 °C unless otherwise noted)

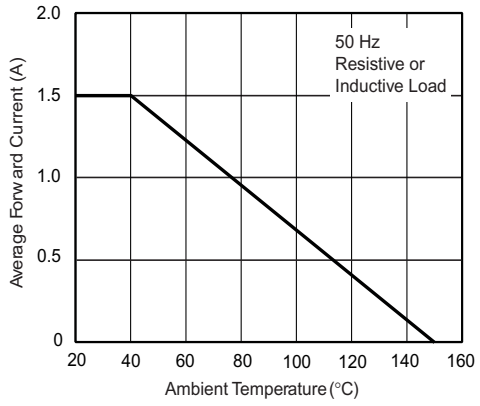


Figure 1. Forward Current Derating Curve Per Leg

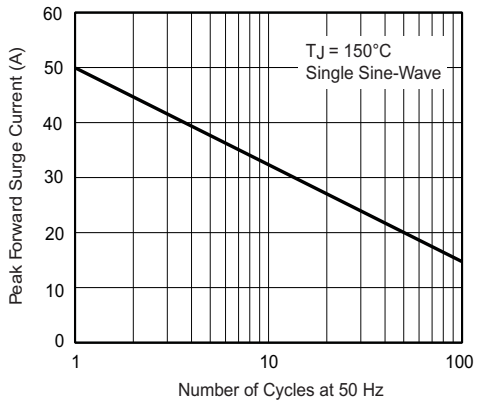


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current Per Leg

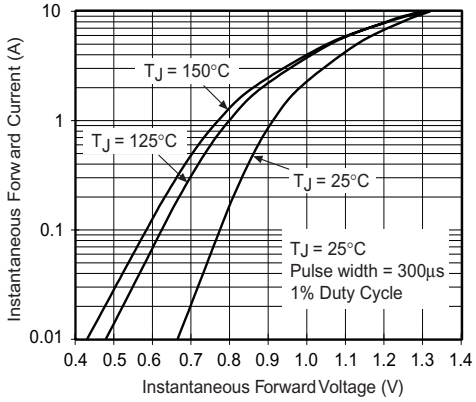


Figure 3. Typical Forward Voltage Characteristics Per Leg

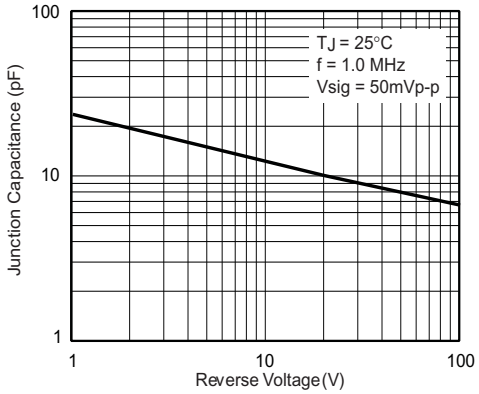


Figure 5. Typical Junction Capacitance Per Leg

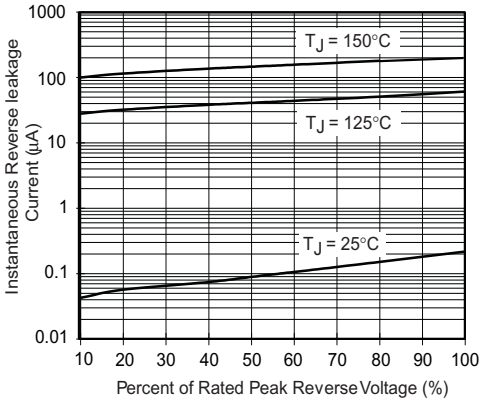


Figure 4. Typical Reverse Characteristics Per Leg

Package outline dimensions in inches (millimeters)