

Glass Passivated Single-Phase Bridge Rectifier

<p>Power - Power L</p> <p>Power Power L</p>	<p>Voltage</p> <p>50 to 1000 V</p>	<p>Current</p> <p>15-25-35-40-50 A</p>	
	<p>FEATURES</p> <ul style="list-style-type: none"> • High case dielectric strength • High forward surge current capability • UL recognition file number E320541, Vol. 2. • Universal 2-way terminals: snap-on and wire wrap-around / PCB mounting • Low thermal resistance • Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC • Solder dip 260°C, 40s • Typical I_{rr} less than 0.3μA 		<p>RoHS COMPLIANT</p>
	<p>MECHANICAL DATA</p> <ul style="list-style-type: none"> • Case: Power, Power L. Epoxy meets UL 94V-0 flammability rating. • Polarity: As marked, positive lead by beveled corner. • Mounting Torque: 20 inches-lbs. max. • Terminals: Nickel plated on faston lugs or silver plated on wire leads, solderable per J-STD-002 and JESD22-B102. Suffix letter "L" added to indicate wire leads (e.g. FB1501L). 		
	<p>TYPICAL APPLICATIONS</p> <p>Used in ac-to-dc bridge full wave rectification for SMPS, lighting ballaster, adapter, battery charger, home appliances, office equipment, and telecommunication applications.</p>		

Maximun Ratings and Electrical Characteristics at 25 °C

SYMBOL	PARAMETER	FB15-15L, FB25-25L, FB35-35L, FB40, FB50						
		00	01	02	03	06	08	10
V_{RRM}	Peak Recurrent Reverse Voltage (V)	50	100	200	400	600	800	1000
V_{RMS}	Maximum RMS Voltage (V)	35	70	140	280	420	560	700
V_R	Recommended Input Voltage (V)	20	40	80	125	250	380	500
$I_{F(AV)}$	Max. Forward Current R-load At $T_{case} = 55\text{ }^{\circ}\text{C}$	FB15	15 A					
		FB25	25 A					
		FB35	35 A					
		FB40	40 A					
		FB50	50 A					
	Max. Forward Current R-load At $T_{case} = 90\text{ }^{\circ}\text{C}$	FB15	10 A					
		FB25	17 A					
		FB35	20 A					
		FB40	25 A					
		FB50	35 A					
	Max. Forward Current R-load with Al Square Chassis (200 cm ² x 3mm) At $T_{amb} = 45\text{ }^{\circ}\text{C}$	FB15	8 A					
		FB25	10 A					
		FB35	12 A					
		FB40	14 A					
		FB50	16 A					

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SYMBOL	PARAMETER	FB15-15L, FB25-25L, FB35-35L, FB40, FB50							
		00	01	02	03	06	08	10	
I_{FRM}	Recurrent peak forward current	FB15	60 A						
		FB25	75 A						
		FB35	75 A						
		FB40	100 A						
		FB50	100 A						
I_{FSM}	10 ms. Peak forward surge current	FB15	300 A						
		FB25	300 A						
		FB35	400 A						
		FB40	400 A						
		FB50	400 A						
I^2t	I^2t value for fusing (t = 10 ms)	FB15	450 A ² sec						
		FB25	450 A ² sec						
		FB35	800 A ² sec						
		FB40	800 A ² sec						
		FB50	800 A ² sec						
T_j	Operating Temperature Range	-55 to + 150 °C							
T_{stg}	Storage Temperature Range	-55 to + 150 °C							

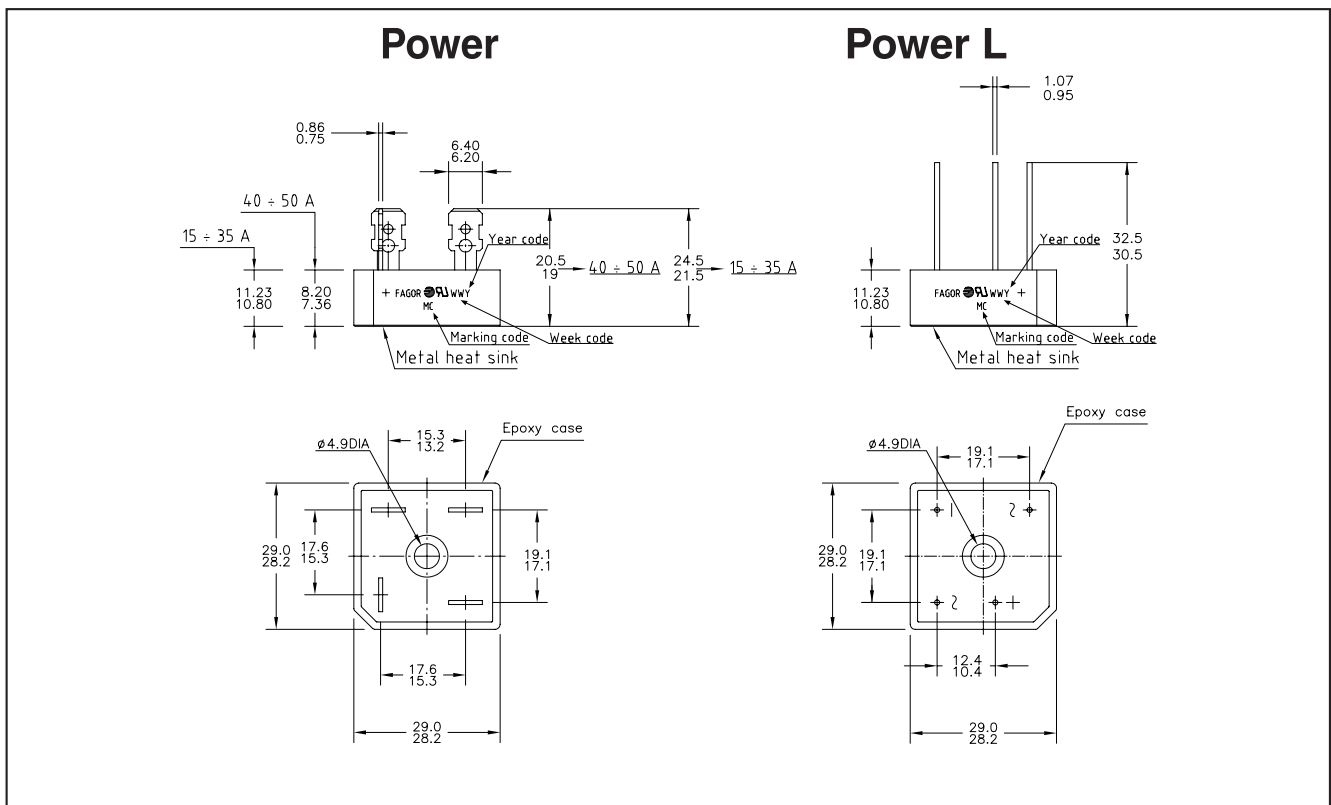
Electrical Characteristics at Tamb = 25 °C

V_F	Max. Forward voltage drop per element at	$I_F = 7.5$ A FB15	1.1 V
		$I_F = 12.5$ A FB25	1.1 V
		$I_F = 17.5$ A FB35	1.1 V
		$I_F = 20$ A FB40	1.1 V
		$I_F = 25$ A FB50	1.1 V
I_R	Max. Reverse current per element at V_{RRM}	5 μ A	
R_{thj-c}	Typical Thermal resistance junction to case (Note 1)	1.5 °C/W	
	Isolation voltage from case to leads	2500 Vac	

(Note 1) With heatsink

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Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
FB2502	POWER	BOX POWER	50	16.5
FB2502L	POWER	BOX POWER L	50	15.6
FB5002	POWER	BOX POWER	50	14.5

Package Outline Dimensions: (mm) Power - Power L


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Ratings and Characteristics (Ta 25 °C unless otherwise noted)

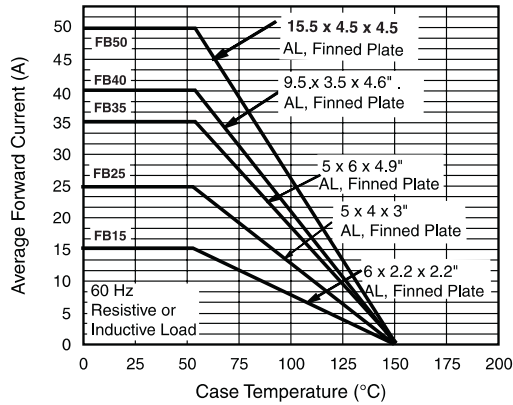


Fig. 1 - Maximum Output Rectified Current

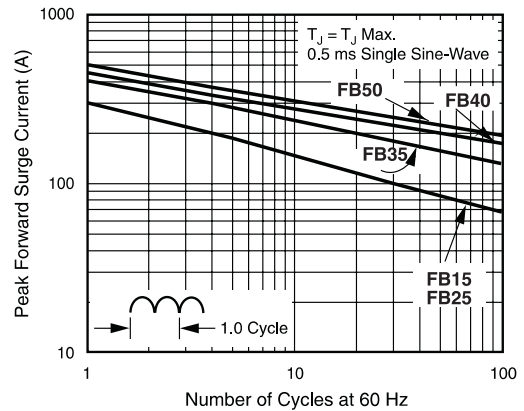


Fig. 4 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

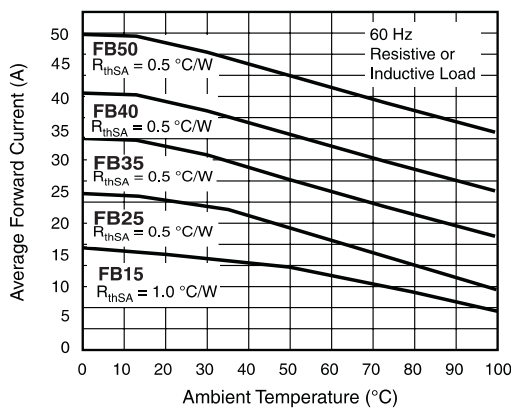


Fig. 2 - Maximum Output Rectified Current

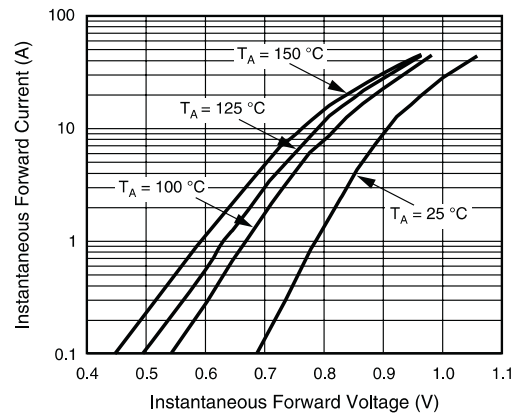


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

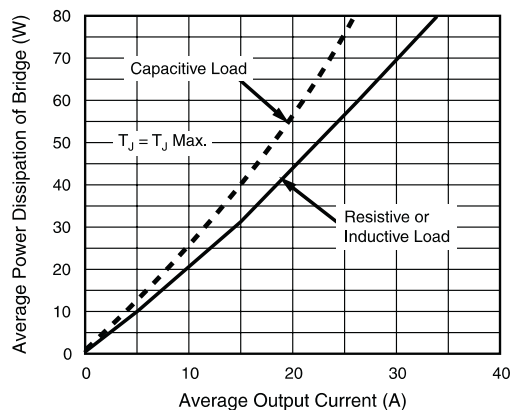


Fig. 3 - Maximum Power Dissipation

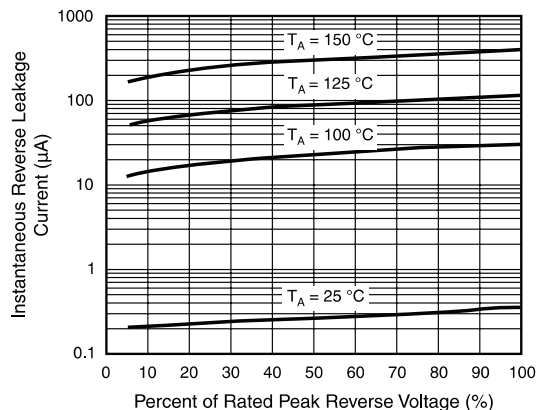


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode

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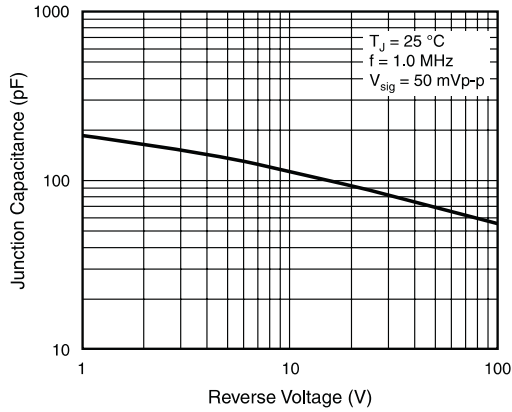


Fig. 7 - Typical Junction Capacitance Per Diode

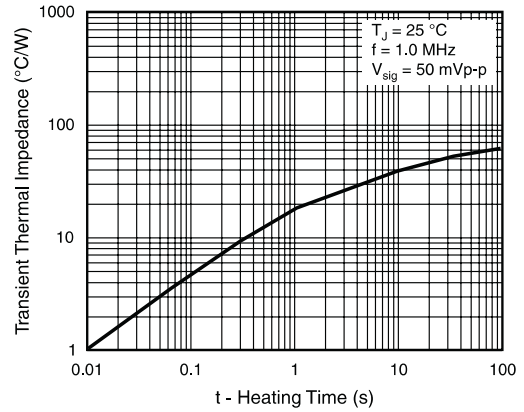


Fig. 8 - Typical Transient Thermal Impedance Per Diode

Glass Passivated Single-Phase Bridge Rectifier**Revision History**

DATE	REVISION	DESCRIPTION OF CHANGES
11-Sep-2012	0	Original Data Sheet
20-Jul-2016	1	Eliminate Power-M family and general review
24-Jan-2018	2	Total height dimension clarified
26-Aug-2020	3	Marking diagram reviewed

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