

**Glass Passivated Single-Phase Bridge Rectifier**

<p><b>Power - Power L</b></p> <p><b>Power</b>                      <b>Power L</b></p>	<p><b>Voltage</b></p> <p>50 to 1000 V</p>	<p><b>Current</b></p> <p>15-25-35-40-50 A</p>	
	<p><b>FEATURES</b></p> <ul style="list-style-type: none"> <li>• High case dielectric strength</li> <li>• High forward surge current capability</li> <li>• UL recognition file number E320541, Vol. 2.</li> <li>• Universal 2-way terminals: snap-on and wire wrap-around / PCB mounting</li> <li>• Low thermal resistance</li> <li>• Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC</li> <li>• Solder dip 260°C, 40s</li> <li>• Typical <math>I_{rr}</math> less than 0.3μA</li> </ul>		<p><b>RoHS</b> COMPLIANT</p>
	<p><b>MECHANICAL DATA</b></p> <ul style="list-style-type: none"> <li>• <b>Case:</b> Power, Power L. Epoxy meets UL 94V-0 flammability rating.</li> <li>• <b>Polarity:</b> As marked, positive lead by beveled corner.</li> <li>• <b>Mounting Torque:</b> 20 inches-lbs. max.</li> <li>• <b>Terminals:</b> 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).</li> </ul>		
	<p><b>TYPICAL APPLICATIONS</b></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 $T_{case} = 55\text{ °C}$	FB15	15 A					
		FB25	25 A					
		FB35	35 A					
		FB40	40 A					
		FB50	50 A					
	Max. Forward Current R-load At $T_{case} = 90\text{ °C}$	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 <sup>2</sup> x 3mm) At $T_{amb} = 45\text{ °C}$	FB15	8 A					
		FB25	10 A					
		FB35	12 A					
		FB40	14 A					
		FB50	16 A					

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		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 <sup>2</sup> sec					
		FB25	450 A <sup>2</sup> sec					
		FB35	800 A <sup>2</sup> sec					
		FB40	800 A <sup>2</sup> sec					
		FB50	800 A <sup>2</sup> sec					
$T_j$	Operating Temperature Range	-55 to + 150 °C						
$T_{stg}$	Storage Temperature Range	-55 to + 150 °C						

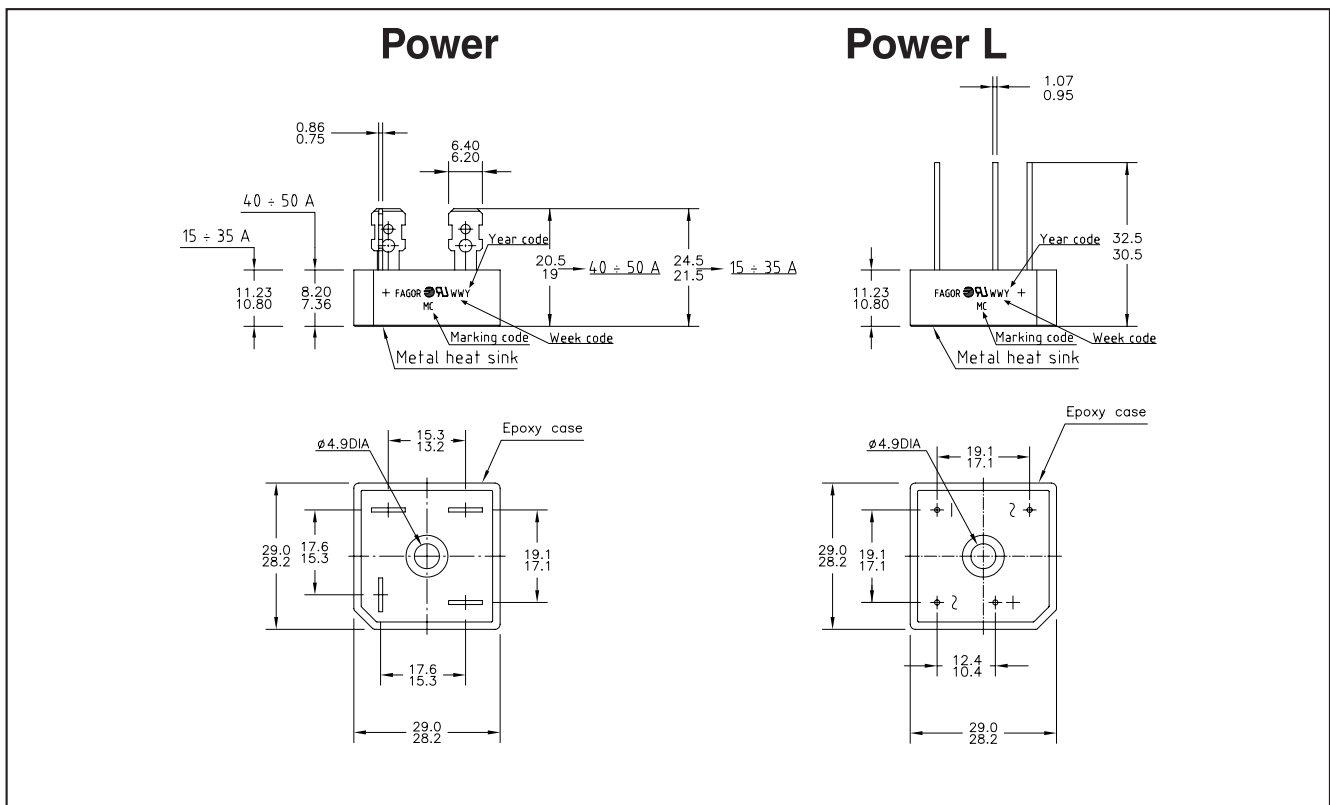
**Electrical Characteristics at Tamb = 25 °C**

$V_F$	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 $\mu$ A	
$R_{thj-c}$	Typical Thermal resistance junction to case <b>(Note 1)</b>	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)

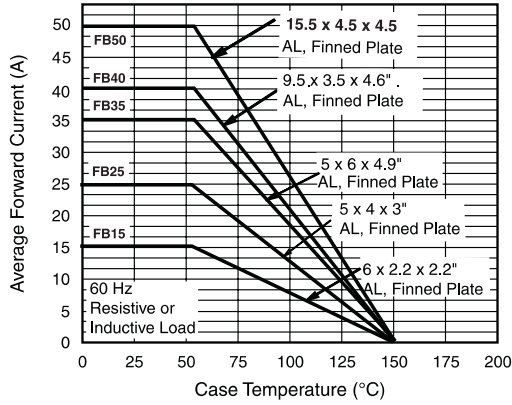


Fig. 1 - Maximum Output Rectified Current

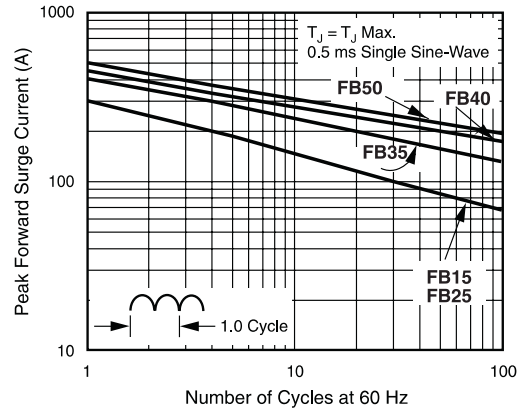


Fig. 4 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

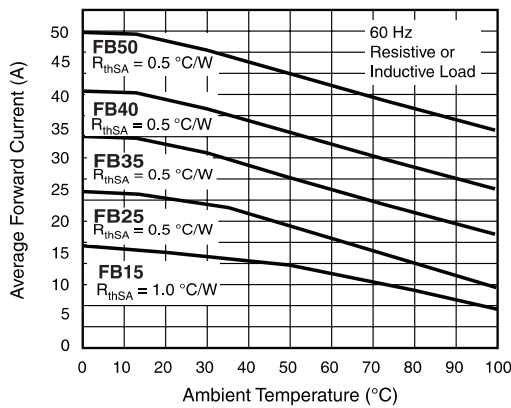


Fig. 2 - Maximum Output Rectified Current

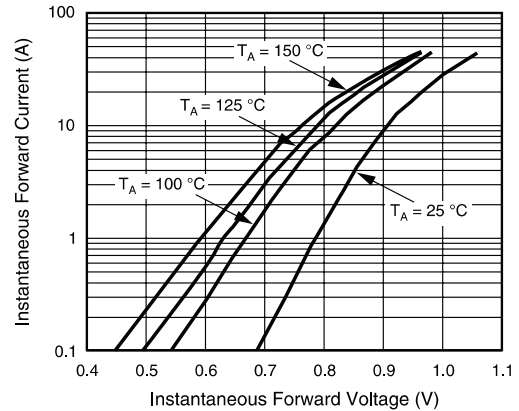


Fig. 5 - Typical Instantaneous Forward Characteristics Per Diode

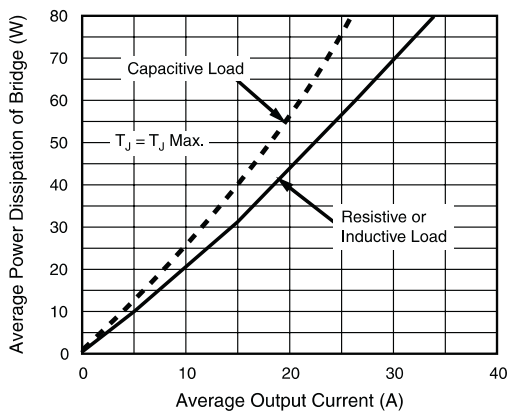


Fig. 3 - Maximum Power Dissipation

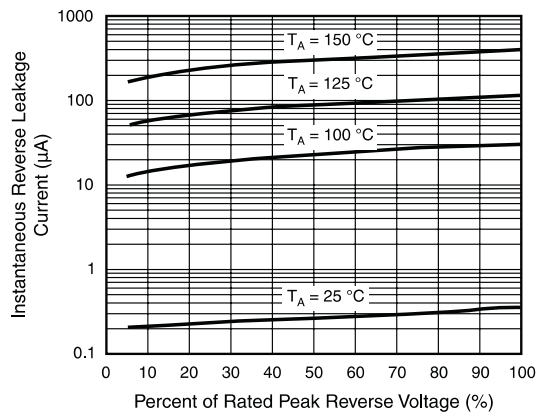


Fig. 6 - Typical Reverse Leakage Characteristics Per Diode

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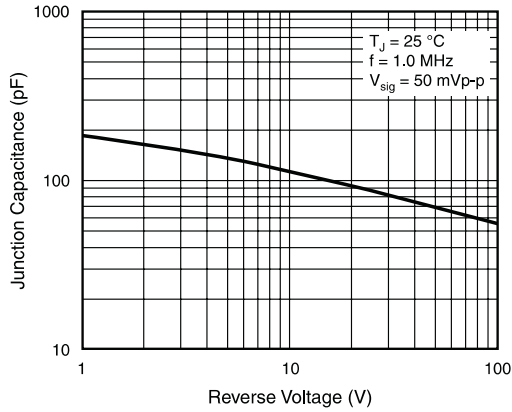


Fig. 7 - Typical Junction Capacitance Per Diode

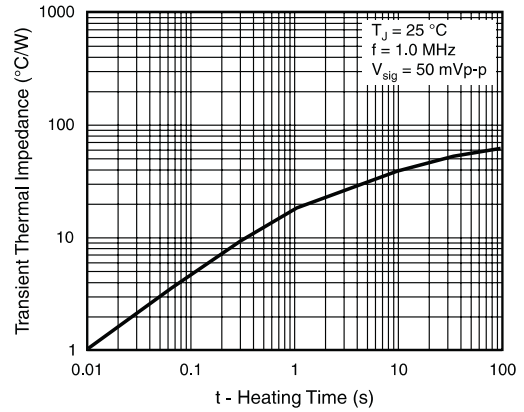


Fig. 8 - Typical Transient Thermal Impedance Per Diode

**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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