SiTUBES
Silicon Components for Tube Circuits

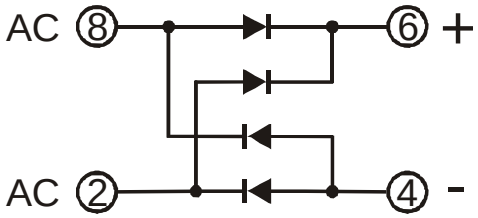
BRX-HV, BRX-LV

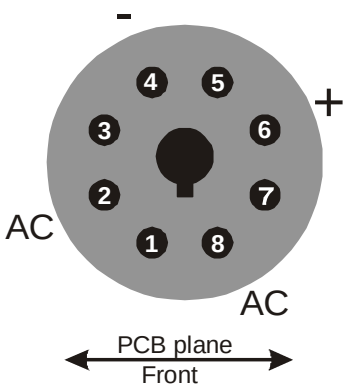
Bridge Rectifier

Solid-State Bridge Rectifier

- Convenient octal glass tube package
- Two versions available:
  - 1200V, 1A (BRX-HV), SiC Schottky rectifiers
  - 100V, 10A (BRX-LV), Si Schottky rectifiers
- Applications:
  - B+ rectifiers
  - Bias rectifiers
  - Filament rectifiers

Functional Block Diagram





Bottom View

Absolute Maximum Ratings

SYMBOL	PARAMETER		MAX	UNIT
V_{RRM}	Peak reverse voltage	-HV	1200	V
		-LV	100	
I_{FRM}	Repetitive peak current	-HV	10	A
		-LV	20	
I_{DC}	DC output current	-HV	2	A
		-LV	10	

Pin Connections

PIN	NAME	FUNCTION
1		No connection
2	AC	AC input
3		No connection
4	-	DC - output
5		No connection
6	+	DC + output
7		No connection
8	AC	AC input

SiTUBES BRX-HV, BRX-LV Bridge Rectifier

Electrical Characteristics (BRX-HV)

SYMBOL	PARAMET`ER	CONDITIONS/*COMMENTS*	MIN	TYP	MAX	UNIT
V_F	Forward voltage (each diode)	I_F = 2A, T = 25°C		1.4	1.8	V
I_R	Reverse leakage current (each diode)	V_R = 1200V, T = 25°C		10	50	µA
C	Capacitance (each diode)	V_R = 0V, T = 25°C		167		pF
		V_R = 400V, T = 25°C		11		

Electrical Characteristics (BRX-LV)

SYMBOL	PARAMETER	CONDITIONS/*COMMENTS*	MIN	TYP	MAX	UNIT
V_F	Forward voltage (each diode)	I_F = 10A, T = 25°C		0.65	0.75	V
		I_F = 5A, T = 25°C		0.58		
I_R	Reverse leakage current (each diode)	V_R = 100V, T = 25°C			700	µA
C	Capacitance (each diode)	V_R = 0V, T = 25°C		2000		pF
		V_R = 50V, T = 25°C		150		

Dimensions: Standard intermediate octal base - 33.5mm diameter.
Seated height 75mm, bulb diameter 29mm.

Description and Application

The SiTubes BRX-HV and BRX-LV are general purpose bridge rectifiers, mounted in a glass octal tube envelope. They can be used anywhere a full-wave bridge rectifier is needed.

The BRX-HV uses Silicon Carbide Schottky rectifiers rated at 1200V. These rectifiers have zero reverse recovery time, so are excellent for implementing low-noise B+ and bias supplies.

Note that the BRX-HV can also be used as one half of a hybrid bridge rectifier, using vacuum rectifiers for the positive half. In this application, AC is connected normally to pins 1 and 7, but pin 3 is left open, and pin 5 is connected to ground. The vacuum rectifiers then connect between each AC line (plates) and the (+) DC output (cathodes).

The BRX-LV uses high efficiency, 100V Silicon Schottky rectifiers. It is most often used for low voltage, higher current supply needs, such as DC filament or heater supplies.