



## HBF80C THRU HBF80M

VOLTAGE RANGE

200 to 1000 Volts

CURRENT

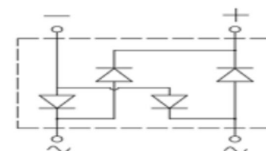
8.0 Ampere

## Features

- Fast recovery glass passivated chip
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering: 260°C/10S at terminals
- Component in accordance to ROHS 2002/95/1 and WEEE 2002/96/EC



HBF(HBS)



## Mechanical Data

- Case: Molded plastic body
- Molding compound meets UL 94 V-0 flammability rating, Halogen-free, RoHS-compliant, and commercial grade
- Polarity: Molded on body
- Weight: 0.0083 ounce, 0.234 grams

## Maximum Ratings and Electrical Characteristics

- Ratings at 25°C ambient temperature unless otherwise specified
- Single Phase, half wave, 60Hz, resistive or inductive load
- For capacitive load derate current by 20%

TYPE NUMBER		SYMBOL S	HBF 80C	HBF 80D	HBF 80K	HBF 80J	HBF 80M	UNITS
Maximum Repetitive Peak Reverse Voltage		V <sub>RRM</sub>	200	400	600	800	1000	Volts
Maximum RMS Voltage		V <sub>RMS</sub>	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V <sub>DC</sub>	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current T <sub>L</sub> =125°C		I <sub>(AV)</sub>	8.0					Amp
Peak Forward Surge Current 8.3mS single half sine wave superimposed on rated load (JEDEC method)		I <sub>FSM</sub>	200					Amps
Maximum Instantaneous Forward Voltage	@8.0A	V <sub>F</sub>	0.98					Volts
	@ 4.0A		0.92					
Maximum DC Reverse Current at Rated DC Blocking Voltage	T <sub>A</sub> = 25°C	I <sub>R</sub>	5.0					μA
	T <sub>A</sub> = 150°C		200					
I <sup>2</sup> t Rating for fusing (1ms < t < 8.3ms)		I <sup>2</sup> t	200					I <sup>2</sup> t
Typical Junction Capacitance <sup>(Note 1)</sup>		C <sub>J</sub>	28					pF
Typical Thermal Resistance <sup>(Note 2)</sup>		R <sub>θJC</sub>	85					°C/W
		R <sub>θJL</sub>	93					
		R <sub>θJA</sub>	105					
Operating Junction Temperature Range		T <sub>J</sub> , T <sub>STG</sub>	-55 to +175					°C

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad
3. The typical data above is for reference only



# SURFACE MOUNT GLASS PASSIVATED STANDARD RECTIFIER BRIDGE

## HBF80C THRU HBF80M

VOLTAGE RANGE 200 to 1000 Volts  
CURRENT 8.0 Ampere

### Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

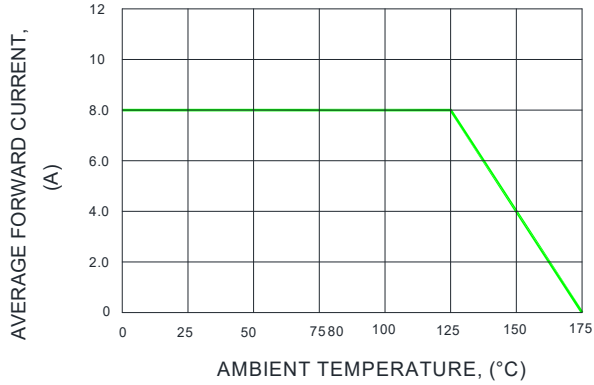


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

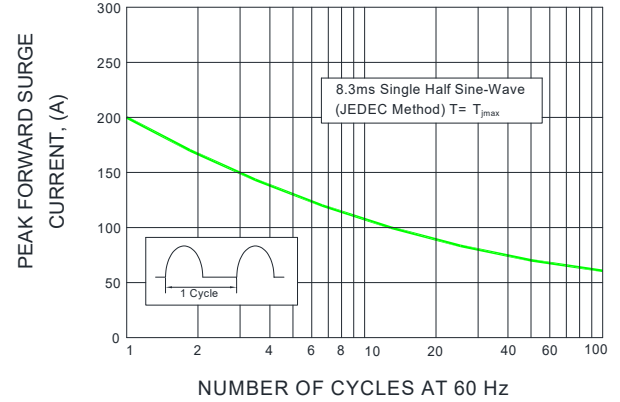


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

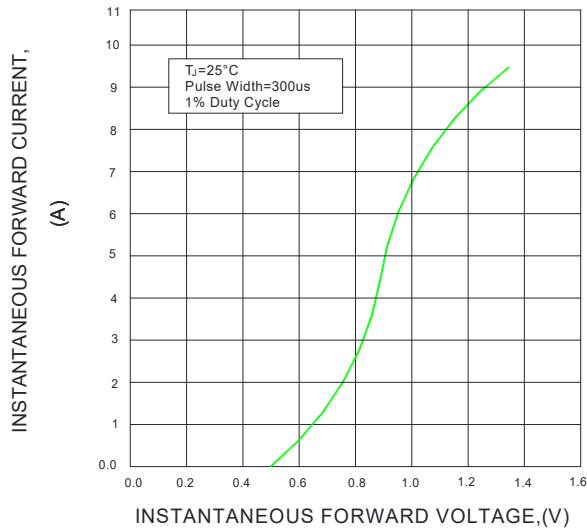


FIG.4-TYPICAL REVERSE CHARACTERISTICS

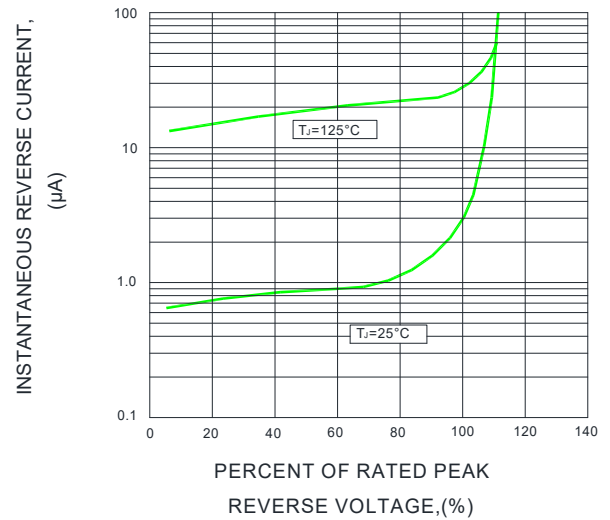
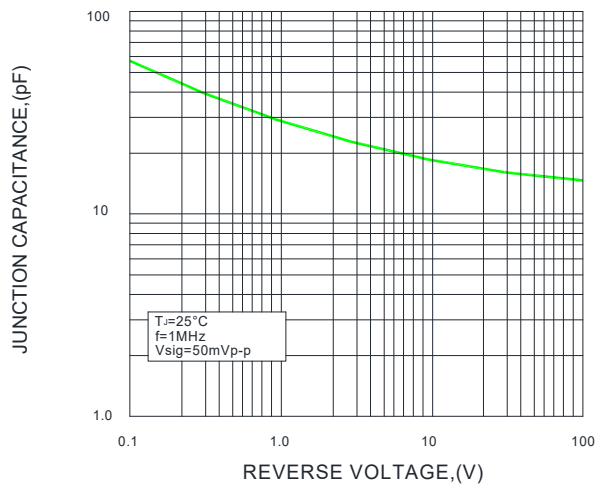


FIG.5-TYPICAL JUNCTION CAPACITANCE



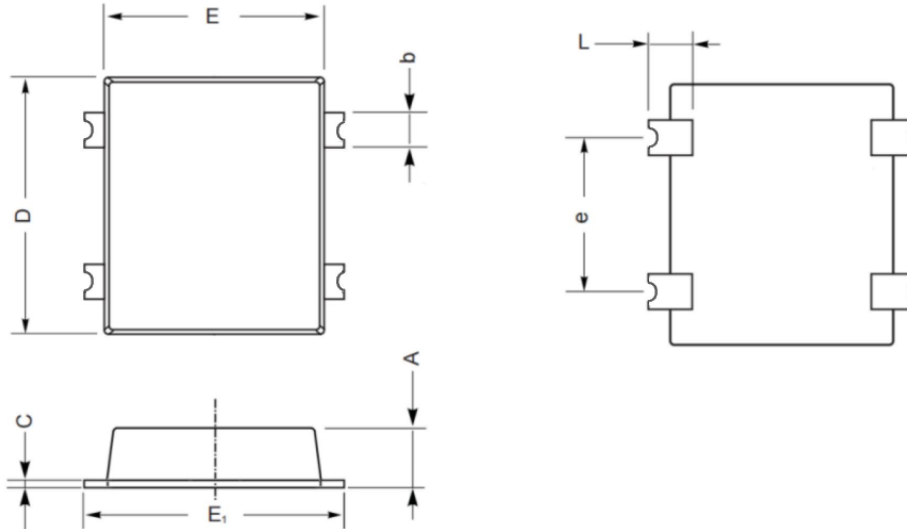


# SURFACE MOUNT GLASS PASSIVATED STANDARD RECTIFIER BRIDGE

HBF80C THRU HBF80M

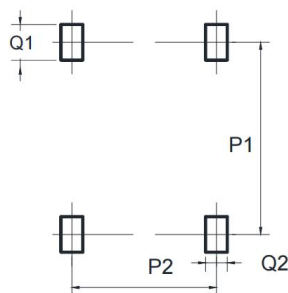
VOLTAGE RANGE 200 to 1000 Volts  
CURRENT 8.0 Ampere

Package Outline Dimensions in inches (millimeters)



UNIT		A	C	D	E	E <sub>1</sub>	L	e	b
mm	max	1.75	0.55	9.8	8.8	10.2	1.25	5.3	1.55
	min	1.35	0.25	9.4	8.4	9.8	0.65	4.9	1.25
mil	max	68	21.6	385	346	401	49	209	61
	min	53	9.8	370	330	385	26	193	49

The recommended mounting pad size



Dimensions is millimeters

UNIT		P1	P2	Q1	Q2
mm	min	10.0	5.10	1.5	1.8
mil	min	393.7	200.8	59.1	70.9



# SURFACE MOUNT GLASS PASSIVATED STANDARD RECTIFIER BRIDGE

HBF80C THRU HBF80M

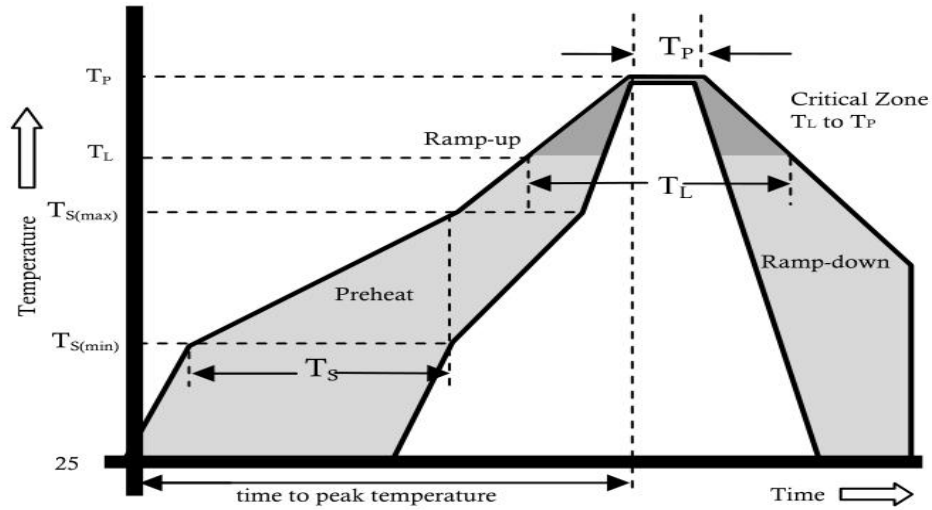
VOLTAGE RANGE

200 to 1000 Volts

CURRENT

8.0 Ampere

## Reflow Profile



Reflow Condition		Pb-Free Assembly
Pre Heat	Temperature Min.	+150°C
	Temperature Max.	+200°C
	Time(Min to Max)	60-180 secs.
Average ramp up rate(Liquidus Temp( $T_L$ ) to peak)		3°C/sec. Max.
$T_{S(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max.
Reflow	Temperature ( $T_L$ )(Liquidus)	+217°C
	Temperature ( $T_L$ )	60-150 secs.
Peak Temp ( $T_P$ )		+(260+0/-5 )°C
Time within 5°C of actual Peak Temp ( $T_P$ )		25 secs.
Ramp-down Rate		6°C/sec. Max.
Time 25°C to peak Temp ( $T_P$ )		8 min. Max.
Do not exceed		+260°C



## SURFACE MOUNT GLASS PASSIVATED STANDARD RECTIFIER BRIDGE

HBF80C THRU HBF80M

<b>VOLTAGE RANGE</b>	<b>200 to 1000 Volts</b>
<b>CURRENT</b>	<b>8.0 Ampere</b>

### Disclaimer

The information presented in this document is for reference only. Chongqing changjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Changjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.czlangjie.com](http://www.czlangjie.com) , or consult your nearest Langjie's sales office for further assistance.