



SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

MB12F THRU MB110F

VOLTAGE RANGE

20 to 100 Volts

CURRENT

1.0 Ampere

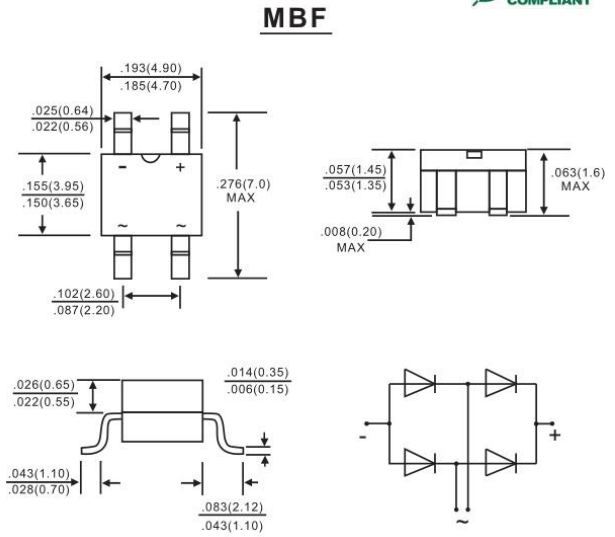


Features

- Built in strain relief
- High switching speed
- Low voltage drop, high efficiency
- For use in low voltage high frequency inverters, Free willing ,and polarity protection applications
- Guardring for over voltage protection
- High temperature soldering guaranteed:260°C/10 seconds at terminals

Mechanical Data

- Case: Molded plastic body
- Epoxy: UL94V-0 rate flame retardant
- Polarity: Molded on body
- LeadP: Plated terminals solderable per MIL-STD-202E method 208C
- Weight: 0.004 ounce, 0.12 gram



Dimensions in inches and (millimeters)

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	MB 12F	MB 13F	MB 14F	MB 15F	MB 16F	MB 18F	MB 19F	MB 110F	UNIT
Maximum Repetitive Peak Reverse Voltage		V _{RRM}	20	30	40	50	60	80	90	100	Volts
Maximum RMS Voltage		V _{RMS}	14	21	28	35	42	56	63	70	Volts
Maximum DC Blocking Voltage		V _{DC}	20	30	40	50	60	80	90	100	Volts
Maximum Average Forward Rectified Current at TLsee figure 1 TL =100°C		I _(AV)	1.0								Amps
Peak Forward Surge Current 8.3ms single half sine wave superimposed on rated load (JEDEC Method)		I _{FSM}	30								Amps
Maximum Instantaneous Forward Voltage @ 1.0A ^(Note1)		V _F	0.55			0.75		0.85			Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	T _A = 25°C	I _R	0.5								mA
	T _A = 125°C		20.0			10.0					
Typical Thermal Resistance ^(Note 2)		R _{θJL}	18								°C/W
Diode junction capacitance ^(Note 3)		C _J	45								pF
Operating Junction Temperature		T _J	(-55 to +150)								°C
Storage Temperature Range		T _{STG}	(-55 to +150)								°C

Notes:

1. Measured at 1.0MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on P.C.B. with 0.033"×0.043"(1.00mm×1.30mm) copper pads.
3. f=1MHz and applied 4V DC reverse voltage.



SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

MB12F THRU MB110F

VOLTAGE RANGE

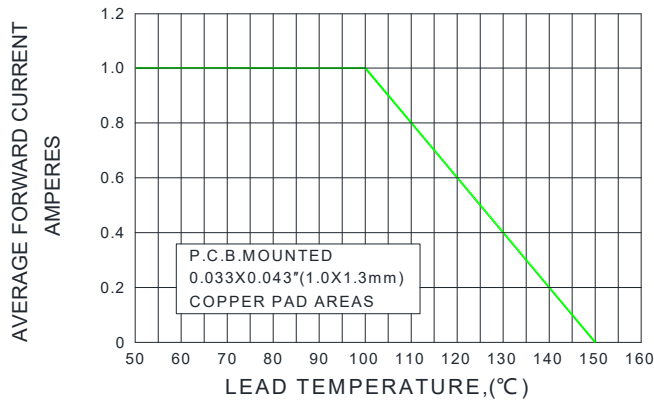
20 to 100 Volts

CURRENT

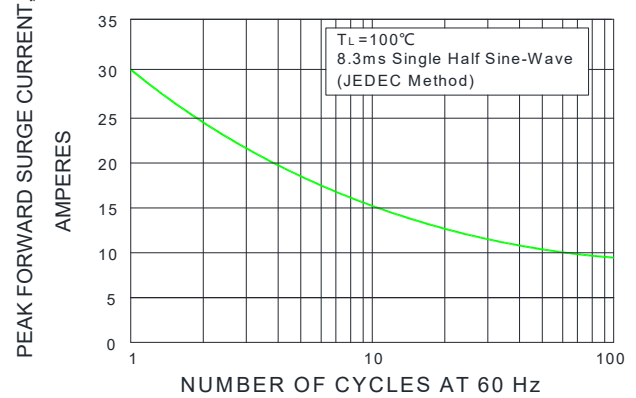
1.0 Ampere

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

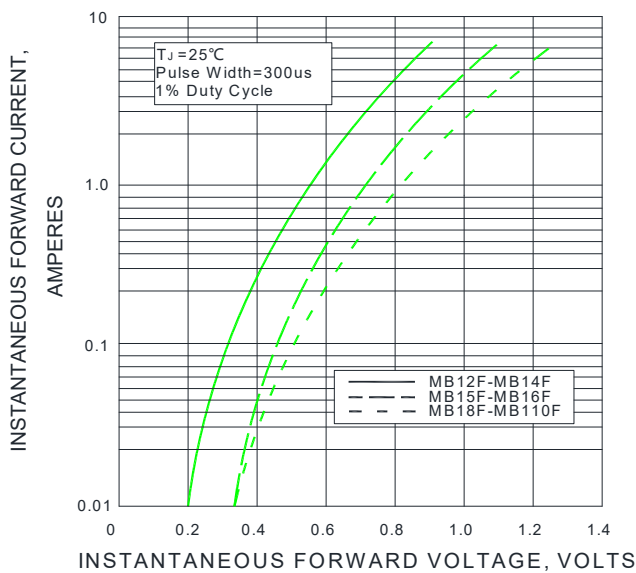
F1G.1-FORWARD CURRENT
DERATING CURVE



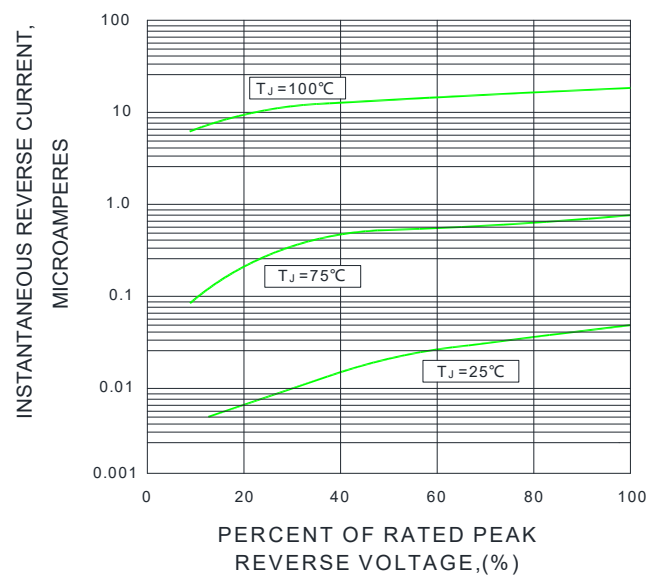
F1G.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT



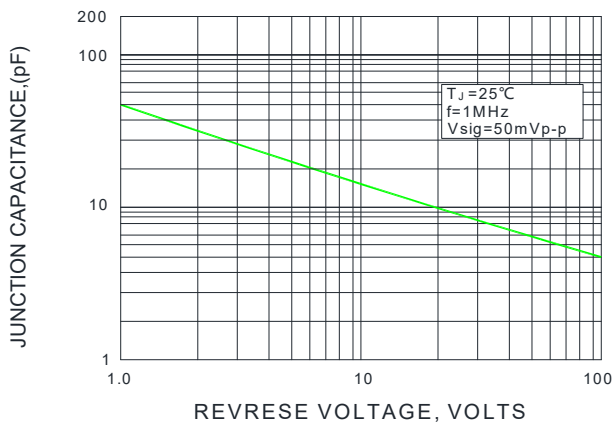
F1G.3-TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE





SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

MB12F THRU MB110F

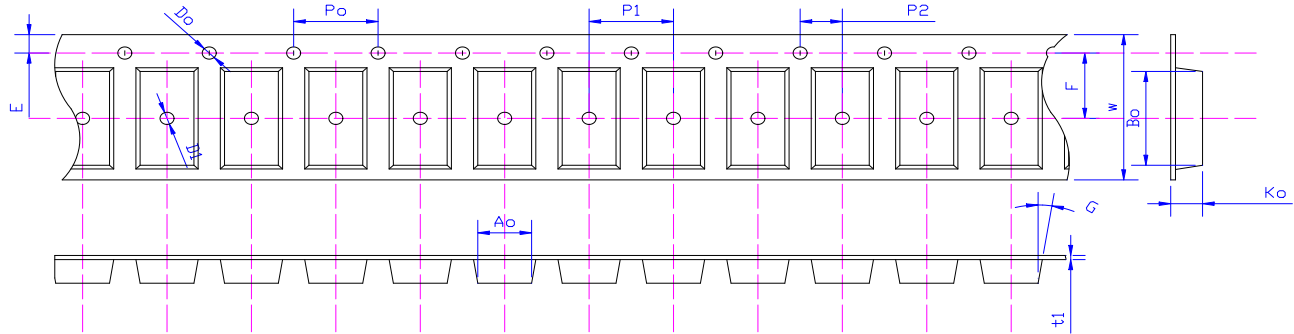
VOLTAGE RANGE

20 to 100 Volts

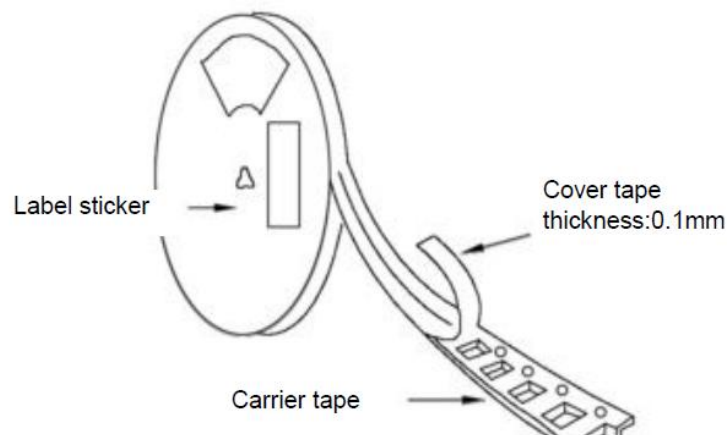
CURRENT

1.0 Ampere

Package Reel Information



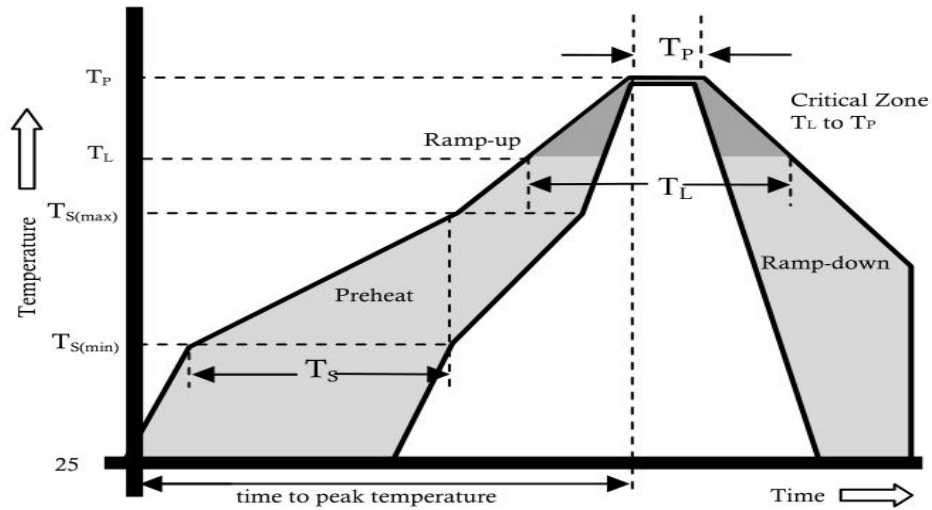
Specifications	Ao	Bo	Ko	Po	W	t1
MBF	5.05±0.10	7.10±0.10	1.65±0.10	4.00±0.1	12.0±0.10	0.30±0.02



DEVICE TYPE	Tape Width	13"Reel			07"Reel			
		Q'TY/REEL(pcs)	BOX/CARTOO N	Q'TY/CARTON (pcs)	Q'TY/REEL(pcs)	REEL/BOX	BOX/CARTOO N	Q'TY/CARTON (pcs)
MBF	13mm	5000	8	80000	NA	NA	NA	NA



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



MB12F THRU MB110F

VOLTAGE RANGE

20 to 100 Volts

CURRENT

1.0 Ampere

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.