

MG10F

General Bridge Rectifiers



Voltage: 1400 Volts

Current: 1 A

Package: MBF

Features

- NH'S Standard Rectifier Chip Technology
- Low Forward Voltage Drop For High Efficiency
- Low Leakage Current For High Reliability
- High Surge Capability For High Reliability

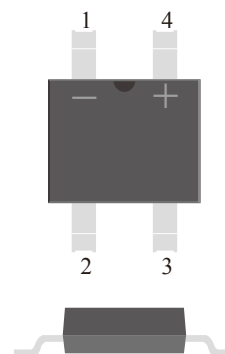
Mechanical Data

- **Case:** Molded With UL-94 ClassV-0 Recognized, RoHS-Compliant
- **Polarity:** Look At The Diagram And Polarity On The Right
- **Terminals:** Tin Plated Leads,Solderable Per J-STD-002 And JESD22-B102

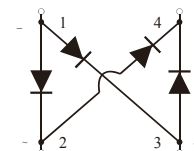
Typical Applications

- Switch Mode Power Supplies (SMPS)
- Fast Chargers
- LED Driver And Monitor Lighting
- Automotive Electronics And Charging Posts

Diagram:



Polarity:



Single Phase,Half Wave,60Hz,Resistive Or Inductive Load.For Capacitive Load,Derate Current By 20%

Maximum Ratings (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	1400	V
Maximum RMS Voltag		V_{RMS}	980	V
Maximum DC Blocking Voltage		V_{DC}	1400	V
Maximum Average Forward Rectified Current(Note2)		$I_{F(AV)}$	1	A
Peak Forward Surge Current Per Diode	8.3ms Single Half Sine-wave Superimposed On Rate Load	I_{FSM}	30	A
Current Squared Time Per Diode	$t < 8.3ms$	I^2t	3.7	A ² sec

Electrical Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings			Unit
			Min.	Typ.	Max.	
Instaneous Forward Voltage Per Diode	$I_F = 1 A$	V_F	--	0.94	1.05	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	Ta=25°C , $V_R = V_{RRM}$	I_{RRM}	--	1	5	uA
	Ta=125°C , $V_R = V_{RRM} * 80\%$		--	1	2	mA
Typical Junction Capacitance Per Diode	4 V,1MHz	C_J	--	13	--	pF

Thermal Characteristics (Ta=25°C Unless Otherwise Specified)

Parameter	Test Conditions	Symbol	Ratings			Unit
Operating Junction Temperature Range		T _J	-55	to	150	°C
Storage Temperature Range		T _{STD}	-55	to	150	
Thermal Resistance Junction To Ambient With Steady-State	Still Air Environment With Ta=25°C	R _{θJA}	85			°C/W
Thermal Resistance Junction-Case With Steady-State	Device Mounted On 1 in2 FR-4 Board With 2oz. Copper	R _{θJC}	30			

Notes: 1.Pulse Test: 300 Us Pulse Width,1% Duty Cycle

2.Device mounted on 250mm x 250mm x 2.0mm Aluminum Plate Heatsink.

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Typical Characteristics Curves

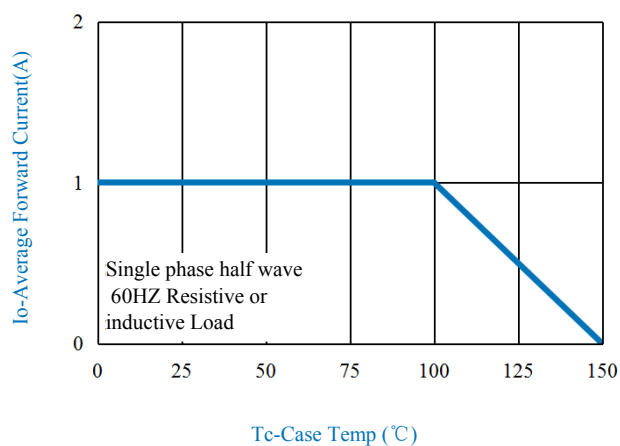


Fig.1-Forward Current Derating Curve

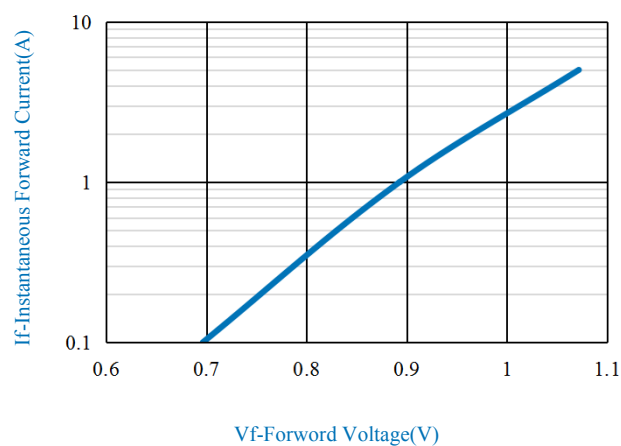


Fig.2-Typical Instantaneous Forward

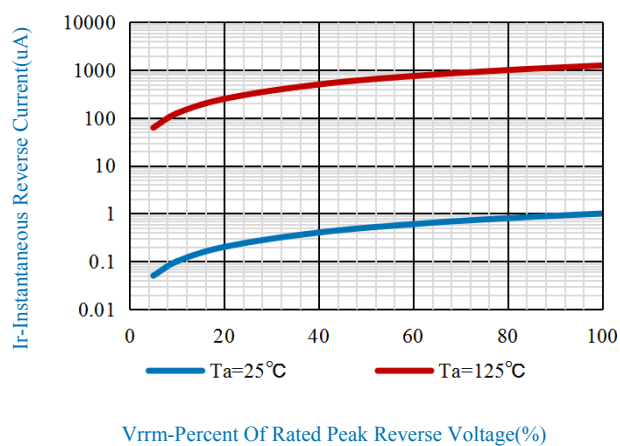


Fig.3-Typical Reverse Characteristics

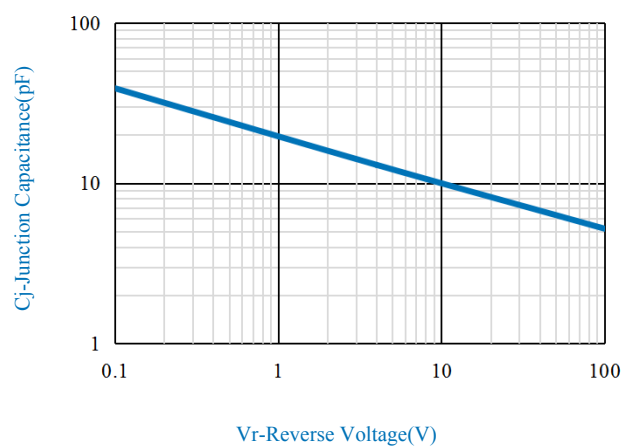


Fig.4-Typical Junction Capacitance

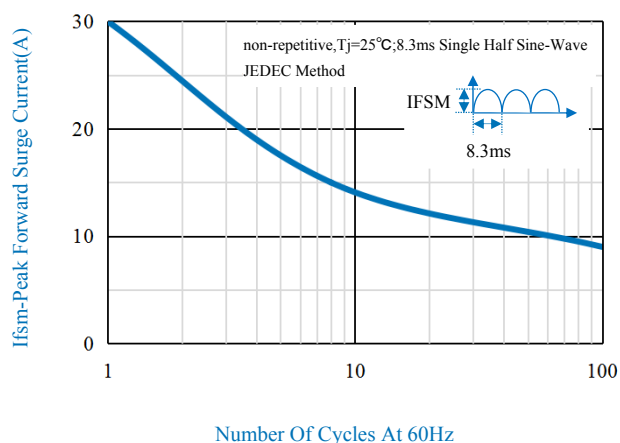


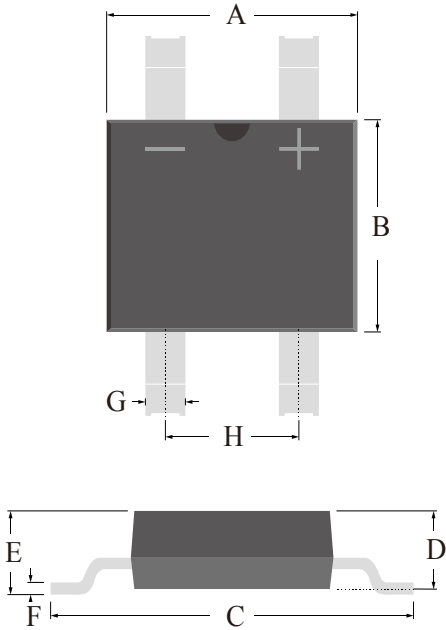
Fig.5-Max. Non-Repetitive Surge Current

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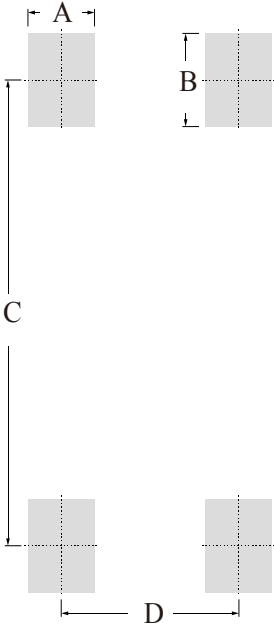
OUTLINE DRAWINGS



MBF

OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	4.50	-	4.90	0.1772	-	0.1929
B	3.60	-	4.00	0.1417	-	0.1575
C	6.60	-	7.00	0.2598	-	0.2756
D	1.20	-	1.60	0.0472	-	0.0630
E	-	-	1.80	-	-	0.0709
F	0.15	-	0.35	0.0059	-	0.0138
G	0.45	-	1.05	0.0177	-	0.0413
H	2.20	-	2.80	0.0866	-	0.1102

RECOMMEDND LAYOUT DRAWINGS



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OUTLINE DIMENSIONS						
Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	-	0.90	-	-	0.0354	-
B	-	1.84	-	-	0.0724	-
C	-	6.00	-	-	0.2362	-
D	-	2.40	-	-	0.0945	-

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MARKING

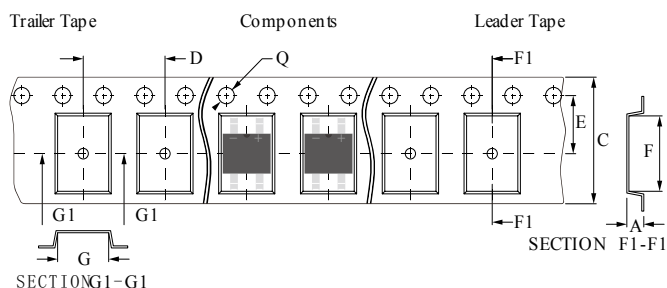


MARKING INSTRUCTION

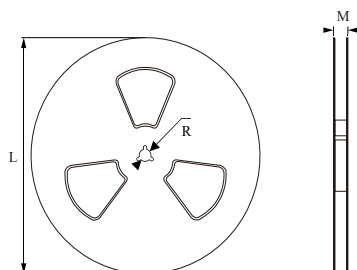
NH=Niuhan Trademark
FF=Product Line Code,According To Actual Changes
YWW=Date Code,According To Actual Changes
MG10F=Model
- +=Polarity Mark

PACKAGING

TAPE



REEL



MBF

OUTLINE DIMENSIONS

Dim.	Milimeters			Inches		
	Min.	Typ.	Max.	Min.	Typ.	Max.
TAPE						
A	1.64	1.65	1.66	0.0646	-	0.0654
C	11.70	12.00	12.30	0.4606	-	0.4843
D	7.70	8.00	8.30	0.3031	-	0.3268
E	5.30	5.50	5.70	0.2087	-	0.2244
F	6.95	7.15	7.35	0.2736	-	0.2894
G	4.80	5.00	5.20	0.1890	-	0.2047
Q Φ	1.40	1.55	1.60	0.0551	-	0.0630
REEL						
L	277.00	-	281.00	10.906	-	11.063
R	12.00	-	14.00	0.4724	-	0.5512
M	14.50	-	18.50	0.5709	-	0.7283

PACKING INFORMATION

Package Type	Package Code	Product Weight Approx(g/Pcs)	Package Method	Quantity (Pcs/Min. Pack.)	Quantity (Pcs/Inner Box)	Quantity (Pcs/Carton)
MBF	P1	0.08	13" Reel	5000	10000	50000
MBF	P2	0.08	13" Reel	5000	10000	100000

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Recommended wave soldering condition

Product	Peak Temperature	Soldering Time
Pb-free devices	260 +0/-5 °C	5 +1/-1 seconds

Recommended temperature profile for IR reflow

	Profile feature	Sn-Pb eutectic Assembly	Pb-free Assembly
	Average ramp-up rate (T _{smax} to T _p)	3°C/second max.	3°C/second max.
	Preheat-Temperature Min (T _S min) -Temperature Max (T _S max) -Time(ts min to ts max)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
	Time maintained above: -Temperature (T _L) - Time (t _L)	183°C 60-150 seconds	217°C 60-150 seconds
	Peak Temperature(T _P)	240 +0/-5 °C	260 +0/-5 °C
	Time within 5°C of actual peak temperature (t _p)	10-30 seconds	20-40 seconds
	Ramp down rate	6°C/second max.	6°C/second max.
	Time 25 °C to peak temperature	6 minutes max.	8 minutes max.

Note : All temperatures refer to topside of the package, measured on the package body surface.

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Specification Revision History

Rev.	Date	Changed Items	Pre-Changed Content	Changed Content
A/1	2014-10-20	First Issue		
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