CUSTOMER: _____ DATE: 2019.06.14

APPROVAL SPECIFICATION

ROHS
COMPLIANT

PRODUCT NAME: Wire Wound Chip Balun Transformer

YOUR PART NO.:

OUR PART NO.: MBLN2012 Series

VERSION: V1.0

RECEPTION **THE SPECIFICATION HAS BEEN ACCEPTED.** **COMPANY:** **DATE:**		
CFMD	**CHKD**	**RCVD**

MANUFACTURING NAME

SHENZHEN MICROGATE TECHNOLOGY CO., LTD
Address: Microgate Technology Buliding,NO.6,2nd Ln;Longtian Science Park,6075 pingshan Road, Shenzhen
Postcode :518122
TEL: 86-755-28085000
FAX: 86-755-28085605

CFMD.	CHKD.	DSGD.
Remo	Yusheng Wang	Wei Liu

CATALOG

Component SPEC Version Record

Rev.	Effective Date	Changed Contents	Change Reasons	Approved By
V1.0	2019.06.14	New released	/	Remo

1. Scope

This specification applies to the MBLN2012 series of Wire Wound Chip Balun Transformer.

2. Product Identification

MBLN	2012	M(C)	□□	11	T	(□□)
①	②	③	④	⑤	⑥	⑦

① Series name (Wire Wound Chip Balun Transformer)

② Dimensions L×W：（2012=2.0×1.2 mm）

③ Material code

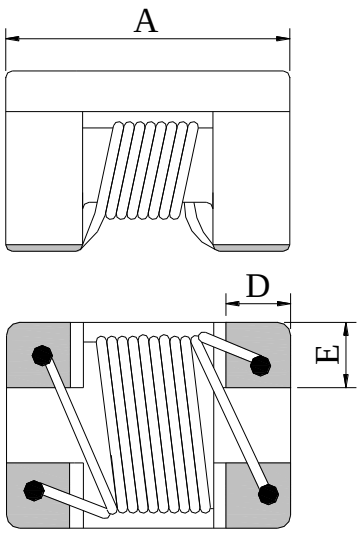
④ Port Impedance (Example:25=25Ω,50=50Ω,75=75Ω)

⑤ Impedance Ration (11=1:1)

⑥ Packing Style（T: Taping B: Bulk）

⑦ Process code

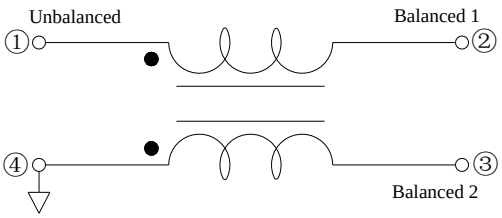
3. Dimensions



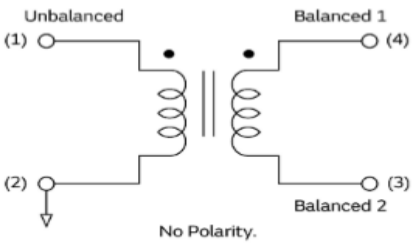
Dimensions in mm	
A	2.0±0.2
B	1.2±0.2
C	1.2±0.2
D	0.45±0.1
E	0.40±0.1

4.Electrical Schematic

MBLN2012M Series



MBLN2012C Series



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5. Test Conditions

<Unless otherwise specified>

Temperature : Ordinary Temperature 5 to 35℃

Humidity : Ordinary Humidity 25 to 85% (RH)

<In case of doubt>

Temperature : 20±2℃

Humidity : 60 to 75% (RH)

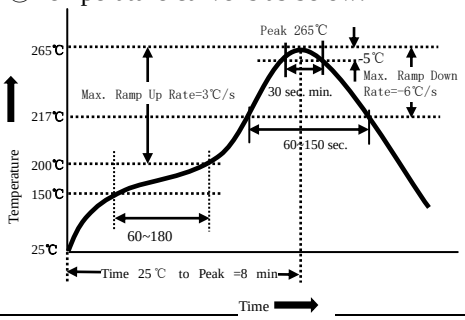
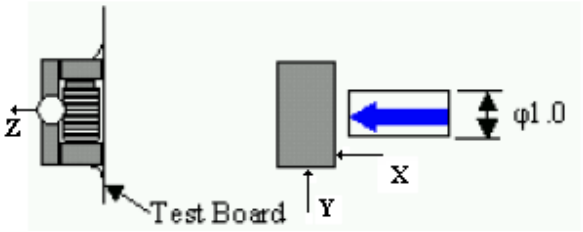
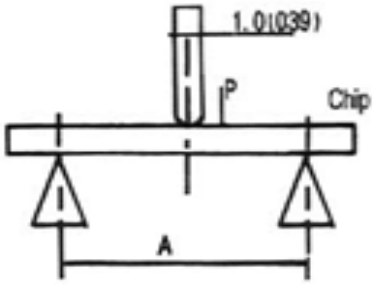
Atmospheric Pressure : 86 to 106 kPa

6.Rating

Part No.	Frequency Range	Port Impedance	Insertion Loss at Freq. Range(max.)	CMRR at Freq. Range(min.)	Rate Power
MBLN2012M7511T	50MHz to 870MHz	75Ω/75Ω	1.0dB	20dB	27dBm
MBLN2012M5011T	50MHz to 870MHz	50Ω/50Ω	1.2dB	20dB	27dBm
MBLN2012M7511T2	50MHz to 1200MHz	75Ω/75Ω	1.2dB	20dB	27dBm
MBLN2012M7511TH	1000MHz to 1500MHz	75Ω/75Ω	1.4dB	20dB	27dBm
MBLN2012M7511TH2	950MHz to 2150MHz	75Ω/75Ω	1.5dB	20dB	27dBm
MBLN2012M7511TH3	400MHz to 1800MHz	75Ω/75Ω	2.0dB	20dB	27dBm

Part No.	Frequency Range	Port Impedance	Inductance (Typ.)	Insertion Loss (max.)	Return Loss (Typ.)
MBLN2012C2511T	13.56MHz	25Ω/25Ω	1.0uH	1.0dB	-13dB
	DC Resistance (Max.)	**Rated Current (Min.)**	**CMRR (Min.)**	**Insulation Resistance (Min.)**	
	0.75Ω	220mA	47dB	10 MΩ	

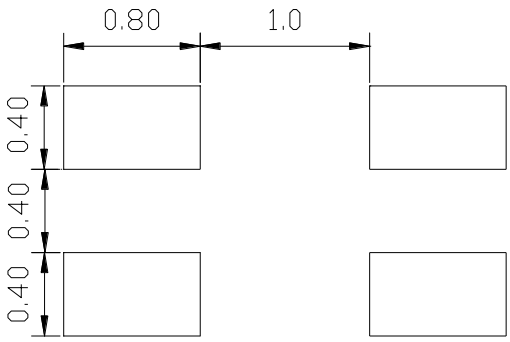
7. Reliable Performance

NO.	Item	Specifications	Test Methods
1	Solder-Ability	Terminal area shall be at least 95% covered .	Solder: 96.5% Sn +3.0%Ag+0.5%Cu Temperature: 245℃±5℃ Flux: rosin Duration: 3.5±0.5s
2	Leaching Resistance	1）No case deformation or change in appearance. 2）｜ΔZ/Z0｜≤20%	①The peak temperature: 260+5/-0℃. ②Reflow:2 times. ③Temperature curve is as below: 
3	Terminal Strength	The terminal and body should be no damage	Solder a chip to test substrate, and then laterally apply a load 5N in the X, Y and Z directions 
4	Bending Strength	No mechanical damage should be noticed	Soldering a chip to a test subatrate, bend the substrate by 2mm and then return 

NO.	Item	Specifications	Test Methods
5	Vibration	1）No mechanical damage shall be noticed 2）｜ΔZ/Z0｜≤20%	Frequency: 10 to 55Hz Amplitude: 1.5mm Direction and time :X, Y and Z directions for 2 hours each.
6	Humidity resistance		a. Test condition Temp.:85±2℃ Humidity: 90%~95% Test time: 1000±24 h b. Measurement method: The component should be stabilized at normal condition for (24±2) hours before test.
7	High temperature resistance		a. Test condition Applied rated current. Temp.: 85±2℃ Test time: 1000±24 h b. Measurement method: The component should be stabilized at normal condition for (24±2) hours before test.
8	Low temperature resistance		a. Test condition Temp.: -40±2℃ Test time: 1000±24 h b. Measurement method: The component should be stabilized at normal condition for (24±2) hours before test.
9	Thermal shock (Temperature cycle)		a. Test condition 1) Temp.: -40℃, time: 30±3min 2) Temp.: +85℃, time: 30±3min 5 cycles b. Measurement method: The component should be stabilized at normal condition for (24±2) hours before test.

8. Recommended Soldering Conditions

(1) Recommended Footprint

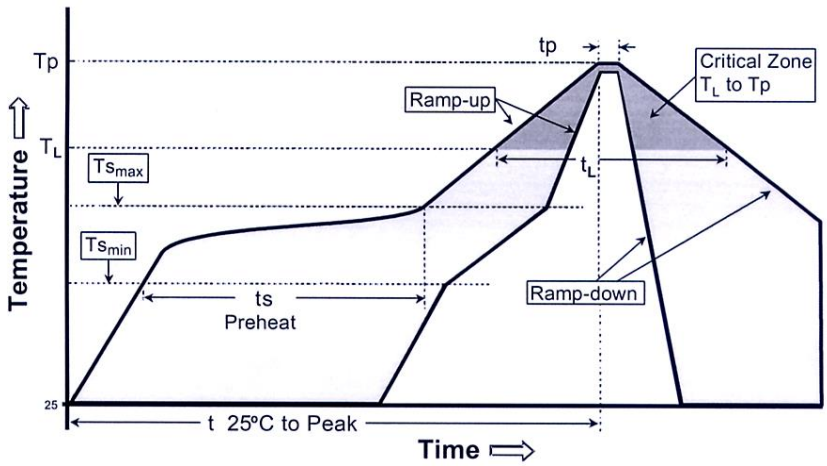


(2) Recommended Reflow soldering conditions

Profile Feature	Lead-Free Assembly
Average Ramp-Up Rate (Tsmax to Tp)	3°C C/second max.
Preheat – Temperature Min (Tsmin) – Temperature Max (Tsmax) – Time (tsmin to tsmax) min to tsmax)	150 °C 200 °C 60-180 seconds
Time maintained above: – Temperature (TL) – Time (tL)	217 °C 60-150 seconds
Peak/Classification Temperature (Tp) Peak/Classification Time (Tp)	260 °C 3-4 seconds
Time within 5 °C of actual Peak Temperature (tp)	20-40 seconds
Ramp-Down Rate	6°C/second max.
Time 25 °C to Peak Temperature	8 minutes max.

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

. Standard soldering profile



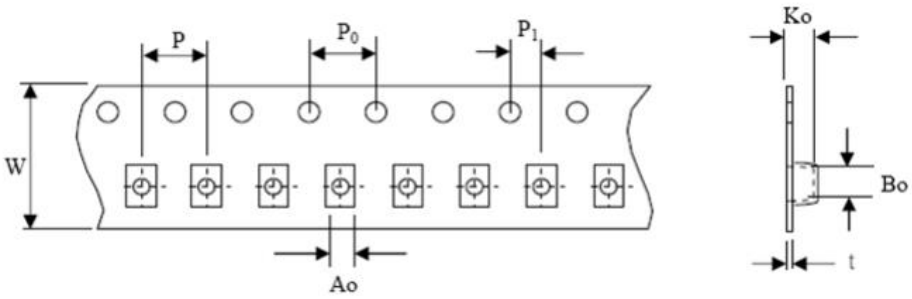
(3) Reworking with soldering iron

The following conditions must be strictly followed when using a soldering iron.

Pre-heating	150℃, 1 minute
Tip temperature	350℃ max
Soldering iron output	30w max
End of soldering iron	Φ1mm max
Soldering time	5 seconds max

9. Packaging

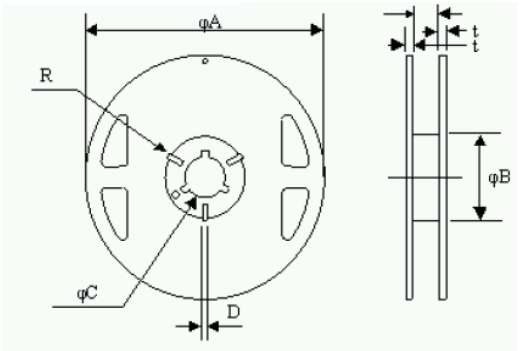
(1) Dimensions of Tape:



(Dimensions in mm; Tolerance : ±0.1)

Symbol	W	P	P_0	P_1	A_0	B_0	K_0	t
Dimension	8.0	4.0	4.0	2.0	1.5	2.25	1.35	0.24

(2) Dimensions of Reel



Unit: mm

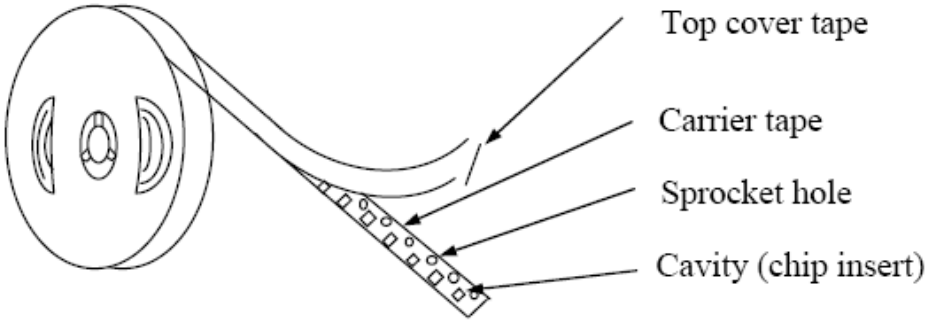
A	180+0，-3
B	60+1，-0
C	13.0±0.2
D	2.2±0.5
W	9.0±1.0
t	1.2
R	1.0

Reel material: PS (Polystyrene)

(3) Pulling strength of tapes:

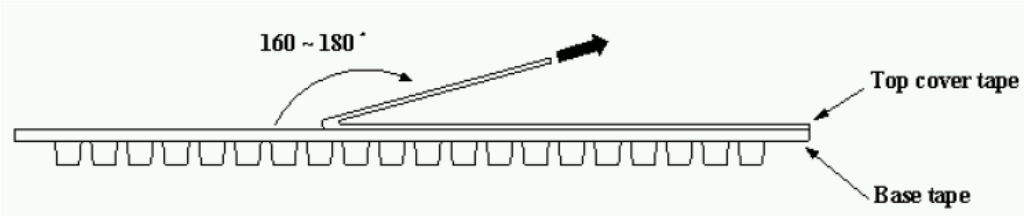
Carrier tape	10N or more (1kgf or more)
Cover tape	5N or more (1kgf or more)

(4) Taping figure and drawing direction:



(5) Peeling strength of cover tape:

Cover tape	0.10~1.0N



Test condition:

Temperature: 5~35℃

Humidity: 45~85%

(6) Packing quantity

φ180mm reel T type:2000pcs/rell