

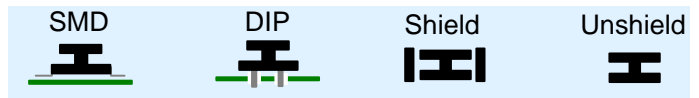


Product Series Code	WBL	Brand	MOTTO
File Version	WBL-V2	Editor	Jack
Established Date	2000.05.23	Description	SMD Power Choke
Latest Edit Date	2010.11.26	Pages	Page : 1

Features & Application:

- * Shielding for good in EMI and LowProfile for large current
- * Fit for power line & signal line circuit
- * To help you go pass the CE/FCC standard.
- * Mobil Device / Handheld Device / LowProfile Device / Panel...

Product Structure



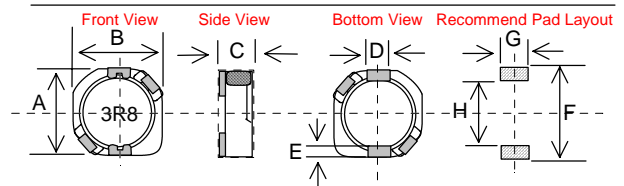
2005 RoHS Compliant - SGS Certified Result

鉛 Pb	鎘 Cd	汞 Hg	六價鉻 Cr+6	溴化聯苯 PBB	溴化聯苯 醚PBDE
<1000ppm	ND	ND	ND	ND	ND

Part No Expression Example:

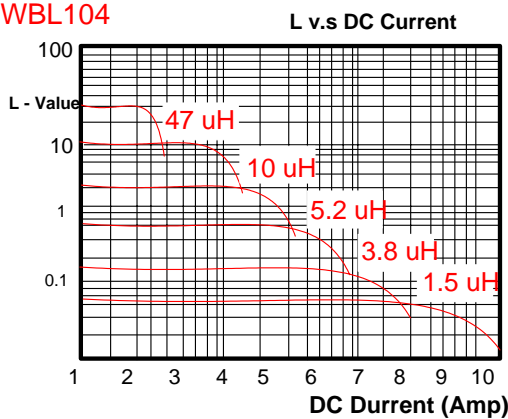
- WBL 104 - 3R8 - N
- 1 2 3 4
1. MOTTO Series : WBL
 2. Dimension Code: 10x10x4 mm
 3. [L] Value: 3R8=3.8uH
 4. Tolerance: M=20%, N=30%

Dimensions:[mm] MECHANICAL ASSEMBLY & MARKING

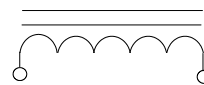


Type	A	B	C	D	E	F	G	H
104	10.2+/-0.5	10.0+/-0.5	3.8+/-0.2	3.0+/-1.0	1.25+/-0.2	10.7	3.8	7.3

WBL104



SCHEMATIC:

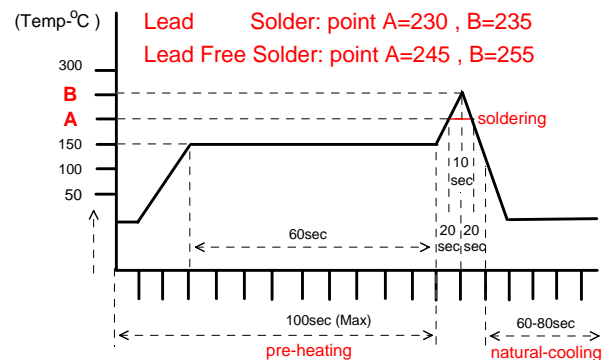


Test Equipment :

- * HP4284A, HP42841A- L, IDC, Q, RDC
- * HP8753D NETWORK ANALYZER- SRF

Standard Atmospheric Conditions:
 Ambient Temp: 20 +/- 15°C
 Relative Humidity: 65 +/- 20%
 If there may be any doubt on the result,
 measurement shall be made within the following limits:
 Ambient Temp: 25 +/- 5°C
 Relative Humidity: 75 +/- 10%

Recommend Reflow Curve (TIME:Second)



Notice: Iron Soldering: 3 Seconds Max. @260°C





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Operating & Storage Condition:

OPERATING TEMP:-40~+85°C

STORAGE TEMP:-40~+85°C

STORAGE LIFE TIME: 12 MONTH @25°C , RH 65%

Attention & Caution:

Please avoid following matters:

- * Splashing water or salt water
- * Toxic Gas (Hydrogen sulfide, Sulfurous acid, Chlorine, Ammonia)
- * Vibrations or shocks which exceed the specified condition
- * Dew condenses
- * Please be careful for the stress to this product by board flexure or something after the mounting.

PART NO.	Inductance (uH) at 100kHz, 1V	D.C.R (Ω)(Max) at 20	Rated Current (Amp)(Max)	
			Condition 1	Condition 2
WBL104-1R0N	1.0	10.0m	10.00	6.50
WBL104-1R3N	1.3	8.1m	10.00	6.50
WBL104-1R8N	1.8	10.0m	9.20	6.10
WBL104-2R2N	2.2	10.0m	7.60	6.10
WBL104-2R5N	2.5	10.5m	7.50	6.10
WBL104-3R3N	3.3	13.0m	7.50	6.10
WBL104-3R8N	3.8	13.0m	6.00	5.50
WBL104-4R7N	4.7	21.0m	5.70	5.60
WBL104-5R2N	5.2	22.0m	5.50	5.40
WBL104-5R6N	5.6	29.0m	5.30	5.00
WBL104-6R8N	6.8	27.0m	4.80	4.50
WBL104-7R0N	7.0	27.0m	4.80	4.50
WBL104-8R2N	8.2	34.0m	4.40	3.80
WBL104-100N	10.0	35.0m	4.40	3.80
WBL104-150N	15.0	50.0m	3.60	3.10
WBL104-180M/N	18.0	70.0m	3.20	2.60
WBL104-220M/N	22.0	73.0m	2.90	2.50
WBL104-330M/N	33.0	93.0m	2.30	2.20
WBL104-470M/N	47.0	128.0m	2.10	1.90
WBL104-680M/N	68.0	213.0m	1.50	1.42
WBL104-101M/N	100.0	304.0m	1.35	1.25
WBL104-151M/N	150.0	506.0m	1.15	0.85
WBL104-221M/N	220.0	756.0m	0.92	0.70
WBL104P-331M/N	330.0	1.09	0.70	0.52

Measuring Freq.(L): at @100KHz / 1Volt

Test Instrument: HP4286A

L (inductance) TOLERANCE : WBL104 Series 1.0~15 uH +/-30%

WBL104 Series 18~330 uH +/-20% and +/-30%

Note:

The rated current indicates the current when the inductance decreases to 65% of initial value or DC current when the temperature of coil is increased by 30°C. The smaller one is defined as rated current.

Condition 1: The current when the inductance decreases to 65% of initial value.

Condition 2: The current when the temperature of coil is increased by 30°C.





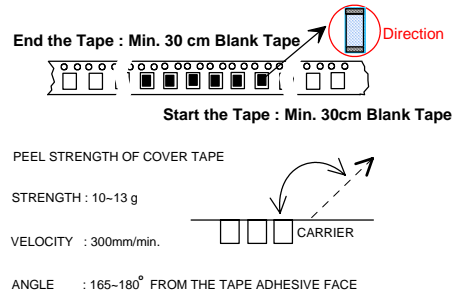
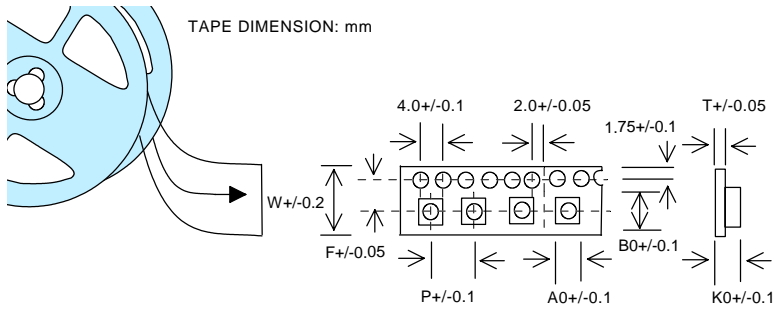
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NO	ITEM	TEST CONDITIONS	Sample Qty/pcs	Spec	Test Day Time	Modify Day	Result																
1	Dimension 本體相關呎吋	Actual Size ...	10	Meet Spec	2001/07/12 ~2001/07/12		ok																
2	Thermal Shock (Temperature Cycle) 溫度循環試驗	Temperature:-20 ° C/ +85 ° C kept stabilized for 30 minutes each Cycle: 100 Cycles(power off)	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/18		ok																
3	Humidity Resistance 耐濕試驗	Humidity: 90%~ 95% RH Temperature: 40± 2 ° C Test Time: 120± 2 Hours	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/02/18		ok																
4	High Temperature 耐熱試驗	Temperature: 85± 2 ° C Humidity: 20% Testing Time: 120± 2 Hours	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/18		ok																
5	Low Temperature 耐寒試驗	Temperature: -20 ± 2 ° C Time: 120± 2 Hours	10	Elec. no variation Appearance	2001/07/12 ~ 2001/07/18		ok																
6	Temperature and Humidity Cycle 溫/濕度循環試驗	<table border="1"> <thead> <tr> <th>Step</th> <th>Temp</th> <th>Humidity</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>25± 2 ° C</td> <td>95~100%RH</td> <td>3.0Hr</td> </tr> <tr> <td>2</td> <td>55± 2 ° C</td> <td>95~96%RH</td> <td>9.5Hr</td> </tr> <tr> <td>3</td> <td>25± 2 ° C</td> <td>95~100%RH</td> <td>9.5Hr</td> </tr> </tbody> </table>	Step	Temp	Humidity	Time	1	25± 2 ° C	95~100%RH	3.0Hr	2	55± 2 ° C	95~96%RH	9.5Hr	3	25± 2 ° C	95~100%RH	9.5Hr	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/19		ok
Step	Temp	Humidity	Time																				
1	25± 2 ° C	95~100%RH	3.0Hr																				
2	55± 2 ° C	95~96%RH	9.5Hr																				
3	25± 2 ° C	95~100%RH	9.5Hr																				
7	Vibration 振動性試驗	Frequency: 10Hz~55Hz Amplitude: 1.5mm Direction: X,Y,Z Time: 2 Hours each	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/16		ok																
8	Dipping Verification 吃錫性試驗	Temp Control Solder @ Temp 230± 5 ° C / 3 Sec 吃錫面積必須 > 75%	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																
9	IR Reflow Soldering 焊錫性試驗	Go through real SMT IR-Reflow.... Solder Temp.: 230± 5 ° C Time: 90 Sec. Cycles: x 1	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																
10	Soldering Heat Resistance 耐熱 焊性試驗	Preheat: 120 ~ 150 ° C (6 sec) Solder:H63A(eutectic solder) Solder Temp.: 260 ± 5 ° C Flux: Rosin Dip time: 10± 1 seconds	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																
11	Bending Strength 折斷力試驗		10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																
11	Flexure Strength 彎曲試驗		10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																
12	Terminal Strength 推/ 拉力試驗		10	After solder between copper plate and terminals of coil, push in two directions Of X,Y with 2.0kg must no crack	2001/07/12 ~ 2001/07/12		ok																
13	High-Voltage 高壓電擊試驗	100 V DC between core & winding	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																
14	ORT:on going reliability test 負載電氣試驗	Elec loading & spec test... base on Spec for approval	10	Elec. no variation Appearance no deformation	2001/07/12 ~ 2001/07/12		ok																



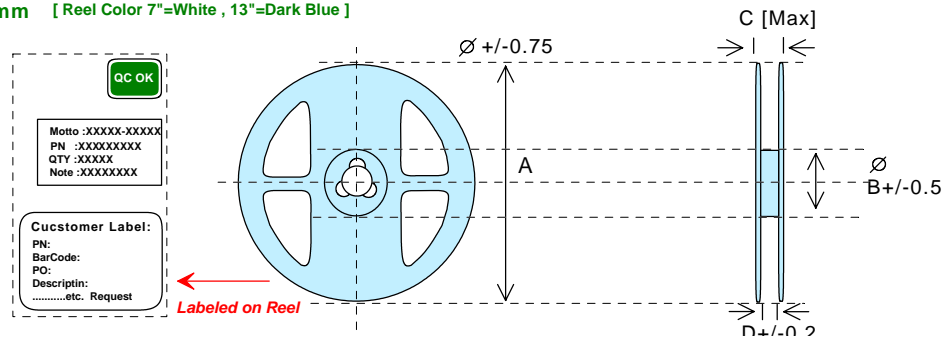


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SIZE/mm	W	P	A ₀	B ₀	K ₀	T	F
104	24.00	16.00	10.60	10.80	4.10	0.35	11.50

Reel Dimensions: mm [Reel Color 7"=White , 13"=Dark Blue]



SIZE / mm	A	B	C	D	REEL SIZE	QTY/REEL
104	330	100	29	24.5	13"	0.8K

BOX Package: Unit: cm

