
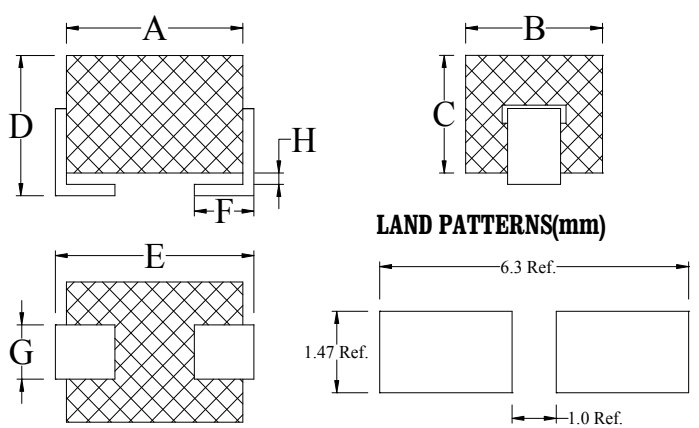


ECN HISTORY LIST

Version	ECN NO.	change content	change date	confirmation chapter
0		Issue	2021/2/3	

SPECIFICATION FOR APPROVAL

COMMODITY	S.M BEAD	SPEC NO.	SP-0210203004
ITEM	SMBP 403025G Green	: A	: QR-012-02

(1) DIMENSION: (UNIT: mm)		DIM.	TOL.	
	A	4.00	±0.20	
	B	3.00	±0.20	
	C	2.60	±0.10	
	D	3.10	Max.	
	E	5.00	Max.	
	F	1.45	±0.30	
	G	1.27	±0.05	
	H	0.10	Max.	

(2) ELECTRICAL CHARACTERISTIC	TEST INSTRUMENTS.																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">IMPEDANCE at Z1</td> <td style="width: 20%; text-align: center;">63 ± 25%</td> <td style="width: 5%; text-align: center;">Ω</td> </tr> <tr> <td>IMPEDANCE at Z2</td> <td style="text-align: center;">100 ± 25%</td> <td style="text-align: center;">Ω</td> </tr> <tr> <td>TEST FREQUENCY at Z1</td> <td style="text-align: center;">500</td> <td style="text-align: center;">MHz</td> </tr> <tr> <td>TEST FREQUENCY at Z2</td> <td style="text-align: center;">1000</td> <td style="text-align: center;">MHz</td> </tr> <tr> <td>RDC</td> <td style="text-align: center;">0.75 (max.)</td> <td style="text-align: center;">mΩ</td> </tr> <tr> <td>RATED CURRENT</td> <td style="text-align: center;">20 (typ.)</td> <td style="text-align: center;">A</td> </tr> </table>	IMPEDANCE at Z1	63 ± 25%	Ω	IMPEDANCE at Z2	100 ± 25%	Ω	TEST FREQUENCY at Z1	500	MHz	TEST FREQUENCY at Z2	1000	MHz	RDC	0.75 (max.)	mΩ	RATED CURRENT	20 (typ.)	A	<input checked="" type="checkbox"/> AGILENT 4294A Precision Impedance Analyzer. <input type="checkbox"/> AGILENT 4285A Precision L.C.R. Meter. <input type="checkbox"/> HP-4286A RF L.C.R. Meter. <input checked="" type="checkbox"/> ZENTECH 3302 Automatic Components Analyzer. <input type="checkbox"/> ZENTECH 101 L.C.R. Meter. <input type="checkbox"/> WAYNE KERR 6420 Precision Impedance Analyzer. <input checked="" type="checkbox"/> ZENTECH 1320 BIAS CURRENT. <input checked="" type="checkbox"/> ZENTECH 502AC Resistance Merter. <input type="checkbox"/> ADEX AX-1155B DC Low Ohm Meter.
IMPEDANCE at Z1	63 ± 25%	Ω																	
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RDC	0.75 (max.)	mΩ																	
RATED CURRENT	20 (typ.)	A																	

REMARK :

Temperature Rise Current : The actual current when temperature of coil becomes ΔT = 40°C.

Tested Wire : 0.2mm (T)*1.27mm(W)*9mm(L)

Operating Temperature : -55°C ~ +125°C

PURCHASER CONFIRMED	APPROVED	CHECKED	DRAWN
			

SPECIFICATION FOR APPROVAL

COMMODITY	S.M BEAD	SPEC NO.	SP-0210203004
ITEM	SMBP 403025G Green	: A	: QR-012-02

(3) Material List

NO	ITEM	MATERIAL	NOTE
1	Core	MLS70 SMB 3.1 ×4 ×2.6	HUOH YOW ENTERPRISE CO., LTD
2	Wire	Tin PLATED COPPER WIRE	WELL FORE SPECIAL WIRE CORPORATION

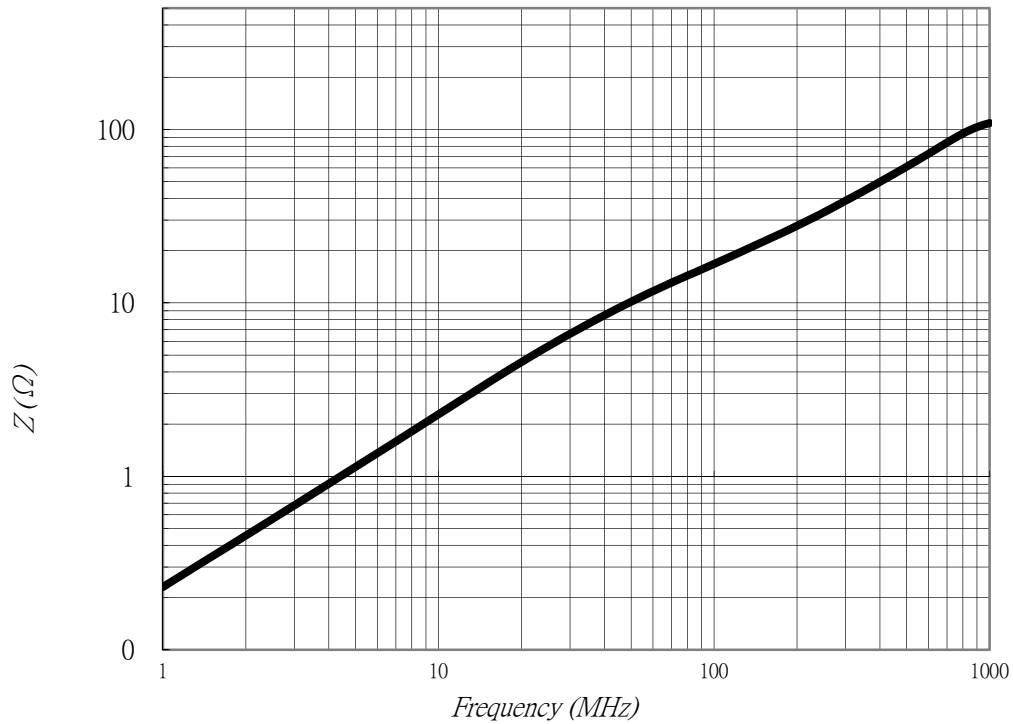
REMARK :

PURCHASER CONFIRMED :	APPROVED	CHECKED	DRAWN
			

TEST REPORT

SPEC NO : SP-0210203004

Typical Impedance v.s. Frequency Curve



Test Instrument :

HP-4286A RF L.C.R. Meter.

Testing Condition :

Temperature : 25 to 28°C

Humidity : 60 to 70 % RH

Check by :

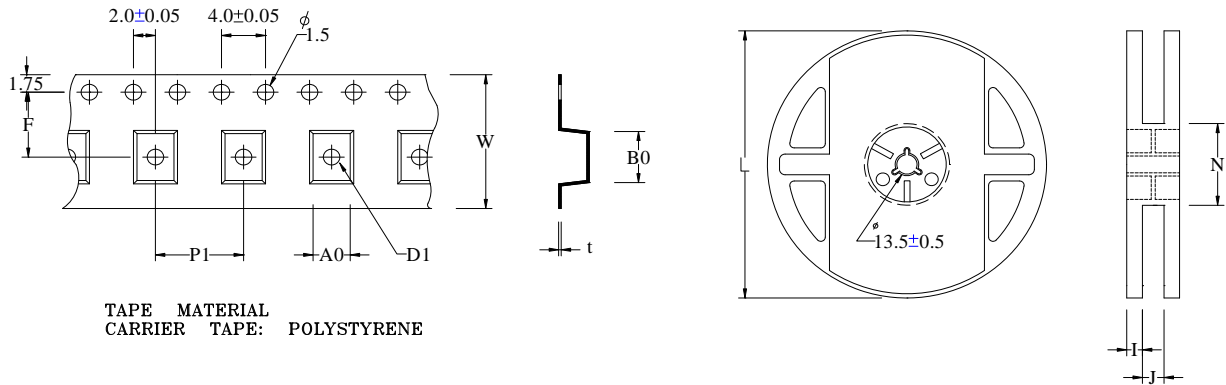


Test by :



Packaging Information

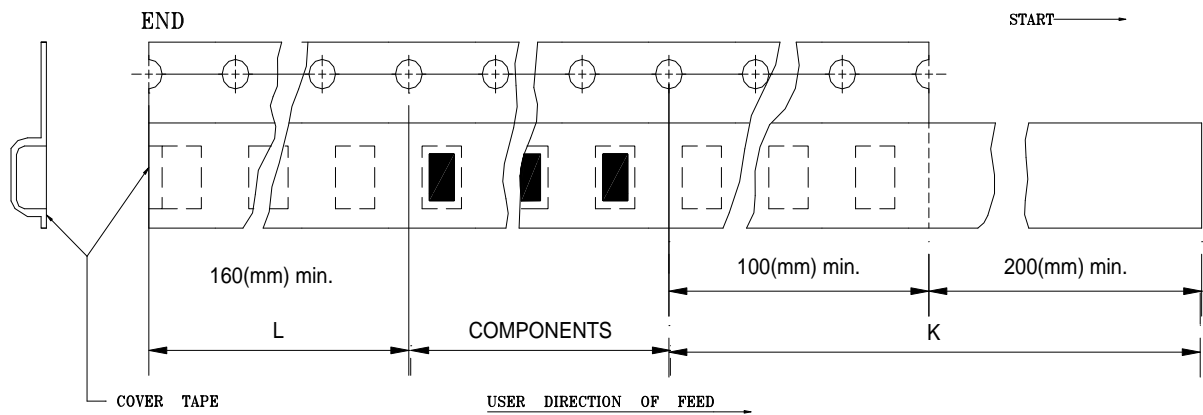
Tape-&-Reel Dimensions



Dimensions in mm

TYPE	A ₀	B ₀	D ₁	F	P ₁	W	t	L	I	J	N
SMBP 403025G	3.25 ± 0.1	4.85 ± 0.1	1.50	5.5 ± 0.05	8.0 ± 0.1	12.0 +0.3 -0.1	0.27 ± 0.1	180 ± 0.2	1.4	12	60
								330	2.3	12	100

Packaging Quantity

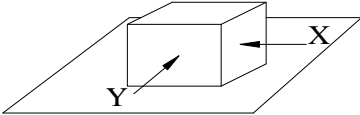


REEL		PE	BOX		CARTON	
Q'ty(pcs)	Size (mm)	REEL×PE	Q'ty(pcs)	Size (mm)	Q'ty(pcs)	Size (mm)
500	7"×12	4×1	2000	185×80×185	20000	445×396×210
3000	13"×12	3×1	9000	345×65×330	27000	355×355×215

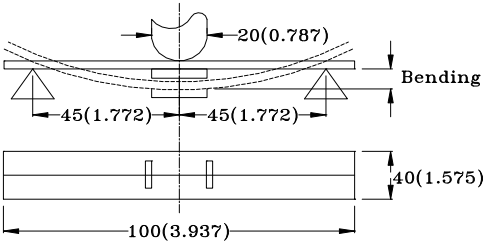
Pb-FREE PRODUCTS

No	Item	Test Method & Conditions	Specification After Test																																	
A . Mechanical Characteristics																																				
1	Operating Temperature	- 55 °C ~ + 125 °C																																		
2	Storage temperature and Humidity range	+ 5 ~ +40°C ; 60 to 70% RH																																		
3	Solder Heat Resistance	<ul style="list-style-type: none"> · Solder : M705-GRN360-K2-V · Peak-temp.hold time : 4 sec · Pre-heat , Solder Temperature & Dip Reflow soldering time as follow : 	<ul style="list-style-type: none"> · No Damage and No Abnormal on Surface · Impedance : Within ±20% of Initial Value · More than 75% of the terminal electrode should be covered and uniformity with solder 																																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Item</th> <th rowspan="2">mark</th> <th colspan="2">products</th> </tr> <tr> <th>size ≥ 350mm³ or thickness ≥ 2.5mm</th> <th>size < 350mm³ or thickness < 2.5mm</th> </tr> </thead> <tbody> <tr> <td>Temperature rise gradient</td> <td></td> <td colspan="2" style="text-align: center;">3°C/sec (max)</td> </tr> <tr> <td>Heating time</td> <td rowspan="2" style="text-align: center;">Tsoak</td> <td colspan="2" style="text-align: center;">50s ~ 150s</td> </tr> <tr> <td>Heating temperature</td> <td colspan="2" style="text-align: center;">120°C ~ 180°C</td> </tr> <tr> <td>Time over 217°C</td> <td style="text-align: center;">t1</td> <td style="text-align: center;">60 sec</td> <td style="text-align: center;">90 sec</td> </tr> <tr> <td>Time within 5°C of actual peak temperature</td> <td style="text-align: center;">t3</td> <td style="text-align: center;">10~30 sec</td> <td style="text-align: center;">10~30 sec</td> </tr> <tr> <td>Peak temperature</td> <td style="text-align: center;">Tpeak</td> <td style="text-align: center;">250 (+0 / -5 °C)</td> <td style="text-align: center;">260 (+0 / -5 °C)</td> </tr> <tr> <td>Time 25°C to peak Temperature</td> <td></td> <td colspan="2" style="text-align: center;">6 minutes max.</td> </tr> </tbody> </table> <p style="margin-left: 40px;">*The determination, first primarily determines by the size, then determines the altitude.</p> <p style="text-align: center;">Reflow soldering temperature profile</p>				Item	mark	products		size ≥ 350mm ³ or thickness ≥ 2.5mm	size < 350mm ³ or thickness < 2.5mm	Temperature rise gradient		3°C/sec (max)		Heating time	Tsoak	50s ~ 150s		Heating temperature	120°C ~ 180°C		Time over 217°C	t1	60 sec	90 sec	Time within 5°C of actual peak temperature	t3	10~30 sec	10~30 sec	Peak temperature	Tpeak	250 (+0 / -5 °C)	260 (+0 / -5 °C)	Time 25°C to peak Temperature		6 minutes max.	
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Pb-FREE PRODUCTS

No	Item	Test Method & Conditions	Specification After Test
A . Mechanical Characteristics			
4	Solderability	<ul style="list-style-type: none"> · Solder : M705-GRN360-K2-V · Solder Temp : 245°C ± 5°C · Dip time : 5 sec 	<ul style="list-style-type: none"> · More than 90% of the terminal electrode should be covered and uniformity with fresh solder.
5	Terminal Strength	<ul style="list-style-type: none"> · After soldering of X , Y withstanding as below conditions. · The terminal should not peel off.(Refer to figure as below) · Define : A=sectional area of terminal A ≤ 8mm² force ≥ 0.5kg , time : 30sec 8mm² < A ≤ 20mm force ≥ 1kg , time : 10sec 20mm² < A force ≥ 2kg , time : 10sec <div style="text-align: center; margin-top: 20px;">  </div>	<ul style="list-style-type: none"> · Terminal and body must not be damage or separate

Pb-FREE PRODUCTS

No	Item	Test Method & Conditions	Specification After Test
A . Mechanical Characteristics			
6	Flexure Strength	<ul style="list-style-type: none"> Put the component solder chip on a test board and bend the board to 2mm then recovery to original point. Unit : mm (inch) 	<ul style="list-style-type: none"> No damage and no abnormal on chip body surface.
B . Environmental Characteristics			
7	High Temp Resistance Test	<ul style="list-style-type: none"> Operate Temperature : 125°C ± 3°C Applied Current : per spec. Time : 96 Hrs Measure after exposure in the room temperature for 4 to 24 Hrs. 	<ul style="list-style-type: none"> Appearance : no damage Impedance : Within ±20% of Initial Value

Pb-FREE PRODUCTS

No	Item	Test Method & Conditions	Specification After Test
B . Environmental Characteristics			
8	Humidity Test	<ul style="list-style-type: none"> · Temperature : 40°C ± 2°C · Humidity : 95 ± 2% R.H. · Applied Current : per spec. · Time : 96 Hrs · Measure after exposure in the room temperature for 4 to 24 Hrs. 	<ul style="list-style-type: none"> · Appearance : no damage · Impedance : Within ±20% of Initial Value
9	Temperature Cycling Test	<ul style="list-style-type: none"> · One Cycle : +125°C/30Min -55°C/30Min · Cycle Times : 5 Cycle · Measure after exposure in the room temperature for 4 to 24 Hrs. 	<ul style="list-style-type: none"> · Appearance : no damage · Impedance : Within ±20% of Initial Value

Pb-FREE PRODUCTS

No	Item	Test Method & Conditions	Specification After Test						
C .Reel Tape (Peeling Force Test)									
10	Peeling Force Test	<p>1、Experiments the applicable scope Per EIA-481 criteria, the procedures are suitable for Jantek packing process, which to provide the SMT production for end customers.</p> <p>2、Test condition 2-1 Test machine : Peel Force Tester : PF-2000 2-2 Test Pull velocity : 300mm±10mm/min 2-3 Test Pulling force angle : The Carrier tape and Cover tape makes an angle between 165° ~ 180°</p> <p>3、Test Method : 3-1 Fix the carrier tape on the experimental station base. 3-2 Take a section of the cover tape and clip it on the station jig. 3-3 Turn on the machine and set the specification in "DATA SET". 3-4 Start the tests.</p> <p>4、Test Specification :</p> <table border="1" data-bbox="625 1104 1289 1218"> <thead> <tr> <th>Carries tape width</th> <th>Specification (gr)</th> </tr> </thead> <tbody> <tr> <td>8~24mm</td> <td>10~120</td> </tr> <tr> <td>32~56mm</td> <td>10~130</td> </tr> </tbody> </table> <p>5、Test Cycle : Each kind of size specification in the production, every two weeks takes the 60cm experiment and the recording in the form.</p>	Carries tape width	Specification (gr)	8~24mm	10~120	32~56mm	10~130	
Carries tape width	Specification (gr)								
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32~56mm	10~130								