

■ 车规叠层片式铁氧体超大电流磁珠 Automotive Grade Multilayer Chip Ferrite Ultra-High Current Beads



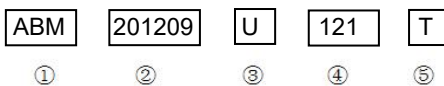
◆ 特征

Feature

- * 体积小
Miniature volume.
- * 漏磁小，不产生耦合，可靠性高
No cross coupling between inductors due to low magnetic shield and high reliability.
- * 无引线，不产生跟踪性，适合高密度表面贴装
No lead, ideal for high density SMT installation, with no directionality.
- * 优良的可焊性及耐热冲击性，适合回流焊
Superior solderability and resistance to soldering heat, suitable for reflow soldering.
- * 通过 AEC-Q200 符合性测试
Pass AEC-Q200 compliance test.

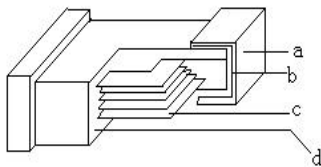
◆ 型号表示法

Part Number



① 产品代号 Product Code		② 规格尺寸(L×W×T) Dimensions (mm)		③ 材料代号 Material Code	④ 阻抗(Ω) Impedance		⑤ 包装方式 Packaging Style	
ABM	车规叠层片式铁氧体超大电	100505	1.0×0.5×0.5	U	示例 Example		T	卷带盘装
	流磁珠	160808	1.6×0.8×0.8		110	11		Tape & Reel
	Automotive Grade	201209	2.0×1.2×0.9		121	120		B
	Multilayer Chip Ferrite	321609	3.2×1.6×0.9		102	1000		
	Ultra-High Current							
	Beads							

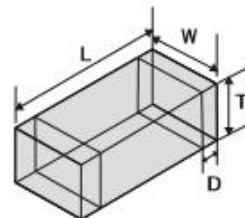
◆ 产品结构 Product Structure



- a. 银层 Ag layer
- b. 镀层 Ni/Sn plating
- c. 内电极 Inner electrode
- d. 瓷体 Body

◆规格尺寸
Dimension

Part No	L(mm)	W(mm)	T(mm)	D(mm)
100505 (0402)	1.0± 0.15 (0.040± 0.006)	0.5± 0.15 (0.020± 0.006)	0.5± 0.15 (0.020± 0.006)	0.25± 0.1 (0.010± 0.004)
160808 (0603)	1.6± 0.20 (0.063± 0.008)	0.8± 0.20 (0.031± 0.008)	0.8± 0.20 (0.031± 0.008)	0.3± 0.2 (0.01± 0.008)
201209 (0805)	2.0± 0.20 (0.079± 0.008)	1.2± 0.20 (0.047± 0.008)	0.9± 0.20 (0.035± 0.008)	0.5± 0.3 (0.020± 0.012)
321609 (1206)	3.2± 0.20 (0.126± 0.008)	1.6± 0.20 (0.063± 0.008)	0.9± 0.20 (0.035± 0.008)	0.5± 0.3 (0.020± 0.012)


◆电性能参数
Electrical Characteristics

1005 Type

型号 Part NO	误差范围 Tolerance	标称阻抗 Impedance(Ω)	测试频率 Test frequency(MHz)	直流电阻 DCR (Ω)Max	额定电流 Ir (mA)Max
ABM100505U000T	0~15 Ω	0	100	0.05	1800
ABM100505U050T	0~15 Ω	5	100	0.05	1800
ABM100505U070T	0~11 Ω	7	100	0.05	1800
ABM100505U090T	5~13 Ω	9	100	0.05	1800
ABM100505U110T	7~15 Ω	11	100	0.05	1800
ABM100505U150T	9~21 Ω	15	100	0.05	1800
ABM100505U190T	12~25 Ω	19	100	0.06	1500
ABM100505U300T	±25%	30	100	0.08	1300
ABM100505U600T	±25%	60	100	0.10	1000
ABM100505U700T	±25%	70	100	0.15	800
ABM100505U800T	±25%	80	100	0.15	800
ABM100505U101T	±25%	100	100	0.15	800
ABM100505U121T	±25%	120	100	0.15	800
ABM100505U151T	±25%	150	100	0.20	700
ABM100505U201T	±25%	200	100	0.25	700
ABM100505U221T	±25%	220	100	0.30	600
ABM100505U301T	±25%	300	100	0.30	600
ABM100505U501T	±25%	500	100	0.40	500
ABM100505U601T	±25%	600	100	0.50	500
ABM100505U801T	±25%	800	100	0.65	300
ABM100505U102T	±25%	1000	100	0.65	300

1608 Type

型号 Part NO	误差范围 Tolerance	标称阻抗 Impedance(Ω)	测试频率 Test frequency(MHz)	直流电阻 DCR (Ω)Max	额定电流 I _r (mA)Max
ABM160808U000T	0~15 Ω	0	100	0.02	6000
ABM160808U050T	0~15 Ω	5	100	0.02	6000
ABM160808U070T	0~11 Ω	7	100	0.02	6000
ABM160808U090T	5~13 Ω	9	100	0.02	6000
ABM160808U110T	7~15 Ω	11	100	0.03	5000
ABM160808U150T	9~21 Ω	15	100	0.03	5000
ABM160808U190T	12~25 Ω	19	100	0.03	5000
ABM160808U300T	$\pm 25\%$	30	100	0.03	4000
ABM160808U500T	$\pm 25\%$	50	100	0.04	3000
ABM160808U600T	$\pm 25\%$	60	100	0.04	3000
ABM160808U700T	$\pm 25\%$	70	100	0.06	2500
ABM160808U800T	$\pm 25\%$	80	100	0.06	2500
ABM160808U101T	$\pm 25\%$	100	100	0.06	2500
ABM160808U121T	$\pm 25\%$	120	100	0.065	2000
ABM160808U151T	$\pm 25\%$	150	100	0.09	1500
ABM160808U181T	$\pm 25\%$	180	100	0.09	1500
ABM160808U221T	$\pm 25\%$	220	100	0.12	1500
ABM160808U301T	$\pm 25\%$	300	100	0.18	1500
ABM160808U501T	$\pm 25\%$	500	100	0.18	1200
ABM160808U601T	$\pm 25\%$	600	100	0.18	1200
ABM160808U801T	$\pm 25\%$	800	100	0.30	700
ABM160808U102T	$\pm 25\%$	1000	100	0.40	600

2012 Type

型号 Part NO	误差范围 Tolerance	标称阻抗 Impedance(Ω)	测试频率 Test frequency(MHz)	直流电阻 DCR (Ω)Max	额定电流 I _r (mA)Max
ABM201209U000T	0~15 Ω	0	100	0.01	6000
ABM201209U050T	0~15 Ω	5	100	0.01	6000
ABM201209U070T	0~11 Ω	7	100	0.01	6000
ABM201209U090T	5~13 Ω	9	100	0.01	6000
ABM201209U110T	7~15 Ω	11	100	0.01	6000
ABM201209U150T	9~21 Ω	15	100	0.01	6000
ABM201209U190T	12~25 Ω	19	100	0.01	6000
ABM201209U300T	$\pm 25\%$	30	100	0.01	6000
ABM201209U310T	$\pm 25\%$	31	100	0.01	6000
ABM201209U500T	$\pm 25\%$	50	100	0.04	3500
ABM201209U600T	$\pm 25\%$	60	100	0.04	3500
ABM201209U700T	$\pm 25\%$	70	100	0.04	3000
ABM201209U800T	$\pm 25\%$	80	100	0.04	3000
ABM201209U101T	$\pm 25\%$	100	100	0.05	3000

型号 Part NO	误差范围 Tolerance	标称阻抗 Impedance(Ω)	测试频率 Test frequency(MHz)	直流电阻 DCR (Ω)Max	额定电流 Ir (mA)Max
ABM201209U121T	$\pm 25\%$	120	100	0.05	3000
ABM201209U151T	$\pm 25\%$	150	100	0.08	2500
ABM201209U181T	$\pm 25\%$	180	100	0.08	2500
ABM201209U221T	$\pm 25\%$	220	100	0.08	2500
ABM201209U301T	$\pm 25\%$	300	100	0.08	2500
ABM201209U501T	$\pm 25\%$	500	100	0.10	2000
ABM201209U601T	$\pm 25\%$	600	100	0.10	2000
ABM201209U102T	$\pm 25\%$	1000	100	0.12	1500

3216 Type

型号 Part NO	误差范围 Tolerance	标称阻抗 Impedance(Ω)	测试频率 Test frequency(MHz)	直流电阻 DCR (Ω)Max	额定电流 Ir (mA)Max
ABM321609U000T	0~15 Ω	0	100	0.01	6000
ABM321609U050T	0~15 Ω	5	100	0.01	6000
ABM321609U070T	0~11 Ω	7	100	0.01	6000
ABM321609U090T	5~13 Ω	9	100	0.015	6000
ABM321609U110T	7~15 Ω	11	100	0.015	6000
ABM321609U150T	9~21 Ω	15	100	0.015	6000
ABM321609U190T	12~25 Ω	19	100	0.015	6000
ABM321609U260T	$\pm 25\%$	26	100	0.015	6000
ABM321609U280T	$\pm 25\%$	28	100	0.015	6000
ABM321609U300T	$\pm 25\%$	30	100	0.015	6000
ABM321609U310T	$\pm 25\%$	31	100	0.025	4000
ABM321609U500T	$\pm 25\%$	50	100	0.025	4000
ABM321609U600T	$\pm 25\%$	60	100	0.025	4000
ABM321609U700T	$\pm 25\%$	70	100	0.035	4000
ABM321609U800T	$\pm 25\%$	80	100	0.035	4000
ABM321609U101T	$\pm 25\%$	100	100	0.035	4000
ABM321609U121T	$\pm 25\%$	120	100	0.035	4000
ABM321609U151T	$\pm 25\%$	150	100	0.045	3000
ABM321609U181T	$\pm 25\%$	180	100	0.055	3000
ABM321609U221T	$\pm 25\%$	220	100	0.055	3000
ABM321609U301T	$\pm 25\%$	300	100	0.065	2500
ABM321609U501T	$\pm 25\%$	500	100	0.085	2500
ABM321609U601T	$\pm 25\%$	600	100	0.10	2000
ABM321609U801T	$\pm 25\%$	800	100	0.11	2000
ABM321609U102T	$\pm 25\%$	1000	100	0.12	2000

◆可靠性测试方法
Reliability Test Method

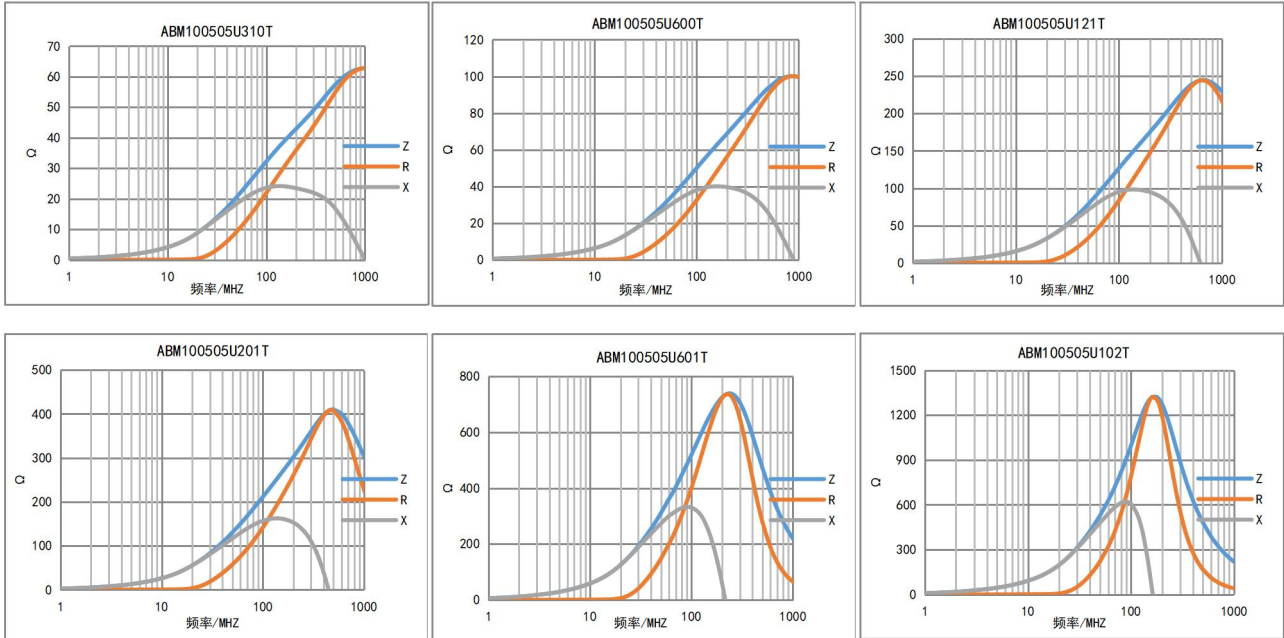
序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
1	高温存储 High Temperature Exposure (Storage)	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	温度 125℃; 不通电; 持续时间 1000h; 周期测试 250h,500h; 试验结束后 (24±4)h 内进行电性能测量。 Temperature 125℃; Unpowered; Duration 1000h; Examination at 250h ,500h and 1000h; Measurement at (24±4) hours after test conclusion.
2	温度循环 Temperature Cycling	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	高温 125℃; 低温-40℃; 高、低温下暴露时间各 30 分钟; 转换时间≤1min; 循环次数 1000 次。 试验结束后 24±4 小时内进行测试。 High Temperature +125℃;low temperature -40℃; Duration at each temperature 30 min; Transition time ≤ 1 min. Severity 1000 cycles; Measurement at 24±4 hours after test conclusion.
3	偏高湿度(高温高湿) Biased Humidity	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	温度 85℃; 湿度 85RH%; 持续时间 1000 小时, 不通电。周期测量 250 小时、500 小时。 试验结束后 24±4 小时内进行测试。 Temperature 85℃;Relative humidity 85%; Duration 1000 h; Unpowered. Examination at 250h ,500h and 1000h; Measurement at 24±4 hours after test conclusion.
4	工作寿命 Operational Life	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	温度 125℃; 施加电流: 常温额定电流的 1/2; 持续时间: 1000 小时。 试验结束后 24±4 小时内进行测试。 Temperature 125℃; Test current: half of Rated current at normal temperature; Duration 1000 h; Measurement at 24±4 hours after test conclusion.
5	机械冲击 Mechanical Shock	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	正半弦波; 峰值加速度 100g; 脉冲持续时间 6ms; 三轴六向各 3 次, 共 18 次。 Half sine wave. Peak value 100g. Normal duration 6 ms; Three shocks in each direction shall be applied along the three mutually perpendicular axes of the test specimen (18 shocks)

序号 No.	项目 Items	要求 Requirements	试验方法及备注 Test Methods and Remarks
6	振动 Vibration	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z$ within $\pm 30\%$	频率 10Hz~2000Hz; 加速度 5 克; 一个循环 20 分钟; X、Y、Z 三个方向每个方向 12 个循环, 共 36 个循环; . The entire frequency range of 10 to 2000 Hz and return to 10 Hz shall be traversed in 20 minutes. This cycle shall be preformed 12 time in each of three mutually perpendicular directions (total of 36 times), so that the motion shall be applied for a total period of approximately 12 hours. Peak value 5g.
7	耐焊接热 Resistance to Soldering Heat	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	焊槽法; 温度 (260±5) °C; 浸渍时间 (10±1) s。 Solder bath; Temperature (260±5) °C; Immersion timer (10±1) seconds.
8	可焊性 Solder ability	无可见损伤; 电极面 95%以上覆盖新的焊料。 95% or more of electrode area shall be coated by new solder.	焊槽法; 无铅焊锡; 温度 (245±5) °C; 浸渍时间 (3±0.3) s。 Solder bath; Lead-free solder; Temperature (245±5) °C; Immersion timer (3±0.3) seconds.
9	弯曲 Board flex	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	电感器安装在厚 1.6mm 环氧玻璃布板上, 以 1mm/s 的速度向下弯曲 2mm; 维持时间 60s±5s。 The testing samples shall be mounted on a 100mm×40mm FR4 PCB board, which is 1.6mm±0.2mm thick. Bending shall be applied to the 2.0mm with 1.0mm/sec; Duration: 60±5s.
10	端子强度 Terminal Strength (SMD)	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	试样安装在环氧玻璃布板上, 施加 1005 规格: 5N, ≥1608 规格: 17.7N 的力到试样的侧面, 保持 60s±1s。 The testing samples shall be mounted on the testing epoxy boards, exerting force on side of the samples, Size 1005: 5N ; ≥ Size 1608: 17.7N, Duration 60s±1s. 

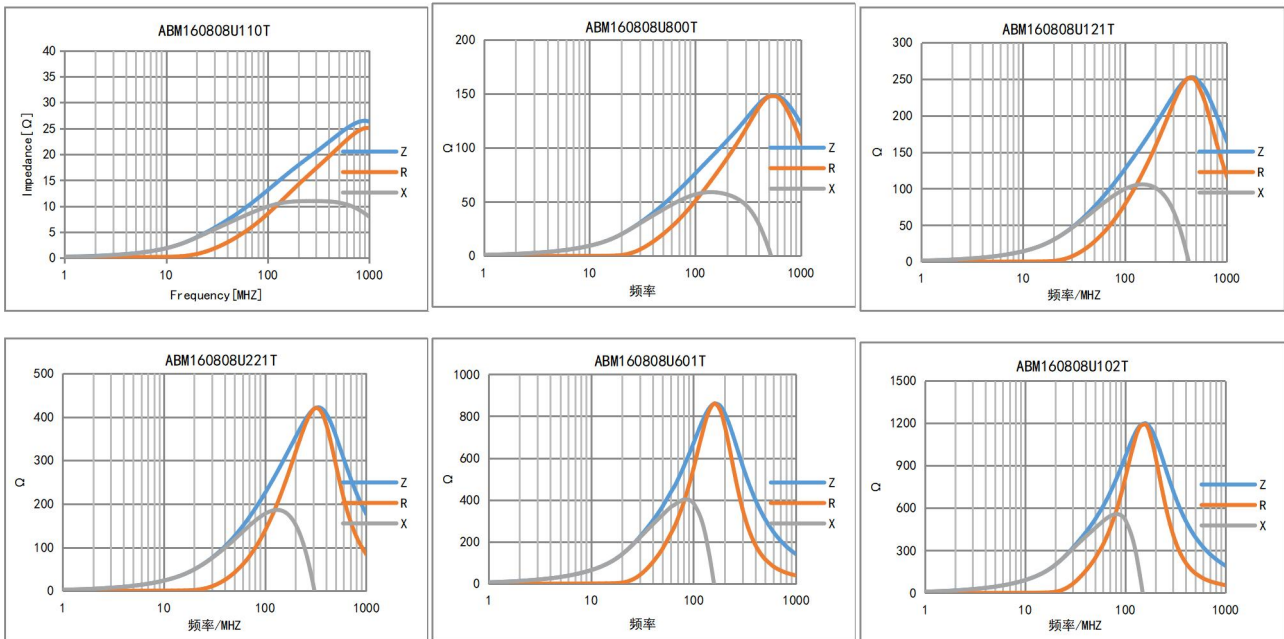
◆ 产品特性曲线图

Product Characteristic Curve

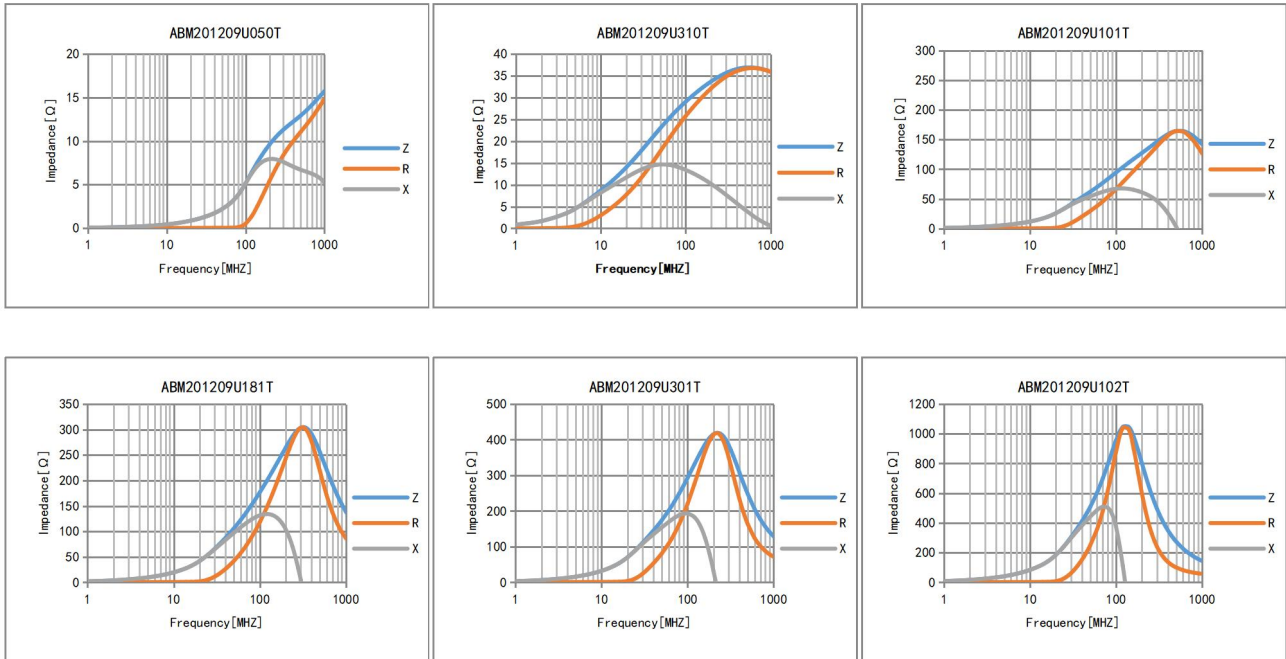
ABM1005 Type



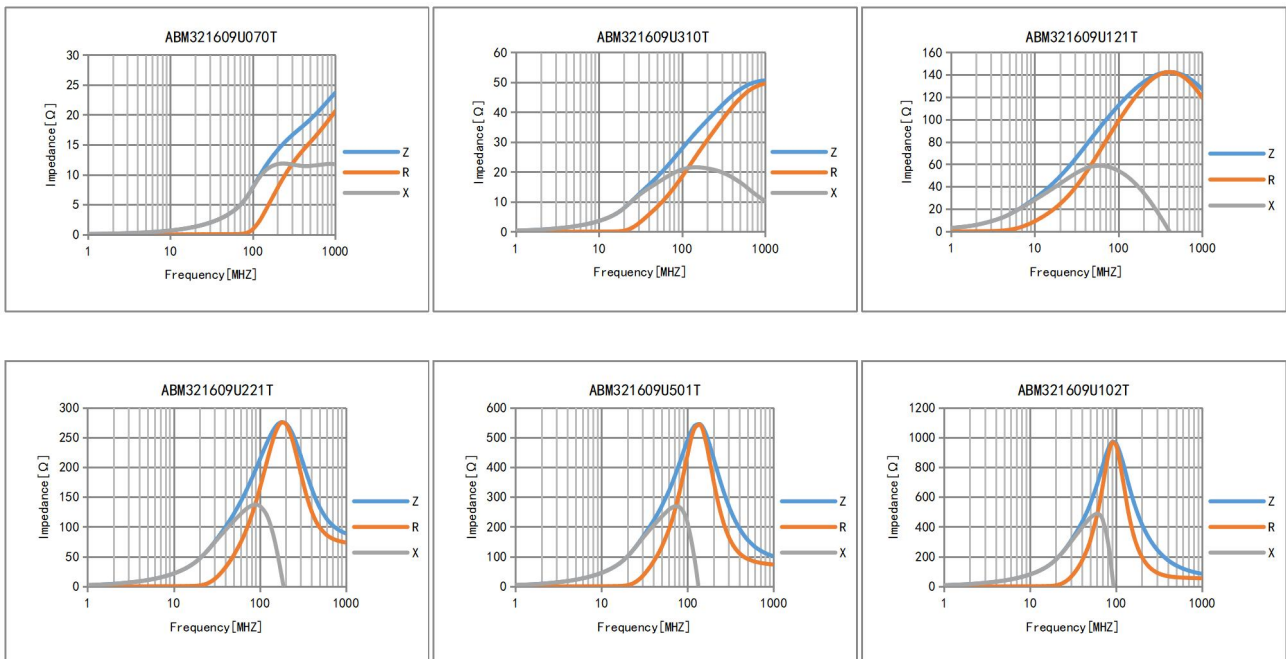
ABM1608 Type



ABM2012 Type



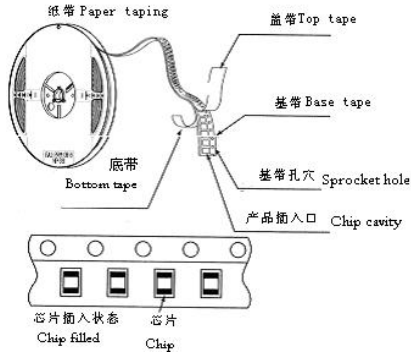
ABM3216 Type



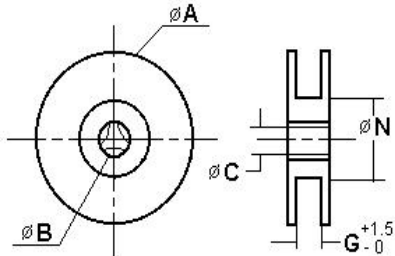
◆包装

Packaging

* 编带图 Taping drawings

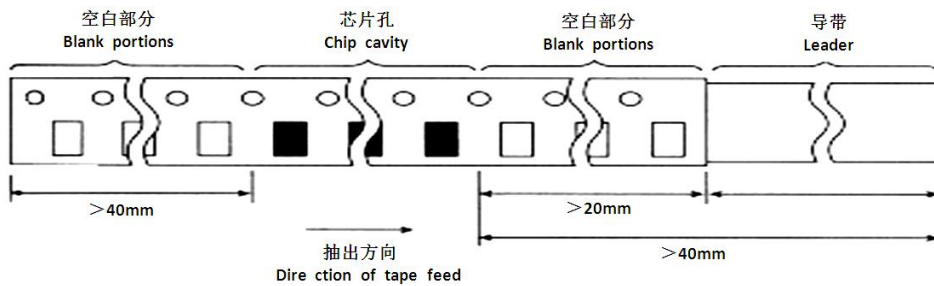


* 卷盘尺寸 Reel dimensions (Unit: mm)



型号 Size	A	B	C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

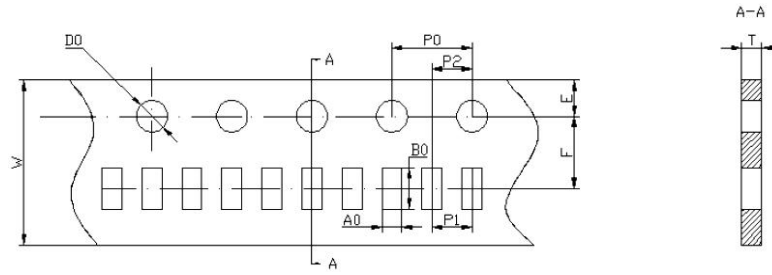
* 导带及空格部分 Leader and blank portion



* 编带尺寸 Taping dimensions (Unit: mm)

纸带 Paper tape

Part NO.	A0	B0	W	F	E	P1	P2	P0	D0	T
100505	0.65±0.1	1.15±0.1	8.0±0.2	3.5±0.1	1.75±0.2	2.0±0.1	2.0±0.1	4.0±0.2	1.55±0.1	0.60±0.1
160808	1.10±0.2	1.90±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1
201209	1.50±0.2	2.30±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1
321609	1.90±0.2	3.50±0.2	8.0±0.2	3.5±0.1	1.75±0.2	4.0±0.2	2.0±0.1	4.0±0.2	1.55±0.1	0.95±0.1



* 包装数量 (单位: 粒) Packaging number (Unit: Pcs)

类型 SIZE	321609	201209	160808	100505
每卷数量 REEL	4000	4000	4000	10000
每盒数量 BOX	40000	40000	40000	100000
每箱数量 CASE	240000	240000	240000	600000