

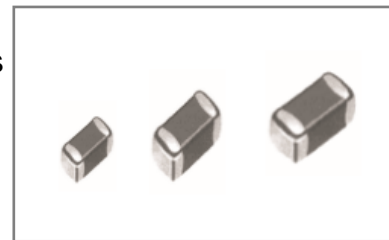
■ 叠层片式铁氧体音频磁珠

Automotive Grade Multilayer Chip Ferrite 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.
- * 适用于大电流信号的低直流电阻
Low DC resistance suitable for large current signals



◆ 应用

Application

- * 应用于 D 级功放电路，音频磁珠在保障较佳的音频信号情况下起到降噪作用。
Used in Class D amplifier circuits, the audio beads provide noise reduction while maintaining a good audio signal.

◆ 型号表示法

Part Number

CBE	3225	A	681	T
①	②	③	④	⑤

产品代号 Product Code	
CBE	车规叠层铁氧体大电流磁珠 Automotive Grade Multilayer Chip Ferrite High Current Beads

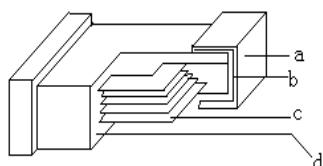
规格尺寸(L×W×T) Dimensions (mm)	
100505	1.0×0.5×0.5
160808	1.6×0.8×0.8
252010	2.5×2.0×1.0
321609	3.2×1.6×0.9

材料代号 Material Code
A

阻抗(Ω) Impedance	
示例 Example	
300	30
681	680

包装方式 Packaging Style	
T	卷带盘装 Tape & Reel
B	散装 Bulk

◆ 产品结构 Product Structure

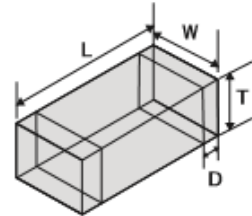


- a. 银层 Ag layer
- b. 镀层 Ni/Sn plating
- c. 内电极 Inner electrode
- d. 瓷体 Body

◆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)
252010 (1008)	2.5±0.20 (0.098±0.008)	2.0±0.20 (0.079±0.008)	1.0±0.20 (0.039±0.008)	0.5±0.3 (0.020±0.012)
322515 (1210)	3.2±0.20 (0.126±0.008)	2.5±0.20 (0.098±0.008)	1.5±0.20 (0.051±0.008)	0.5±0.3 (0.020±0.012)



◆电性能参数

Electrical Characteristics

2520 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 (A) Max
CBE252010A301T	±25%	300	100	0.0300	4.0
CBE252010A601T	±25%	600	100	0.0300	4.0

3225 Type

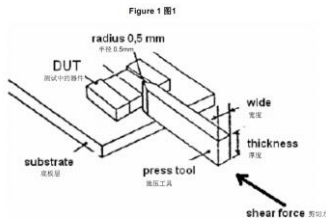
型号 Part NO	误差范围 Tolerance	标称阻抗 Impedance (Ω)	测试频率 Test frequency (MHz)	直流电阻 DCR (Ω) Max	额定电流 Ir (A) Max
CBE322515A681T	±25%	680	100	0.0350	4.0

◆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.

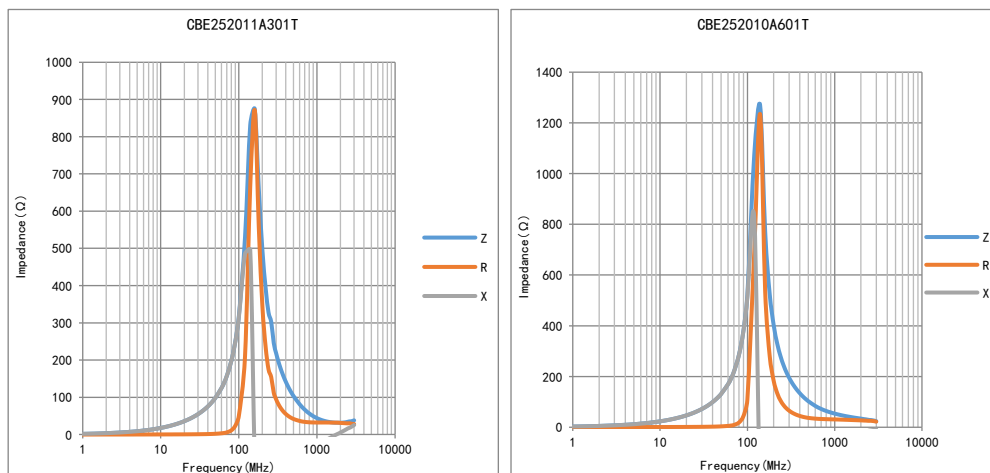
2	温度循环 Temperature Cycling	无可见损伤; 阻抗: $\Delta Z/Z \leq \pm 30\%$ 。 No Visible damage; Impedance: $\Delta Z/Z \leq \pm 30\%$	高温 125℃; 低温 -40℃; 高、低温下暴露时间各 30 分钟; 转换时间 $\leq 1\text{min}$; 循环次数 1000 次。 试验结束后 24±4 小时内进行测试。 High Temperature +125℃; low temperature -40℃; Duration at each temperature 30 min; Transition time $\leq 1\text{ min}$. 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)
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) ℃; 浸渍时间 (10±1) s。 Solder bath; Temperature (260±5) ℃; 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. 

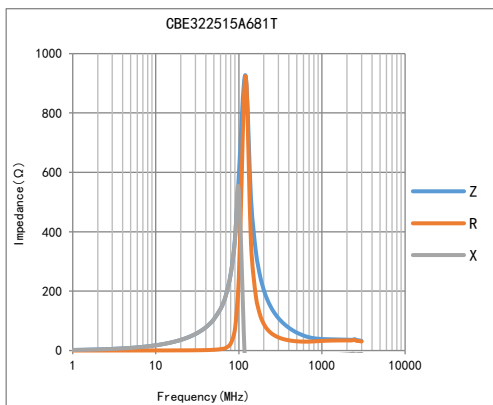
◆产品特性曲线图

Product Characteristic Curve

CBE252010 Type



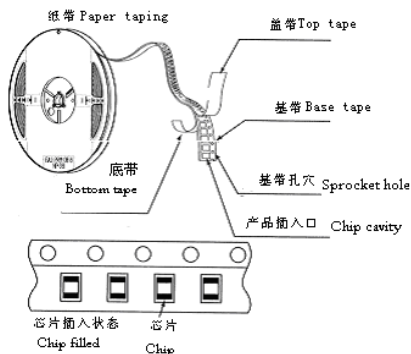
CBE322515 Type



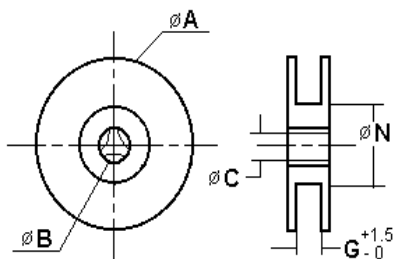
◆包装

Packaging

* 编带图 Taping drawings

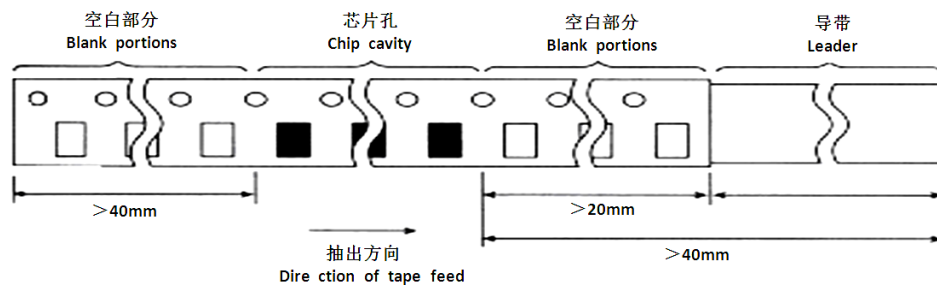


* 卷盘尺寸 Reel dimensions (Unit: mm)



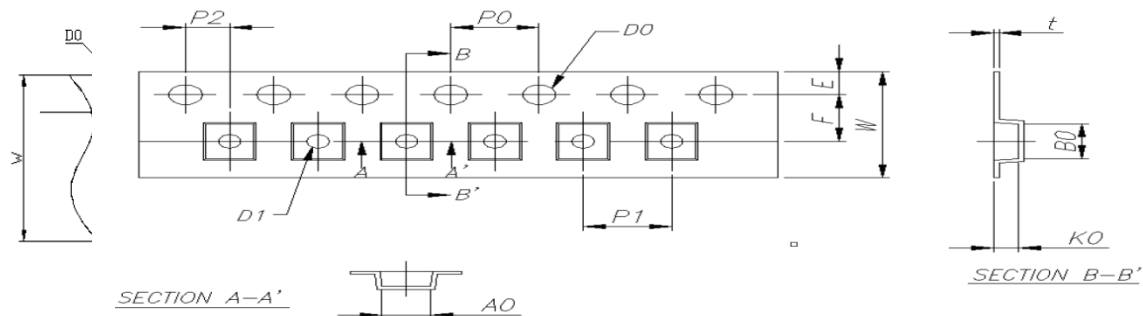
型号 Size	A	B	C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	57±2.0	8

* 导带及空格部分 Leader and blank portion



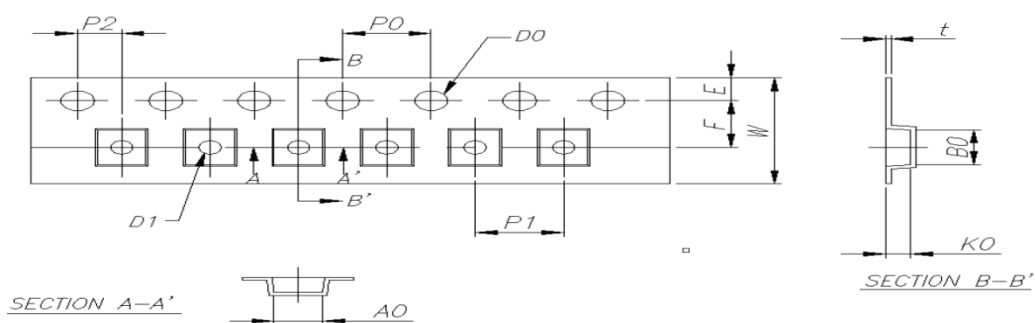
* 编带尺寸 Taping dimensions (Unit: mm)

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

塑料胶带 Embossed tape



型号 Size	453215	322513	321611	201212
W	12.00+/-0.20	8.00+/-0.20	8.00+/-0.20	8.00+/-0.2
E	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10
F	5.50+/-0.10	3.50+/-0.10	3.50+/-0.10	3.50+/-0.10
D0	1.50+/-0.10	1.50+/-0.10	1.50+/-0.10	1.50+/-0.10
D1	1.50+/-0.10	1.00+/-0.10	1.00+/-0.10	1.00+/-0.10
P0	4.00+/-0.10	4.00+/-0.10	4.00+/-0.10	4.00+/-0.10

P010	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20
P1	8.00+/-0.10	4.00+/-0.10	4.00+/-0.10	4.00+/-0.10
P2	2.00+/-0.10	2.0+/-0.05	2.0+/-0.05	2.00+/-0.10
A0	3.66+/-0.10	2.77+/-0.10	1.88+/-0.10	1.52+/-0.10
B0	4.95+/-0.10	3.42+/-0.10	3.50+/-0.10	2.41+/-0.10
K0	1.85+/-0.10	1.55+/-0.10	1.27+/-0.10	1.35+/-0.10
t	0.24+/-0.20	0.23+/-0.20	0.23+/-0.20	0.23+/-0.20

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

类型 SIZE	322515	252010	201209	160808	100505
每卷数量 REEL	3000	3000	4000	4000	10000
每盒数量 BOX	30000	30000	40000	40000	100000
每箱数量 CASE	180000	180000	240000	240000	600000