

高音質アルミ電解コンデンサ

High Fidelity Aluminium Electrolytic Capacitors

磨きあげたテクノロジーから原音のディテールを再現！
 Play back the detail of original sound through High-Technology

パナソニックでは、高音質回路設計に不可欠の「ハイファイオーディオアルミ電解コンデンサ」を開発……。音質特性とコンデンサの要素技術とを解明して、新たにオーディオ用アルミ電解コンデンサをシステムで誕生させました。電源回路からスピーカまでの回路設計でパナソニックハイファイオーディオアルミ電解コンデンサの優れた効果を是非お確かめください。

Panasonic has developed High-Quality electrolytic Audio Capacitors have been developed through the whole study of capacitor technology and materials related to quality sound characteristics. Please listen and examine the spreaded effect of Panasonic Audio Capacitor on designed circuitry from power supply to speaker system.

特長

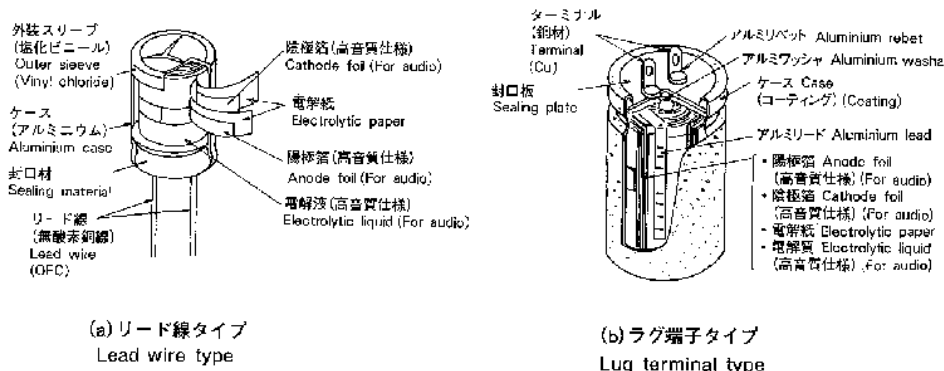
- 歪感が低減され、クリアな音を再生
- 中域がしっとりと音に艶がある
- 低音域の歪感を向上
- 音の立ち上がり感がよい

Features

- Low distortion and clear sound.
- Quiet mood but mellow sound in middle range.
- Bass robustness up.
- Quick response for sound rise.

構造と要素材料 Construction and element materials

アルミニウム電解コンデンサの内部構造
 Typical construction of aluminium electrolytic capacitor.

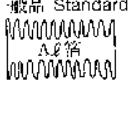
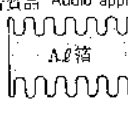
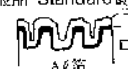
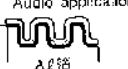
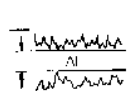
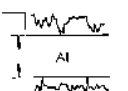
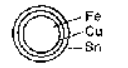
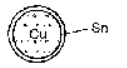


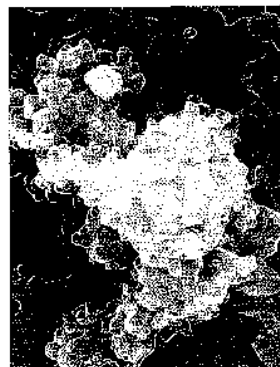
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主な新要素技術内容 Main new method

陽極酸化皮膜表面のSEM写真 SEM Photos of Oxide Film on High-Sound-Quality Anode Foil

要素技術 Method	内 容 Contents
高音質用 陽極箔 Anode foil for audio application	■エッチング(断面モデル図) Etching (Cut model) 一般品 Standard 高音質品 Audio application   ・エッチング 形状の変更 箔厚み増大 芯厚み増大 ・Etching pit shape change. Foil and core thickness up.
	■化成(断面モデル図) Forming (Cut model) 一般品 Standard 高音質品 Audio application   ・均一で薄く、緻密な 酸化皮膜を形成 Formation of uniform and thin and anode foil line.
高音質用 陰極箔 Cathod foil for audio application	  ・陰極箔の 芯厚み増大 箔厚み増大 ・Foil and core thickness up
高音質用 電解質 Electrolytic liquid audio application	- セルロース繊維への浸透度の高い溶媒を使用。 - 溶質濃度を変更し、酸化皮膜界面での抵抗を低下。 - イオン半径・粘度を考慮し、高導電度の溶質・溶媒を選択。 ● High permeability solvent to cellulose fibers is used. ● Low resistance at the surface of oxide film by change of solute concentration. ● Select the solvent and solute with high conductivity considering ion radius and viscosity.
リード線 Lead wire	一般品 Standard 高音質品 Audio application   銅メッキ銅被覆鋼線 Tin gild copper cover steel wire 銅メッキ無酸素鋼線 Tin gild OFC wire

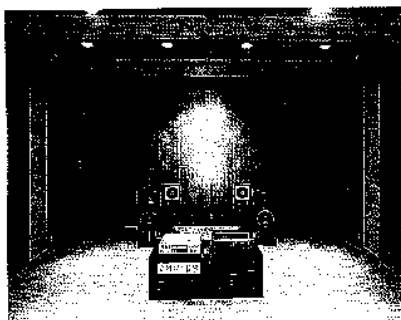


(a)一般用(従来法)
Standard (Current Method)



(b)オーディオ用(新)
For audio (New Method)

音質評価用試験室 Listening room



一評価方法

Listening Method

高音質用アルミ電解コンデンサの試験評価を実際のセットに実装して行なう。

Samples of high quality audio capacitors were mounted in actual audio sets and then listen them.

*電源回路の平滑用コンデンサ

*Capacitor for smoothing circuit in power supply.

*CD・アンプ等のカップリング用

*Capacitor coupling circuit in CD player, amplifier.

全表面積 Total space 115.34m²
吸音面積 Effective acoustic space 26.075m²

Panasonic

高音質アルミ電解コンデンサ

High Fidelity Aluminium Electrolytic Capacitors

A形PZシリーズ

オーディオ用標準サイズ品

A Type PZ Series

Radial lead type PZ Series for Audio

■仕様 Specifications

使用温度範囲 Operating Temp. Range	-40 to +85 °C								
定格電圧範囲 Rated W.V. Range	6.3 to 100 V. DC								
静電容量範囲 Nominal Cap. Range	0.47 to 10000 µF								
静電容量許容差 Capacitance Tolerance	±20 % (120 Hz/+20 °C)								
損失角の正接 tan δ	W.V.	6.3	10	16	25	35	50	63	100
	tan δ	0.28	0.24	0.20	0.18	0.16	0.14	0.13	0.12 (max.)
1000 µF を超えるものについては、1000 µF 増すごとに 0.02 を加えた値とする。 Add 0.02 per 1000 µF for products of 1000 µF or more.									
漏れ電流 DC Leakage Current	1-0.01 CV or 3µF after 2 minutes (いずれか大きい値以下 Whichever is the greater)								
高温負荷特性 Endurance	+85 ± 2℃ で定格電圧を連続1000時間印加後、降圧に復帰したとき以下の規格を満足すること。 静電容量変化率：初期値の ±20 % 損失角の正接：初期規格値の 200 % 以下 漏れ電流：初期規格以下 After applying rated working voltage for 1000 hours at +85 °C and then being stabilized at +20 °C, capacitor shall meet following limits. Capacitance change: ±20 % of initial measured value. tan δ: ≤ 200 % of initial specified value. DC leakage current: ≤ initial specified value								
寿命試験特性 Shelf Life	+85 ± 2℃ で 500 時間無負荷放置後、高温負荷特性に準ずる。 After storage for 500 hours at +85 °C with no voltage applied and then being stabilized at +20 °C, capacitor shall meet the limits specified in "Endurance".								

■品番呼称法 Explanation of Part Numbers

共通記号	形状	定格電圧記号	シリーズ記号	静電容量記号
E C E Common code	A Shape	 W.V. code	P Z Series code	 Capacitance code

■寸法図 Dimensions in mm (not to scale)

外観(ブラック) Body color (Black) 表示(ゴールド) Marking (Gold) Vent (50.3 mm dia) L: 15mm L2: 10mm L3: 10mm L4: 10mm L5: 10mm L6: 10mm L7: 10mm L8: 10mm L9: 10mm L10: 10mm L11: 10mm L12: 10mm L13: 10mm L14: 10mm L15: 10mm L16: 10mm L17: 10mm L18: 10mm L19: 10mm L20: 10mm L21: 10mm L22: 10mm L23: 10mm L24: 10mm L25: 10mm L26: 10mm L27: 10mm L28: 10mm L29: 10mm L30: 10mm L31: 10mm L32: 10mm L33: 10mm L34: 10mm L35: 10mm L36: 10mm L37: 10mm L38: 10mm L39: 10mm L40: 10mm L41: 10mm L42: 10mm L43: 10mm L44: 10mm L45: 10mm L46: 10mm L47: 10mm L48: 10mm L49: 10mm L50: 10mm L51: 10mm L52: 10mm L53: 10mm L54: 10mm L55: 10mm L56: 10mm L57: 10mm L58: 10mm L59: 10mm L60: 10mm L61: 10mm L62: 10mm L63: 10mm L64: 10mm L65: 10mm L66: 10mm L67: 10mm L68: 10mm L69: 10mm L70: 10mm L71: 10mm L72: 10mm L73: 10mm L74: 10mm L75: 10mm L76: 10mm L77: 10mm L78: 10mm L79: 10mm L80: 10mm L81: 10mm L82: 10mm L83: 10mm L84: 10mm L85: 10mm L86: 10mm L87: 10mm L88: 10mm L89: 10mm L90: 10mm L91: 10mm L92: 10mm L93: 10mm L94: 10mm 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