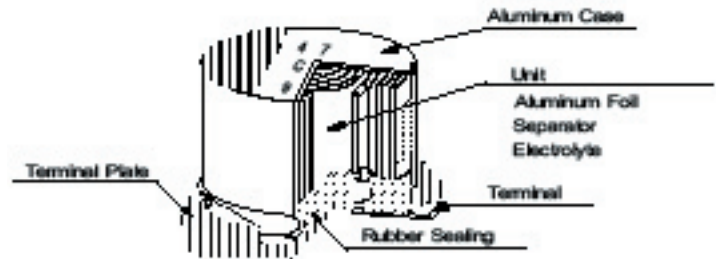


Types AEB, AFC, AFK **Material Content Declaration - Lead Free**
 AHA, AVS **SMT Aluminum Electrolytic Capacitors**

Material Content for RoHS Compliant Lead Free Parts

| Construction Element | Material Group | Materials | CAS if Applicable | Typical Mass (Wt. %) | ppm | Sum (%) |
|------------------------------|-----------------------|---------------------|-------------------|-----------------------------|--------|---------|
| Active Part | Metals | Al (foil) | 7429-90-5 | 19.23 | 192300 | 34.78 |
| | Liquids | Gamma Butyrolactone | 96-48-0 | 10.53 | 105300 | |
| | Other | Paper | 9004-34-6 | 5.02 | 50200 | |
| Encapsulation Seal | Metals | Al (case) | 7429-90-5 | 34.03 | 340300 | 48.50 |
| | Plastics | Polyamide 6 | 25038-54-4 | 0.25 | 2500 | |
| | Other | Rubber | 9010-85-9 | 14.21 | 142100 | |
| Termination (Terminal Plate) | Wire | Fe | 7439-89-6 | 2.47 | 24700 | 16.730 |
| | | Copper Coating | 7440-50-8 | 0.61 | 6100 | |
| | Finish | (Sn + Sn3Bi*) | *7440-69-9 | (0.27+*0.0017) or 0.2717 | 2717 | |
| | | or Sn | 7440-31-5 | | | |
| Plastics | Polyphenylene Sulfide | 9016-75-5 | 13.38 | 133800 | | |



Content, Reflow Temperatures, Case Sizes and Weight

| Lead Free Product | |
|------------------------|---|
| CDE Part Number | Add -F at end of P/N |
| Rubber Sealing | Synthetic Rubber with high modulus of elasticity |
| Aluminum Case | Aluminum with high modulus of elasticity |
| Terminal | Tinned Copper-clad Steel Wire |
| Terminal finish | Tin and Bismuth Sn + Sn/3Bi |
| Separator | Manila Hemp |
| Anode Foil | High Purity Aluminum Foil |
| Cathode Foil | Aluminum Foil |
| Electrolyte | Organic Solvent |
| Terminal Plate | Thermo-plastic resin |
| Initial Characteristic | Same |
| Life Characteristic | Same |
| Peak Temperature | ≤ 5 s @ 250 °C (3 - 6.3 mm Dia.) ≤ 5 s @ 235 °C (8 - 18 mm Dia.) |
| Reflow Temperature | ≤ 60 s @ 200 °C (3 - 18 mm Dia.) |
| Backward Compatible | Yes |
| MSL Level | N/A |

| Case Code | Case Size D x L (mm) | Weight (g) |
|-----------|----------------------|------------|
| A | 3.0 x 5.4 | 0.08 |
| B | 4.0 x 5.4** | 0.12 |
| C | 5.0 x 5.4** | 0.20 |
| D | 6.3 x 5.4** | 0.30 |
| X | 6.3 x 7.9 | 0.44 |
| E | 8.0 x 6.2 | 0.52 |
| F | 8.0 x 10.2 | 0.88 |
| G | 10.0 x 10.2 | 1.29 |
| H | 12.5 x 13.5 | 2.49 |
| J | 10.0 x 13.5 | 1.43 |
| K | 10.0 x 16.5 | 1.89 |
| L | 12.5 x 16.5 | 2.87 |
| P | 16.0 x 16.5 | 5.31 |
| R | 18.0 x 16.5 | 6.98 |
| S | 18.0 x 21.5 | 7.87 |
| U | 16.0 x 21.5 | 6.22 |

No (Bi) in shaded area

** 5.8 ±.3 for AFK

To the best of our knowledge, the information provided on the enclosed is correct as of the date indicated on the document. Since some of the information is provided by the acceptance of data from sources outside of Cornell Dubilier Electronics, we can not guarantee that all is complete and accurate. 030309