

## PRODUCTION IDENTIFICATION

|                           |   |
|---------------------------|---|
| - PRODUCT NAME            | Ferrite Bead                            |
| - TYPE                    | Multi Layer Surface Mount               |
| - SIZE                    | 1005 (0402)                             |
| - SERIES                  | FBU Series                              |
| - WEIGHT                  | 2.6 mg                                  |
| - MANUFACTURE NAME        | Cal-Chip Electronics Inc.               |
| - ADDRESS                 | 59 Steamwhistle Drive Ivyland, PA 18974 |
| - RESPONSIBLE PERSON NAME | Frank Salamone                          |
| - TELEPHONE               | 215.942.8900                            |

## GENERAL COMPOSITION

| PART               | MATERIAL         | %   | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO. |              |
|--------------------|------------------|---|--------|----------------|------------|----------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65     | 2.35           | 1.52556    | 90.27    | 1309-37-1    |
|                    |                  | NiO                                       | 9      |                | 0.21123    |          | 1313-99-1    |
|                    |                  | ZnO                                       | 22     |                | 0.51634    |          | 1314-13-2    |
|                    |                  | CuO                                       | 4      |                | 0.09388    |          | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95  | 0.10           | 0.08354    | 3.78     | 7440-22-4    |
|                    |                  | Resins                                    | <5     |                | 0.00491    |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.00098    |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5     |                | 0.00246    |          | 112-34-5     |
|                    |                  | Terpineol                                 | <5     |                | 0.00491    |          | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5     |                | 0.00098    |          | trade secret |
|                    |                  | Diethy Phthalate                          | <1     |                | 0.00049    |          | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60  | 0.06           | 0.03175    | 2.22     | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10   |                | 0.00404    |          | trade secret |
|                    |                  | Resins                                    | 5~10   |                | 0.00404    |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.00231    |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20  |                | 0.00577    |          | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10   |                | 0.00462    |          | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10   |                | 0.00289    |          | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5     |                | 0.00231    |          | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100    | 0.02           | 0.02470    | 0.95     | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100    | 0.07           | 0.07228    | 2.78     | 7440-31-5    |

# MATERIAL DECLARATION

## PRODUCTION IDENTIFICATION

|                           |   |
|---------------------------|---|
| - PRODUCT NAME            | Ferrite Bead                            |
| - TYPE                    | Multi Layer Surface Mount               |
| - SIZE                    | 1608 (0603)                             |
| - SERIES                  | FBU Series                              |
| - WEIGHT                  | 6.2 mg                                  |
| - MANUFACTURE NAME        | Cal-Chip Electronics Inc.               |
| - ADDRESS                 | 59 Steamwhistle Drive Ivyland, PA 18974 |
| - RESPONSIBLE PERSON NAME | Frank Salamone                          |
| - TELEPHONE               | 215.942.8900                            |

## GENERAL COMPOSITION

| PART               | MATERIAL         |   | %     | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO.     |
|--------------------|------------------|---|-------|--------|----------------|------------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65    | 5.45   | 3.54358        | 87.93      | 1309-37-1    |
|                    |                  | NiO                                       | 9     |        | 0.49065        |            | 1313-99-1    |
|                    |                  | ZnO                                       | 22    |        | 1.19937        |            | 1314-13-2    |
|                    |                  | CuO                                       | 4     |        | 0.21807        |            | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95 | 0.24   | 0.20448        | 3.88       | 7440-22-4    |
|                    |                  | Resins                                    | <5    |        | 0.01203        |            | trade secret |
|                    |                  | Additives                                 | <5    |        | 0.00241        |            | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5    |        | 0.00601        |            | 112-34-5     |
|                    |                  | Terpineol                                 | <5    |        | 0.01203        |            | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5    |        | 0.00241        |            | trade secret |
|                    |                  | Diethy Phthalate                          | <1    |        | 0.00120        |            | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60 | 0.23   | 0.12651        | 3.71       | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10  |        | 0.01610        |            | trade secret |
|                    |                  | Resins                                    | 5~10  |        | 0.01610        |            | trade secret |
|                    |                  | Additives                                 | <5    |        | 0.00920        |            | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20 |        | 0.02300        |            | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10  |        | 0.01840        |            | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10  |        | 0.01150        |            | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5    |        | 0.00920        |            | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100   | 0.09   | 0.08556        | 1.38       | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100   | 0.19   | 0.19220        | 3.10       | 7440-31-5    |



## PRODUCTION IDENTIFICATION

|                           |   |
|---------------------------|---|
| - PRODUCT NAME            | Ferrite Bead                            |
| - TYPE                    | Multi Layer Surface Mount               |
| - SIZE                    | 2012 (0805)                             |
| - SERIES                  | FBU Series                              |
| - WEIGHT                  | 10.01 mg                                |
| - MANUFACTURE NAME        | Cal-Chip Electronics Inc.               |
| - ADDRESS                 | 59 Steamwhistle Drive Ivyland, PA 18974 |
| - RESPONSIBLE PERSON NAME | Frank Salamone                          |
| - TELEPHONE               | 215.942.8900                            |

## GENERAL COMPOSITION

| PART               | MATERIAL         | %   | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO. |              |
|--------------------|------------------|---|--------|----------------|------------|----------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65     | 8.23           | 5.34625    | 82.25    | 1309-37-1    |
|                    |                  | NiO                                       | 9      |                | 0.74025    |          | 1313-99-1    |
|                    |                  | ZnO                                       | 22     |                | 1.80950    |          | 1314-13-2    |
|                    |                  | CuO                                       | 4      |                | 0.32900    |          | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95  | 0.78           | 0.66215    | 7.79     | 7440-22-4    |
|                    |                  | Resins                                    | <5     |                | 0.03895    |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.00779    |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5     |                | 0.01948    |          | 112-34-5     |
|                    |                  | Terpineol                                 | <5     |                | 0.03895    |          | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5     |                | 0.00779    |          | trade secret |
|                    |                  | Diethy Phthalate                          | <1     |                | 0.00390    |          | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60  | 0.47           | 0.25905    | 4.71     | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10   |                | 0.03297    |          | trade secret |
|                    |                  | Resins                                    | 5~10   |                | 0.03297    |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.01884    |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20  |                | 0.04710    |          | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10   |                | 0.03768    |          | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10   |                | 0.02355    |          | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5     |                | 0.01884    |          | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100    | 0.17           | 0.16700    | 1.67     | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100    | 0.36           | 0.35800    | 3.58     | 7440-31-5    |

# MATERIAL DECLARATION

FBU SERIES

## PRODUCTION IDENTIFICATION

|                           |   |
|---------------------------|---|
| - PRODUCT NAME            | Ferrite Bead                            |
| - TYPE                    | Multi Layer Surface Mount               |
| - SIZE                    | 3216 (1206)                             |
| - SERIES                  | FBU Series                              |
| - WEIGHT                  | 30.0 mg                                 |
| - MANUFACTURE NAME        | Cal-Chip Electronics Inc.               |
| - ADDRESS                 | 59 Steamwhistle Drive Ivyland, PA 18974 |
| - RESPONSIBLE PERSON NAME | Frank Salamone                          |
| - TELEPHONE               | 215.942.8900                            |

## GENERAL COMPOSITION

| PART               | MATERIAL         |   | %     | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO.     |
|--------------------|------------------|---|-------|--------|----------------|------------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65    | 26.31  | 17.100         | 87.69      | 1309-37-1    |
|                    |                  | NiO                                       | 9     |        | 2.368          |            | 1313-99-1    |
|                    |                  | ZnO                                       | 22    |        | 5.788          |            | 1314-13-2    |
|                    |                  | CuO                                       | 4     |        | 1.052          |            | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95 | 1.80   | 1.5320         | 6.01       | 7440-22-4    |
|                    |                  | Resins                                    | <5    |        | 0.0901         |            | trade secret |
|                    |                  | Additives                                 | <5    |        | 0.0180         |            | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5    |        | 0.0451         |            | 112-34-5     |
|                    |                  | Terpineol                                 | <5    |        | 0.0901         |            | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5    |        | 0.0180         |            | trade secret |
|                    |                  | Diethy Phthalate                          | <1    |        | 0.0090         |            | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60 | 0.98   | 0.5416         | 3.28       | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10  |        | 0.0689         |            | trade secret |
|                    |                  | Resins                                    | 5~10  |        | 0.0689         |            | trade secret |
|                    |                  | Additives                                 | <5    |        | 0.0394         |            | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20 |        | 0.0985         |            | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10  |        | 0.0788         |            | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10  |        | 0.0492         |            | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5    |        | 0.0394         |            | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100   | 0.19   | 0.189          | 0.63       | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100   | 0.72   | 0.717          | 2.39       | 7440-31-5    |



## PRODUCTION IDENTIFICATION

|                           |   |
|---------------------------|---|
| - PRODUCT NAME            | Ferrite Bead                            |
| - TYPE                    | Multi Layer Surface Mount               |
| - SIZE                    | 3225 (1210)                             |
| - SERIES                  | FBU Series                              |
| - WEIGHT                  | 53.99 mg                                |
| - MANUFACTURE NAME        | Cal-Chip Electronics Inc.               |
| - ADDRESS                 | 59 Steamwhistle Drive Ivyland, PA 18974 |
| - RESPONSIBLE PERSON NAME | Frank Salamone                          |
| - TELEPHONE               | 215.942.8900                            |

## GENERAL COMPOSITION

| PART               | MATERIAL         | %   | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO. |              |
|--------------------|------------------|---|--------|----------------|------------|----------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65     | 45.20          | 29.382     | 83.71    | 1309-37-1    |
|                    |                  | NiO                                       | 9      |                | 4.068      |          | 1313-99-1    |
|                    |                  | ZnO                                       | 22     |                | 9.945      |          | 1314-13-2    |
|                    |                  | CuO                                       | 4      |                | 1.808      |          | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95  | 2.18           | 1.8544     | 4.04     | 7440-22-4    |
|                    |                  | Resins                                    | <5     |                | 0.1091     |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.0218     |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5     |                | 0.0545     |          | 112-34-5     |
|                    |                  | Terpineol                                 | <5     |                | 0.1091     |          | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5     |                | 0.0218     |          | trade secret |
|                    |                  | Diethy Phthalate                          | <1     |                | 0.0109     |          | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60  | 1.14           | 0.6267     | 2.11     | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10   |                | 0.0798     |          | trade secret |
|                    |                  | Resins                                    | 5~10   |                | 0.0798     |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.0456     |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20  |                | 0.1139     |          | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10   |                | 0.0912     |          | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10   |                | 0.0570     |          | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5     |                | 0.0456     |          | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100    | 0.28           | 0.281      | 0.52     | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100    | 5.19           | 5.195      | 9.62     | 7440-31-5    |

# MATERIAL DECLARATION

## PRODUCTION IDENTIFICATION

- PRODUCT NAME Ferrite Bead  
 - TYPE Multi Layer Surface Mount  
 - SIZE 4516 (1806)  
 - SERIES FBU Series  
 - WEIGHT 60.0 mg  
 - MANUFACTURE NAME Cal-Chip Electronics Inc.  
 - ADDRESS 59 Steamwhistle Drive Ivyland, PA 18974  
 - RESPONSIBLE PERSON NAME Frank Salamone  
 - TELEPHONE 215.942.8900

## GENERAL COMPOSITION

| PART               | MATERIAL         |   | %     | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO.     |
|--------------------|------------------|---|-------|--------|----------------|------------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65    | 57.33  | 37.264         | 95.55      | 1309-37-1    |
|                    |                  | NiO                                       | 9     |        | 5.160          |            | 1313-99-1    |
|                    |                  | ZnO                                       | 22    |        | 12.612         |            | 1314-13-2    |
|                    |                  | CuO                                       | 4     |        | 2.293          |            | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95 | 0.78   | 0.6630         | 1.3        | 7440-22-4    |
|                    |                  | Resins                                    | <5    |        | 0.0390         |            | trade secret |
|                    |                  | Additives                                 | <5    |        | 0.0078         |            | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5    |        | 0.0195         |            | 112-34-5     |
|                    |                  | Terpineol                                 | <5    |        | 0.0390         |            | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5    |        | 0.0078         |            | trade secret |
|                    |                  | Diethy Phthalate                          | <1    |        | 0.0039         |            | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60 | 0.40   | 0.2178         | 0.66       | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10  |        | 0.0277         |            | trade secret |
|                    |                  | Resins                                    | 5~10  |        | 0.0277         |            | trade secret |
|                    |                  | Additives                                 | <5    |        | 0.0158         |            | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20 |        | 0.0396         |            | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10  |        | 0.0317         |            | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10  |        | 0.0198         |            | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5    |        | 0.0158         |            | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100   | 0.33   | 0.330          | 0.55       | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100   | 1.16   | 1.164          | 1.94       | 7440-31-5    |



## PRODUCTION IDENTIFICATION

- PRODUCT NAME Ferrite Bead  
 - TYPE Multi Layer Surface Mount  
 - SIZE 4532 (1812)  
 - SERIES FBU Series  
 - WEIGHT 62.0 mg  
 - MANUFACTURE NAME Cal-Chip Electronics Inc.  
 - ADDRESS 59 Steamwhistle Drive Ivyland, PA 18974  
 - RESPONSIBLE PERSON NAME Frank Salamone  
 - TELEPHONE 215.942.8900

## GENERAL COMPOSITION

| PART               | MATERIAL         | %   | WEIGHT | SUBSTANCE MASS | PERCENTAGE | CASE NO. |              |
|--------------------|------------------|---|--------|----------------|------------|----------|--------------|
| Ferrite Core       | Ferrite Powder   | Fe2O3                                     | 65     | 60.59          | 39.385     | 97.73    | 1309-37-1    |
|                    |                  | NiO                                       | 9      |                | 5.453      |          | 1313-99-1    |
|                    |                  | ZnO                                       | 22     |                | 13.330     |          | 1314-13-2    |
|                    |                  | CuO                                       | 4      |                | 2.424      |          | 1317-38-0    |
| Internal Electrode | Silver           | Ag  | 85~95  | 0.81           | 0.6904     | 1.31     | 7440-22-4    |
|                    |                  | Resins                                    | <5     |                | 0.0406     |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.0081     |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | <5     |                | 0.0203     |          | 112-34-5     |
|                    |                  | Terpineol                                 | <5     |                | 0.0406     |          | 8000-41-7    |
|                    |                  | Ester Alcohol                             | <5     |                | 0.0081     |          | trade secret |
|                    |                  | Diethy Phthalate                          | <1     |                | 0.0041     |          | 84-66-2      |
| Terminal Electrode | Silver           | Ag  | 50~60  | 0.43           | 0.2353     | 0.69     | 7440-22-4    |
|                    |                  | Glass Frit                                | 5~10   |                | 0.0299     |          | trade secret |
|                    |                  | Resins                                    | 5~10   |                | 0.0299     |          | trade secret |
|                    |                  | Additives                                 | <5     |                | 0.0171     |          | trade secret |
|                    |                  | Diethylene Glycol Monobutyl Ether         | 10~20  |                | 0.0428     |          | 112-34-5     |
|                    |                  | Terpineol                                 | 5~10   |                | 0.0342     |          | 8000-41-7    |
|                    |                  | Diethylene Glycol Monobutyl Ether Acetate | 5~10   |                | 0.0214     |          | 124-17-4     |
|                    |                  | Benzy Alcohol                             | <5     |                | 0.0171     |          | 100-51-6     |
| Terminal Plating   | Nickel Anode #18 | Ni  | 100    | 0.03           | 0.031      | 0.05     | 7440-02-0    |
|                    | Pure Tin Solder  | Sn  | 100    | 0.14           | 0.136      | 0.22     | 7440-31-5    |