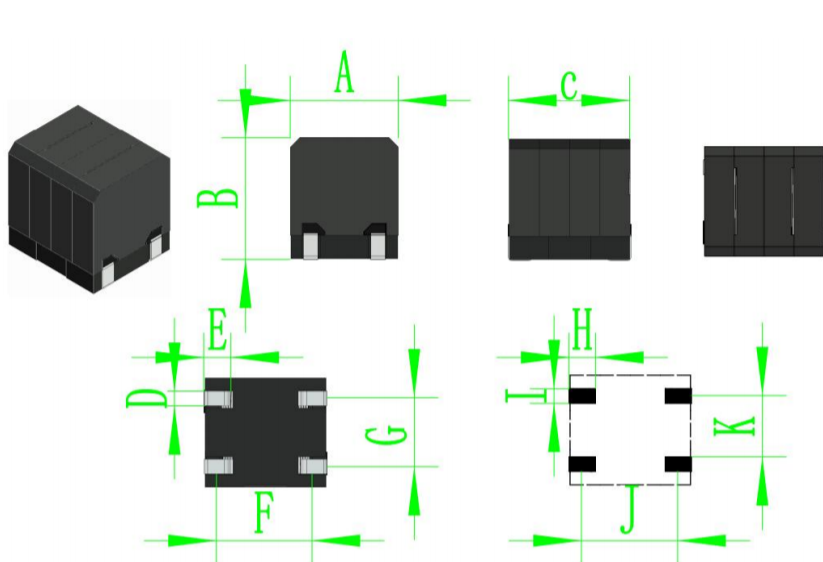


## Power Inductors For Digital Amplifier

### 1、 DIMENSION:(UNIT:mm)

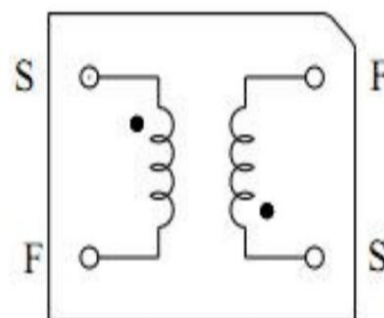


|          |          |
|----------|----------|
| <b>A</b> | 9.0±0.5  |
| <b>B</b> | 10.2MAX  |
| <b>C</b> | 10.2±0.5 |
| <b>D</b> | 1.2±0.15 |
| <b>E</b> | 1.9±0.5  |
| <b>F</b> | 8.0±0.5  |
| <b>G</b> | 5.5±0.5  |

### 2、 ELECTRICAL CHARACTER:

### SCHEMATICS:

| ITEM        | Spec.  |             | Test Frequency |
|-------------|--------|-------------|----------------|
| <b>L1</b>   | 10uH   | ±20%        | 100KHz/0.25V   |
| <b>L2</b>   | 10uH   | ±20%        | 100KHz/0.25V   |
| <b>IDC1</b> | 5A     | drop≤25%TYP | 100KHz/0.25V   |
| <b>IDC2</b> | 5A     | drop≤25%TYP | 100KHz/0.25V   |
| <b>DCR1</b> | 18.5mΩ | Max         | 25℃            |
| <b>DCR1</b> | 18.5mΩ | Max         | 25℃            |

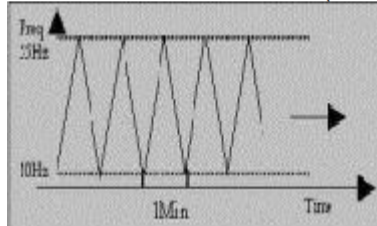
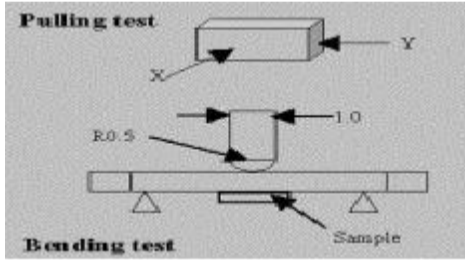


**4、 ELECTRICAL CHARACTERISTIC:**

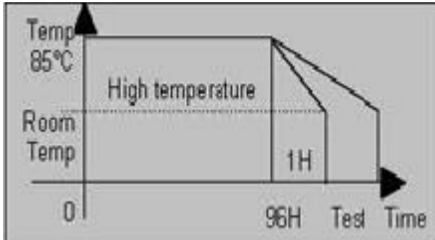
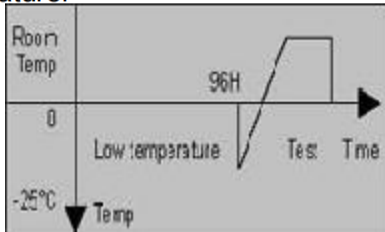
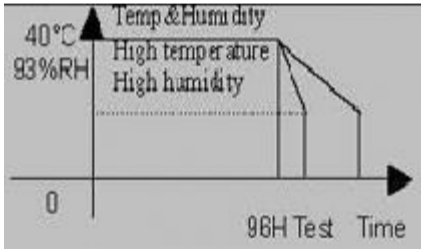
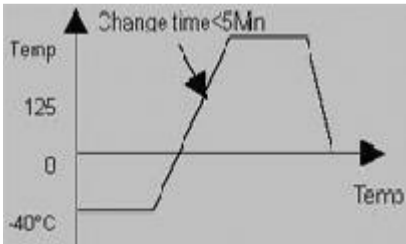
| TEST EQUIPMENT: UC2910A/UC2517B/VR115+VR7225 |                  |      |               |          |                          |          |             |           | QUANTITY:<br>3PCS |             |              |
|----------------------------------------------|------------------|------|---------------|----------|--------------------------|----------|-------------|-----------|-------------------|-------------|--------------|
| TEST ITEM                                    | L1               | L2   | DCR<br>1      | DCR<br>2 | IDC<br>1                 | IDC<br>2 | Drop<br>1   | Drop<br>2 | A                 | B           | C            |
| TEST<br>CONDITION                            | 100KHz/<br>0.25V |      | 25℃           |          | 5A                       |          |             |           |                   |             |              |
| SPEC                                         | 10uH<br>±20%     |      | 18.5mΩ<br>MAX |          | 10uH<br>100KHz/<br>0.25V |          | drop≤25%TYP |           | 9.0<br>±0.5       | 10.2<br>MAX | 10.2<br>±0.5 |
| 01                                           | 8.87             | 8.7  | 14.52         | 13.35    | 8.82                     | 8.00     | 0.56%       | 7.51%     | 9.15              | 9.92        | 10.25        |
| 02                                           | 8.68             | 8.9  | 14.38         | 13.19    | 8.40                     | 8.77     | 3.23%       | 1.46%     | 9.20              | 9.90        | 10.22        |
| 03                                           | 8.91             | 9.6  | 14.19         | 13.43    | 8.47                     | 8.25     | 4.94%       | 14.06%    | 9.18              | 9.93        | 10.24        |
|                                              |                  |      |               |          |                          |          |             |           |                   |             |              |
|                                              |                  |      |               |          |                          |          |             |           |                   |             |              |
|                                              |                  |      |               |          |                          |          |             |           |                   |             |              |
| X                                            | 8.82             | 9.05 | 14.36         | 13.32    | 8.56                     | 8.34     | 2.91%       | 7.68%     | 9.18              | 9.92        | 10.24        |
| MAX                                          | 8.91             | 9.60 | 14.52         | 13.43    | 8.82                     | 8.77     | 4.94%       | 14.06%    | 9.20              | 9.93        | 10.22        |
| MIN                                          | 8.68             | 8.65 | 14.19         | 13.19    | 8.40                     | 8.00     | 0.56%       | 1.46%     | 9.15              | 9.90        | 10.25        |

**5、 Packing: 300pcs/Reel**

## 6、Reliability Test:

| Item                                                                                     | Required Characteristics                                                                                                                                             | Test Method/Condition                                                                                                                                                                              |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Solderability test<br>Reference documents:<br>MIL-STD-202G Method<br>208H IPC J-STD-002B | Terminals area must have 95%<br>min. Solder coverage                                                                                                                 | Dip pads in flux then dip in solder pot at $260\pm 5^{\circ}\text{C}$ for 5 second.<br>Solder:Lead free                                                                                            |
| Heat endurance of<br>Reflow soldering<br>Reference documents:<br>IPC J-STD-020B          | 1.No case deformation or<br>change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta \text{DCR}/\text{DCR} \leq 10\%$           | Refer to the next page reflow curve Go through 3<br>times<br>The peak temperature : $260\pm 5^{\circ}\text{C}$                                                                                     |
| Vibration test Reference<br>documents:<br>MIL-STD-202G Method<br>201A                    | 1.No case deformation or<br>change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta \text{DCR}/\text{DCR} \leq 10\%$           | Apply frequency 10~55Hz. 0.75mm amplitude in each<br>of perpendicular direction for 2 hours.(total 6 hours)<br> |
| Drop test Reference<br>documents:<br>MIL-STD-202G Method<br>203C                         | 1.No case deformation or<br>change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta \text{DCR}/\text{DCR} \leq 10\%$           | Packaged & Drop down from 1m with $981\text{m/s}^2(100\text{G})$<br>a ttitude In 1 angle 1 ridges & 2 surfaces orientations.                                                                       |
| Terminal strength push<br>test Reference<br>documents:<br>JIS C 5321:1997                | Pulling test:<br>DEFINE: A: sectional area of<br>terminal $A \leq 8 (\text{Sq M})$<br>force $\geq 5\text{N}$ time:30sec<br>$8(\text{Sq M}) < A \leq 20(\text{Sq M})$ | Bend the testing PCB at middle point,the deflection<br>shall be 2mm<br>                                        |
| Resistance to solvent<br>test Reference<br>documents:<br>IEC 68-2-45:1993                | No case deformation or change<br>in appearance,or obliteration of<br>marking                                                                                         | To dip parts into IPA solvent for $5\pm 0.5\text{Min}$ , then drying<br>them at room temp for 5Min,at last ,to brushing making<br>10 times.                                                        |

## Reliability Test:

| Item                                                                        | Required Characteristics                                                                                                                  | Test Method/Condition                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| High temperature Storage test Reference documents: MIL-STD-202G Method 108A | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta DCR/DCR \leq 10\%$ | Temperature: $85 \pm 2^\circ\text{C}$ Time : $96 \pm 2$ hours<br>Tested not less than 1 hour, nor more than 2 hours at room temperature.<br>                                            |
| Low temperature Storage test Referenced documents: IEC 68-2-1A 6.1 6.2      | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta DCR/DCR \leq 10\%$ | Temperature: $-25 \pm 2^\circ\text{C}$ Time : $96 \pm 2$ hours Tested not less than 1 hour, nor more than 2 hours at room temperature.<br>                                             |
| Humidity test Reference documents: MIL-STD-202G Method 103B                 | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta DCR/DCR \leq 10\%$ | 1. Dry oven at a temperature of $40^\circ \pm 5^\circ\text{C}$ for 24 hours.<br>2. Measurements At the end of this period<br>3. Exposure: Temperature: $40 \pm 2^\circ\text{C}$ ,<br> |
| Thermal shock test Reference documents: MIL-STD-202G Method 107G            | 1.No case deformation or change in appearance.<br>2. $\Delta L/L \leq 10\%$<br>3. $\Delta Q/Q \leq 30\%$<br>4. $\Delta DCR/DCR \leq 1$    | First $-40^\circ\text{C}$ for T time, last $125^\circ\text{C}$ T time as 1 cycle. Go through 20 cycles.<br>                                                                           |