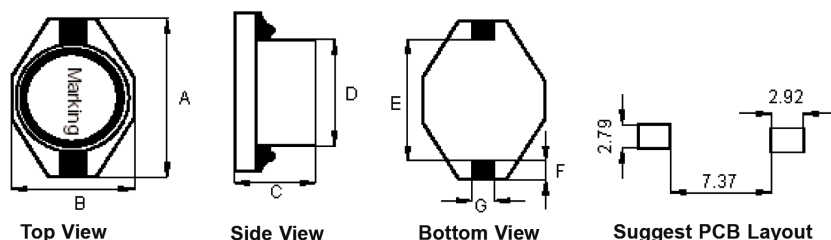


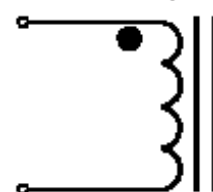
**RoHS  
Compliant**



## Configurations and Dimensions



## Schematic Diagram



Note:  
(1) Wire Ø0.14mm × 1P 2UEWF 155°C  
(2) 64.5TS (Reference)

## Test Data for Mechanical

| Test Item     | A<br>mm      | B<br>mm    | C<br>mm    | D<br>mm  | E<br>mm     | F<br>mm     | G<br>mm     |
|---------------|--------------|------------|------------|----------|-------------|-------------|-------------|
| Specification | 12.95 (Max.) | 9.5 (Max.) | 5.2 (Max.) | 8.4 ±0.3 | 7.62 (Ref.) | 2.54 (Ref.) | 2.54 (Ref.) |
| 1             | 12.78        | 9.21       | 4.78       | 8.49     | 7.62        | 2.52        | 2.53        |
| 2             | 12.74        | 9.22       | 4.8        | 8.48     | 7.6         | 2.51        | 2.52        |
| 3             | 12.78        | 9.2        | 4.81       | 8.5      | 7.62        | 2.51        | 2.53        |
| 4             | 12.78        | 9.18       | 4.82       | 8.52     | 7.62        | 2.5         | 2.51        |
| 5             | 12.74        | 9.2        | 4.79       | 8.49     | 7.59        | 2.52        | 2.52        |
| Average       | 12.76        | 9.2        | 4.8        | 8.5      | 7.61        | 2.51        | 2.52        |

## Electrical Characteristics

Dimensions : Millimetres

| Test Condition           |           |                |
|--------------------------|-----------|----------------|
| 100kHz 0.1V              | L         | 100µH ±10%     |
| at 25°C                  | DCR       | 1.02Ω (Max.)   |
| 100kHz 0.1V Irms = 0.88A | L at Irms | ΔT 40°C (Max.) |

Operating temperature : -55°C to +130°C

Note : Irms : Temperature rise 40°C

## Material List

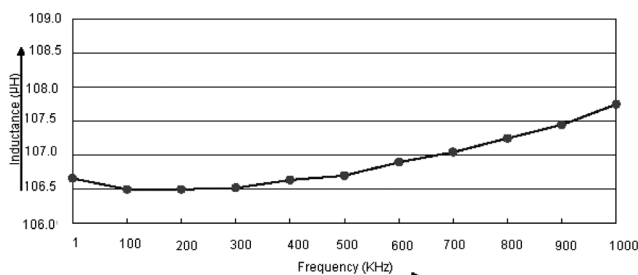
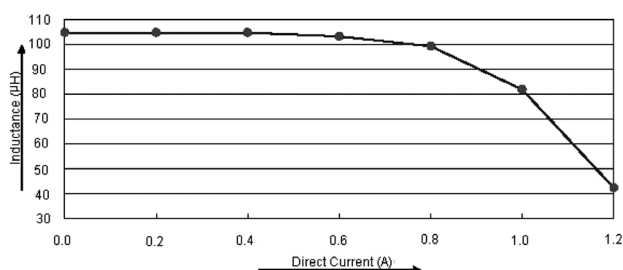
| No. | Item               | Material Description                   |
|-----|--------------------|--|
| 1   | Core               | R5A DR4.8 × 4; R5A RI 8.4 × 4.1 × 6.85 |
| 2   | Wire               | Ø0.14mm × 1P 2UEWF (155°C)             |
| 3   | Solder (Lead Free) | Sn99.3% / Cu0.7%                       |
| 4   | Glue               | TH320D / TH320-3                       |
| 5   | Base               | SN-BS019.01 LCP                        |

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## Reliability Test

| Test Item                        | Specifications   | Test Method and Remarks  |
|----------------------------------|--|--|
| Solderability                    | The electrodes shall be at least 90% covered with new solder coating.                | According to IEC68-2-20<br>Soldering temperature : 245 ±5°C<br>Solder : Sn99.3% / Cu0.7%<br>Flux : Rosin<br>Immersion time : 5 ±1s   |
| Soldering heat resistance        | Appearance : No damage<br>Inductance change : Within ±10% of initial value           | Preheat temperature 150°C<br>Preheat time : 1 min<br>Solder temperature : 260 ±5°C<br>Dipping time : 10 ±1s<br>Measured at room temperature after placing for 24 hours.  |
| Vibration (Out LAB)              | Appearance : No damage<br>All electrical and mechanical parameters within tolerance. | According to MIL-STD202 Method 204<br>Frequency : 10 to 55 Hz<br>Amplitude : 1.52mm<br>Direction and time X Y and Z direction for 2 hours each.  |
| Humidity resistance test         | Appearance : No damage<br>All electrical and mechanical parameters within tolerance. | According to IEC68-2-1 Method Ca<br>Temperature : 40 ±2°C<br>Humidity : 90%-95% RH<br>Test time : 500 ±2hrs<br>The component should be stabilized at normal condition for 24 hours before test.  |
| High temperature resistance test | Appearance : No damage<br>All electrical and mechanical parameters within tolerance. | According to IEC68-2-2<br>Temperature : 85 ±3°C<br>Test time : 500 +24 hrs<br>The component should be stabilized at normal condition for 24 hours before test.   |
| Low temperature resistance test  | Appearance : No damage<br>All electrical and mechanical parameters within tolerance. | According to IEC68-2-1 Method A (Ad)<br>Temperature : -40 ±3°C<br>Test time : 500 +24hrs<br>The component should be stabilized at normal condition for 24 hours before test.   |
| Temperature cycles test          | Appearance : No damage<br>All electrical and mechanical parameters within tolerance. | According to IEC68-2-14 Method N (Nb)<br>High-temperature : 85 ±3°C duration 30 mins<br>Room-temperature : 25 ±2°C duration 3 hrs<br>Low-temperature : -40 ±3°C duration 30 mins<br>Room-temperature : 25 ±2°C duration 3 hrs<br>Number of cycle : 10 cycles<br>The component should be stabilized at normal condition for 24 hours before test. |

## Electric Characteristics



## Test Data for Electrical

| Test Item     | L<br>μH        | DCR<br>Ω       | L at Irms<br>μH             |
|---------------|----------------|----------------|-----------------------------|
| Condition     | 100kHz<br>0.1V | at 25°C        | 100kHz 0.1V<br>Irms = 0.88A |
| Specification | 100 ±10%       | 1.02<br>(Max.) | ΔT 40°C<br>(Max.)           |
| 1             | 104.12         | 0.83           | OK                          |
| 2             | 105.72         | 0.85           |                             |
| 3             | 104.25         |                |                             |
| 4             | 101.26         | 0.84           |                             |
| 5             | 103.34         | 0.85           |                             |
| Average       | 103.74         | 0.84           | OK                          |

## Part Number Table

| Description               | Part Number     |
|---------------------------|-----------------|
| Inductor, 100μH, 10%, SMD | MCBFS5220-101KU |

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