High-Reliability Power Inductors **MS412PJB**

- High temperature materials allow operation in ambient temperatures up to 155°C
- Special construction allows it to pass vibration testing to 80 G and shock testing to 1000 G.
- Tin-lead (Sn-Pb) termination for the best possible board adhesion

### Core material
- Ferrite

### Terminations
- Tin-lead (63/37) over tin over nickel.

### Weight
- 50 – 62 mg

### Ambient temperature
- –55°C to +105°C with (40°C) I<sub>rms</sub> current

### Maximum part temperature
- +155°C (Ambient + temp rise)

### Storage temperature
- Component: –55°C to +155°C.

### Tape and reel packaging
- –55°C to +80°C

### Resistance to soldering heat
- Max three 40 second reflows at +450°C, parts cooled to room temperature between cycles

### Moisture Sensitivity Level (MSL)
- 1 (unlimited floor life at <30°C / 85% relative humidity) (Forced retirement after 12 months)

### Enhanced crush-resistant packaging
- 1000/7″ reel

### Plastic tape specifications
- Plastic tape: 12 mm wide, 0.26 mm thick, 8 mm pocket spacing, 1.65 mm pocket depth

### Recommended pick and place nozzle
- OD: 3 mm; ID: ≤1.5 mm

### Specifications

<table>
<thead>
<tr>
<th>Part number&lt;sup&gt;1&lt;/sup&gt;</th>
<th>Inductance&lt;sup&gt;2&lt;/sup&gt; (µH)</th>
<th>DCR max&lt;sup&gt;3&lt;/sup&gt; (Ohms)</th>
<th>SRF (MHz)&lt;sup&gt;4&lt;/sup&gt;</th>
<th>Isat (&lt;sup&gt;A&lt;/sup&gt;)&lt;sup&gt;5&lt;/sup&gt;</th>
<th>Irms (&lt;sup&gt;A&lt;/sup&gt;)&lt;sup&gt;6&lt;/sup&gt;</th>
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1. When ordering, please specify testing code:
   - **MS412PJB333MSZ**

   **Testing:**
   - **Z** = Unscreened
   - **H** = Group A screening per Coilcraft CP-SA-10001
   - **T** = Screening per MIL-STD-981
   - **U** = Screening per EEE-INST-002
   - **F** = Screening per ESCC 3201

   All screening performed to the document's latest revision. Custom screening also available.

2. Inductance tested at 100 kHz, 0.1 Vrms using an Agilent/HP 4192A. Inductance at 1 MHz is the same for parts with SRF ≥10 MHz.

3. DCR measured on a micro-ohmmeter.

4. SRF measured using an Agilent/HP 8753ES or equivalent.

5. DC current at 25°C that causes the specified inductance drop from its value without current.

6. Current that causes the specified temperature rise from 25°C ambient.

   This information is for reference only and does not represent absolute maximum ratings.

7. Electrical specifications at 25°C.

   Refer to Doc 362 “Soldering Surface Mount Components” before soldering.
MS412PJB Series (3015)

Typical L vs Frequency

Typical L vs Current

Dimensions are in inches

† Height dimension is after mounting. For maximum height dimension before mounting, add 0.006 in / 0.152 mm.

Dimensions are in millimeters

* Dimensions are of the case not including the termination. For maximum overall dimensions including the termination and solder, add 0.010 in / 0.254 mm.

Suggested Land Pattern