Power Inductors – RFC1010 Series

- Low cost, high current power inductors
- 30 inductance values; 68 µH to 18 mH
- Flame retardant polyolefin wrap to protect the winding.

Core material  Ferrite
Terminations  RoHS compliant tin-silver over tin over copper over steel. Other terminations available at additional cost
Environmental  RoHS compliant, halogen free
Weight  3.2 – 3.7 g
Ambient temperature  −40°C to +85°C with (40°C rise) Irms current.
Maximum part temperature  +125°C (ambient + temp rise). Derating.
Storage temperature  Component: −40°C to +125°C.
Tray or tape packaging: −40°C to +80°C
Moisture Sensitivity Level (MSL)  1 (unlimited floor life at <30°C / 85% relative humidity)
Packaging  150 parts per tray
PCB washing  Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

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Dimensions are in inches
mm
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<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance(^c) ±10% (µH)</th>
<th>DCR (Ohms)</th>
<th>SRF((\text{typ}))</th>
<th>Isat((\text{A}))(^d)</th>
<th>Irms((\text{A}))(^e)</th>
<th>20°C rise</th>
<th>40°C rise</th>
</tr>
</thead>
<tbody>
<tr>
<td>RFC1010B-685KE</td>
<td>68</td>
<td>0.100</td>
<td>0.115</td>
<td>5.6</td>
<td>3.20</td>
<td>3.67</td>
<td>3.94</td>
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<tr>
<td>RFC1010B-823KE</td>
<td>82</td>
<td>0.110</td>
<td>0.125</td>
<td>5.4</td>
<td>2.95</td>
<td>3.40</td>
<td>3.67</td>
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<tr>
<td>RFC1010B-104KE</td>
<td>100</td>
<td>0.130</td>
<td>0.150</td>
<td>4.7</td>
<td>2.65</td>
<td>3.03</td>
<td>3.27</td>
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<tr>
<td>RFC1010B-124KE</td>
<td>120</td>
<td>0.170</td>
<td>0.195</td>
<td>4.3</td>
<td>2.40</td>
<td>2.78</td>
<td>2.98</td>
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<tr>
<td>RFC1010B-154KE</td>
<td>150</td>
<td>0.200</td>
<td>0.230</td>
<td>4.0</td>
<td>2.20</td>
<td>2.50</td>
<td>2.70</td>
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<tr>
<td>RFC1010B-184KE</td>
<td>180</td>
<td>0.255</td>
<td>0.295</td>
<td>3.4</td>
<td>2.00</td>
<td>2.28</td>
<td>2.44</td>
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<tr>
<td>RFC1010B-224KE</td>
<td>220</td>
<td>0.290</td>
<td>0.335</td>
<td>3.1</td>
<td>1.85</td>
<td>2.08</td>
<td>2.25</td>
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<td>RFC1010B-274KE</td>
<td>270</td>
<td>0.380</td>
<td>0.440</td>
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<td>1.65</td>
<td>1.88</td>
<td>2.04</td>
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<td>RFC1010B-334KE</td>
<td>330</td>
<td>0.435</td>
<td>0.500</td>
<td>2.6</td>
<td>1.50</td>
<td>1.72</td>
<td>1.84</td>
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<tr>
<td>RFC1010B-394KE</td>
<td>390</td>
<td>0.485</td>
<td>0.560</td>
<td>2.4</td>
<td>1.40</td>
<td>1.60</td>
<td>1.72</td>
</tr>
</tbody>
</table>

1. When ordering, please specify lead length and termination codes:

RFC1010B-\(n\)KE

Lead length:  
\(\text{A} = 3.6 \text{ mm} ±0.3 \text{ mm (special order)}\)
\(\text{B} = 5.0 \text{ mm} ±0.5 \text{ mm}\)
\(\text{C} = 7.0 \text{ mm} ±0.5 \text{ mm (special order)}\)
\(\text{D} = 8.0 \text{ mm} ±0.5 \text{ mm (special order)}\)
\(\text{E} = 10.0 \text{ mm} ±1.0 \text{ mm (special order)}\)

Termination:  
\(\text{E} = \text{RoHS compliant tin-silver over tin over copper over steel}\)

Special order:  
\(\text{S} = \text{non-RoHS tin-lead (63/37)}\)

2. Inductance tested at 100 kHz, 0.1 Vrms, 0 Adc on an Agilent/HP 4284A LCR-meter or equivalent.
3. SRF measured using Agilent/HP 4191A or equivalent.
4. DC current at 25°C that causes the specified inductance drop from its value without current.
5. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.
6. Electrical specifications at 25°C.
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Typical L vs Current

Typical L vs Frequency