Features

- High saturation current
- Inductance range: 1.0 to 68 µH
- Heating current up to 2.7 A
- Dimensions: 4.5 x 4 x 3.2 mm
- AEC-Q200 qualified
- RoHS compliant* and halogen free**

SDE0403A Series - SMD Power Inductors

Electrical Specifications @ 25 °C

<table>
<thead>
<tr>
<th>Bourns Part Number</th>
<th>Inductance L (µH)</th>
<th>SRF (MHz) Typ.</th>
<th>DCR (Ω) Typ.</th>
<th>DCR (Ω) Max.</th>
<th>I rms (A)</th>
<th>I sat (A)</th>
<th>**K-Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDE0403A-1R0M</td>
<td>1.0 ± 20</td>
<td>113</td>
<td>0.0193</td>
<td>0.048</td>
<td>2.7</td>
<td>4.8</td>
<td>490</td>
</tr>
<tr>
<td>SDE0403A-2R2M</td>
<td>2.2 ± 20</td>
<td>76</td>
<td>0.0318</td>
<td>0.071</td>
<td>2.3</td>
<td>3.3</td>
<td>335</td>
</tr>
<tr>
<td>SDE0403A-3R3M</td>
<td>3.3 ± 20</td>
<td>64</td>
<td>0.0469</td>
<td>0.086</td>
<td>2.0</td>
<td>2.5</td>
<td>255</td>
</tr>
<tr>
<td>SDE0403A-4R7M</td>
<td>4.7 ± 20</td>
<td>50</td>
<td>0.0645</td>
<td>0.108</td>
<td>1.65</td>
<td>2.2</td>
<td>220</td>
</tr>
<tr>
<td>SDE0403A-6R8M</td>
<td>6.8 ± 20</td>
<td>41</td>
<td>0.0936</td>
<td>0.126</td>
<td>1.45</td>
<td>1.7</td>
<td>182</td>
</tr>
<tr>
<td>SDE0403A-8R2M</td>
<td>8.2 ± 20</td>
<td>38</td>
<td>0.106</td>
<td>0.142</td>
<td>1.4</td>
<td>1.6</td>
<td>163</td>
</tr>
<tr>
<td>SDE0403A-100M</td>
<td>10 ± 20</td>
<td>36</td>
<td>0.127</td>
<td>0.172</td>
<td>1.05</td>
<td>1.4</td>
<td>148</td>
</tr>
<tr>
<td>SDE0403A-120M</td>
<td>12 ± 20</td>
<td>32</td>
<td>0.146</td>
<td>0.197</td>
<td>1.0</td>
<td>1.3</td>
<td>135</td>
</tr>
<tr>
<td>SDE0403A-150M</td>
<td>15 ± 20</td>
<td>29</td>
<td>0.192</td>
<td>0.259</td>
<td>0.85</td>
<td>1.2</td>
<td>120</td>
</tr>
<tr>
<td>SDE0403A-180M</td>
<td>18 ± 20</td>
<td>28</td>
<td>0.237</td>
<td>0.309</td>
<td>0.75</td>
<td>1.1</td>
<td>112</td>
</tr>
<tr>
<td>SDE0403A-220M</td>
<td>22 ± 20</td>
<td>25</td>
<td>0.27</td>
<td>0.351</td>
<td>0.7</td>
<td>0.95</td>
<td>98</td>
</tr>
<tr>
<td>SDE0403A-270M</td>
<td>27 ± 20</td>
<td>22</td>
<td>0.322</td>
<td>0.419</td>
<td>0.65</td>
<td>0.85</td>
<td>90</td>
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<tr>
<td>SDE0403A-330K</td>
<td>33 ± 10</td>
<td>20</td>
<td>0.373</td>
<td>0.485</td>
<td>0.6</td>
<td>0.8</td>
<td>83</td>
</tr>
<tr>
<td>SDE0403A-390K</td>
<td>39 ± 10</td>
<td>18</td>
<td>0.449</td>
<td>0.561</td>
<td>0.55</td>
<td>0.7</td>
<td>75</td>
</tr>
<tr>
<td>SDE0403A-470K</td>
<td>47 ± 10</td>
<td>16</td>
<td>0.505</td>
<td>0.631</td>
<td>0.5</td>
<td>0.65</td>
<td>68</td>
</tr>
<tr>
<td>SDE0403A-560K</td>
<td>56 ± 10</td>
<td>15</td>
<td>0.736</td>
<td>0.92</td>
<td>0.45</td>
<td>0.6</td>
<td>62</td>
</tr>
<tr>
<td>SDE0403A-680K</td>
<td>68 ± 10</td>
<td>13</td>
<td>0.822</td>
<td>1.028</td>
<td>0.4</td>
<td>0.55</td>
<td>56</td>
</tr>
</tbody>
</table>

***K-Factor: To calculate core flux density, Bp-p (gauss) = K x L(µH) x A1 (peak-to-peak ripple current, A1), determine core loss from Core Loss vs. Flux Density plot.

Core Loss vs. Flux Density

General Specifications

Test Frequency / Voltage .... 1 MHz / 1 V
Operating Temperature
-40 °C to +125 °C (Temperature rise included)
Storage Temperature
-40 °C to +125 °C
Resistance to Solder Heat
+250 °C for 10 sec.
Temperature Rise
40 °C typ. at rated Irms
Inductance Drop
10 % typ. at Isat

Materials

Core.............................................. Ferrite Wire...................................... Enamelled copper Terminal Finish ......................................... Sn Packaging......................... 2000 pcs. per reel

Product Dimensions

Recommended Layout

WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

** Bourns follows the prevailing definition of “halogen free” in the industry. Bourns considers a product to be “halogen free” if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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SDE0403A Series - SMD Power Inductors

Inductance vs. IDC

- SDE0403A-2R2M
- SDE0403A-330K
- SDE0403A-150M
- SDE0403A-680K

Temperature Rise vs. IDC

- SDE0403A-2R2M
- SDE0403A-330K
- SDE0403A-150M
- SDE0403A-680K

Electrical Schematic

How to Order

Model
SDE0403A - 100M

Value Code (see table)

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Soldering Profile

Packaging Specifications

REV. 02/17
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