Current-compensated Chokes

- Rated currents from 6 to 20 A
- Up to 600 VAC and VDC
- 2- and 3-wire configurations
- Horizontal and vertical PCB mounting types
- Ruggedized saturation and thermal behavior
- Open construction for forced and convection cooling
- Straightforward pin-out for easy PCB design

Performance indicators

<table>
<thead>
<tr>
<th>Inductance value [mH]</th>
<th>0</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.5-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rated current [A]</th>
<th>0</th>
<th>10</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 (325)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Technical specifications

- Maximum continuous operating voltage: 600 VAC (3-line) and 300 VAC/425 VDC (2-line)
- Operating frequency: dc to 400 Hz
- Rated currents: 6 to 20 A at 60°C max. convection cooling
- High potential test voltage winding-to-winding: 2500 VAC, 60 sec, guaranteed, 2 sec factory test
- Temperature range (operation and storage): -40°C to +100°C (40/100/56)
- Flammability corresponding to: UL 94 V-0
- Cooling: convection/forced cooling
- MTBF: >5,000,000 hours (Mil-HB-217F)

Approvals

- RT common-mode chokes are mainly used to filter EMI noise on AC power lines up to 600 VAC. EMI noise of electronic equipment can go to the power lines and disturb the proper function of other devices like communication devices or control logic of robotics. Thus noise generated by the equipment from switched power electronics or by high slew rates of controllers needs to be filtered. RT common-mode chokes are used to suppress EMI noise in PCB integrated filter designs with line bypass capacitors or in combination with single phase filters for extra low leakage filter designs.

Features and benefits

- Cost-effective PCB designs for up to 32 A with forced cooling *
- Compact size and light weight
- Low magnetic leakage flux
- Excellent winding insulation
- Standardized foot print
- Broad range of inductance ratings
- Custom-specific versions on request
- * See Application Note for forced cooling

Typical applications

- AC and DC filtering for midsize power range drives, photovoltaic inverters, fast chargers, charging stations, UPS and switch mode power supplies
- Filter with low leakage current noise or improved immunity against grid disturbances
- Electronic devices, automation and (industrial) LED lighting
- Communication devices
- Medical and laboratory Equipment
- Converters

Typical electrical schematic

**2-line chokes (L1 and L2, 2x Ln), 3-line chokes (L1 to L3, 3x Ln)
## RT Series

<table>
<thead>
<tr>
<th>Selection table</th>
<th>convection</th>
<th>nominal current @ 60°C</th>
<th>*forced cooling</th>
<th>Inductance</th>
<th>**typ. Inductance</th>
<th>Choke</th>
<th>***Ø Pin</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>current 3 m/s nominal current @ 60°C</td>
<td>[A]</td>
<td>[A]</td>
<td>Ln @ 25°C 100kHz [mH/path]</td>
<td>Ln S @ 25°C 100kHz [μH/path]</td>
<td>R @ 25°C [mΩ/path]</td>
<td>[size]</td>
<td>ØP [mm]</td>
</tr>
<tr>
<td>RT 8122-6-10M0</td>
<td>6</td>
<td>9.5</td>
<td>10</td>
<td>30</td>
<td>33</td>
<td>1</td>
<td>1.1</td>
<td>80</td>
</tr>
<tr>
<td>RT 8122-8-8M0</td>
<td>8</td>
<td>12.5</td>
<td>8</td>
<td>24.8</td>
<td>21</td>
<td>1</td>
<td>1.3</td>
<td>80</td>
</tr>
<tr>
<td>RT 8122-10-6M0</td>
<td>10</td>
<td>16</td>
<td>6</td>
<td>19.2</td>
<td>16</td>
<td>1</td>
<td>1.4</td>
<td>80</td>
</tr>
<tr>
<td>RT 8122-12-5M0</td>
<td>12</td>
<td>19</td>
<td>5</td>
<td>20.5</td>
<td>14</td>
<td>2</td>
<td>1.5</td>
<td>100</td>
</tr>
<tr>
<td>RT 8122-16-4M0</td>
<td>16</td>
<td>27</td>
<td>4</td>
<td>17.6</td>
<td>10</td>
<td>2</td>
<td>1.8</td>
<td>110</td>
</tr>
<tr>
<td>RT 8122-20-3M0</td>
<td>20</td>
<td>32</td>
<td>3</td>
<td>13.5</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>160</td>
</tr>
<tr>
<td>RT 8522-6-10M0</td>
<td>6</td>
<td>9.5</td>
<td>10</td>
<td>31.5</td>
<td>33</td>
<td>4</td>
<td>1.1</td>
<td>70</td>
</tr>
<tr>
<td>RT 8522-8-8M0</td>
<td>8</td>
<td>12.5</td>
<td>8</td>
<td>24</td>
<td>21</td>
<td>4</td>
<td>1.3</td>
<td>80</td>
</tr>
<tr>
<td>RT 8522-10-6M0</td>
<td>10</td>
<td>16</td>
<td>6</td>
<td>19.2</td>
<td>16</td>
<td>4</td>
<td>1.4</td>
<td>80</td>
</tr>
<tr>
<td>RT 8522-12-5M0</td>
<td>12</td>
<td>19</td>
<td>5</td>
<td>23</td>
<td>14</td>
<td>5</td>
<td>1.5</td>
<td>90</td>
</tr>
<tr>
<td>RT 8522-16-4M0</td>
<td>16</td>
<td>27</td>
<td>4</td>
<td>18.8</td>
<td>10</td>
<td>5</td>
<td>1.8</td>
<td>110</td>
</tr>
<tr>
<td>RT 8522-20-3M0</td>
<td>20</td>
<td>32</td>
<td>3</td>
<td>13.5</td>
<td>7</td>
<td>6</td>
<td>2.0</td>
<td>150</td>
</tr>
<tr>
<td>RT 8132-6-6M0</td>
<td>6</td>
<td>9.5</td>
<td>6</td>
<td>18</td>
<td>27</td>
<td>7</td>
<td>1.1</td>
<td>80</td>
</tr>
<tr>
<td>RT 8132-8-4M8</td>
<td>8</td>
<td>12.5</td>
<td>4.8</td>
<td>14.9</td>
<td>17</td>
<td>7</td>
<td>1.3</td>
<td>90</td>
</tr>
<tr>
<td>RT 8132-10-3M4</td>
<td>10</td>
<td>16</td>
<td>4</td>
<td>16</td>
<td>15</td>
<td>8</td>
<td>1.5</td>
<td>110</td>
</tr>
<tr>
<td>RT 8132-12-3M6</td>
<td>12</td>
<td>19</td>
<td>3.6</td>
<td>14.4</td>
<td>12</td>
<td>8</td>
<td>1.6</td>
<td>120</td>
</tr>
<tr>
<td>RT 8132-16-3M0</td>
<td>16</td>
<td>27</td>
<td>3</td>
<td>12</td>
<td>8</td>
<td>9</td>
<td>1.8</td>
<td>170</td>
</tr>
<tr>
<td>RT 8132-20-2M5</td>
<td>20</td>
<td>32</td>
<td>2.5</td>
<td>10</td>
<td>7</td>
<td>9</td>
<td>2.1</td>
<td>190</td>
</tr>
<tr>
<td>RT 8532-6-6M0</td>
<td>6</td>
<td>9.5</td>
<td>6</td>
<td>18</td>
<td>27</td>
<td>10</td>
<td>1.1</td>
<td>90</td>
</tr>
<tr>
<td>RT 8532-8-4M8</td>
<td>8</td>
<td>12.5</td>
<td>4.8</td>
<td>13.9</td>
<td>17</td>
<td>10</td>
<td>1.3</td>
<td>90</td>
</tr>
<tr>
<td>RT 8532-10-4M0</td>
<td>10</td>
<td>16</td>
<td>4</td>
<td>16</td>
<td>15</td>
<td>11</td>
<td>1.5</td>
<td>110</td>
</tr>
<tr>
<td>RT 8532-12-3M6</td>
<td>12</td>
<td>19</td>
<td>3.6</td>
<td>15.1</td>
<td>12</td>
<td>11</td>
<td>1.6</td>
<td>120</td>
</tr>
<tr>
<td>RT 8532-16-3M0</td>
<td>16</td>
<td>27</td>
<td>3</td>
<td>13.8</td>
<td>8</td>
<td>12</td>
<td>1.8</td>
<td>160</td>
</tr>
<tr>
<td>RT 8532-20-2M5</td>
<td>20</td>
<td>32</td>
<td>2.5</td>
<td>10.8</td>
<td>7</td>
<td>12</td>
<td>2.1</td>
<td>190</td>
</tr>
</tbody>
</table>

Test conditions: Inductance tolerance: +50%, −30%; Resistance tolerance: +15% @ 25°C; Electrical characteristics @ 25°C ±2°C

* typical current for forced cooling with 3 m/s. Due to the possible turbulence and degradation of the air stream within an equipment please consider thermal validation.

** typical stray inductance, max is 0.1% of Ln

*** Length of pin (Dimension P) is always 5.5 mm ± 1

**Product selector**

**RT 8xxx-xx-xmxx**

Inductance value (e.g. 9M6 = 9.6mH)

Nominal input current [A] (convection cooling)

Terminal type (2 for PCB pin)

- 2 = 2-line choke
- 3 = 3-line choke
- 1 = Horizontal
- 5 = Vertical

Schaffner standard ring-core choke series RT

Examples: RT 8532-16-3M0: Vertical 3-line choke for 16 A, with 3 mH; RT 8122-20-3M0: Horizontal 2-line choke for 20 A, with 3 mH
Typical choke attenuation/resonance frequency characteristics
Per CISPR 17; 50 Ω/50 Ω asym

RT 8122

RT 8132

RT 8522

RT 8532
Mechanical data: Horizontal chokes (2-line and 3-line)

All dimensions in mm

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>A</th>
<th>B</th>
<th>ØD (max)</th>
<th>H (max)</th>
<th>ØD1</th>
<th>ØD2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal 2-line chokes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size 1 (RT 8122-6-10M0, RT 8122-8-8M0, RT 8122-10-6M0)</td>
<td>21</td>
<td>25</td>
<td>45</td>
<td>34</td>
<td>42</td>
<td>1.5</td>
</tr>
<tr>
<td>Size 2 (RT 8122-12-5M0, RT 8122-16-4M0)</td>
<td>26</td>
<td>30</td>
<td>51</td>
<td>33</td>
<td>48</td>
<td>1.9</td>
</tr>
<tr>
<td>Size 3 (RT 8122-20-3M0)</td>
<td>32</td>
<td>36</td>
<td>57</td>
<td>37</td>
<td>54</td>
<td>2.1</td>
</tr>
<tr>
<td>Horizontal 3-line chokes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size 7 (RT 8132-6-6M0, RT 8132-8-4M8)</td>
<td>38</td>
<td>-</td>
<td>46</td>
<td>34</td>
<td>43</td>
<td>1.4</td>
</tr>
<tr>
<td>Size 8 (RT 8132-10-4M0, RT 8132-12-3M6)</td>
<td>44</td>
<td>-</td>
<td>51</td>
<td>33</td>
<td>48</td>
<td>1.7</td>
</tr>
<tr>
<td>Size 9 (RT 8132-16-3M0, RT 8132-20-2M5)</td>
<td>49</td>
<td>-</td>
<td>57</td>
<td>37</td>
<td>54</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connections.
Mechanical data: Vertical chokes (2-line and 3-line)

All dimensions in mm

<table>
<thead>
<tr>
<th>Size 4 (RT 8522-6-10M0, RT 8522-8-8M0, RT 8522-10-6M0)</th>
<th>A (±0.5)</th>
<th>A1 (±0.5)</th>
<th>B (max)</th>
<th>L (max)</th>
<th>W (max)</th>
<th>H (max)</th>
<th>L1 (±0.5)</th>
<th>L2 (±0.5)</th>
<th>L3 (±0.5)</th>
<th>W1 (±0.5)</th>
<th>ØD2</th>
<th>X</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 - 20</td>
<td>20</td>
<td>43</td>
<td>32</td>
<td>44</td>
<td>32</td>
<td>26</td>
<td>-</td>
<td>27.8</td>
<td>22</td>
<td>1.5</td>
<td>3</td>
<td>2.9</td>
<td></td>
</tr>
</tbody>
</table>

| Size 5 (RT 8522-12-5M0, RT 8522-16-4M0) | 16 | 22 | 50 | 32 | 52 | 39 | 33 | - | 27 | 23 | 1.9 | 3 | 2 |

| Size 6 (RT 8522-20-3M0) | 16 | 22 | 56 | 32 | 57 | 42 | 35 | - | 31.2 | 25 | 2.1 | 3.5 | 3.1 |

| Size 10 (RT 8532-6-6M0, RT 8532-8-4M8) | 36 | 18 | 24 | 44 | 32 | 47 | 41 | 27 | 9 | 29 | - | 1.4 | 2.5 | 2.5 |

| Size 11 (RT 8532-10-4M0, RT 8532-12-3M6) | 38 | 19 | 24 | 49 | 34 | 53 | 46 | 28.5 | 9.5 | 31 | - | 1.7 | 4 | 3.5 |

| Size 12 (RT 8532-16-3M0, RT 8532-20-2M5) | 46 | 23 | 29 | 56 | 37 | 60 | 53 | 34.5 | 11.5 | 34 | - | 2.2 | 3.5 | 2.5 |

Please visit www.schaffner.com to find more details on filter connections.
Headquarters, global innovation and development

Switzerland
Schaffner Group
Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
info@schaffner.com
http://www.schaffner.com

Sales and application centers

China
Schaffner EMC Ltd. Shanghai
T20-3 C, No 565 Chuangye Road, Pudong district
201201 Shanghai
T +86 21 3813 9500
ccchina@schaffner.com
http://www.schaffner.com.cn

Finland
Schaffner Oy
Sauvonrinne 19 H
08500 Lohja
T +358 50 468 7284
finlandsales@schaffner.com

France
Schaffner EMC S.A.S.
16-20 Rue Louis Rameau
95875 Bezons
T +33 1 34 34 30 60
F +33 1 39 47 02 28
francesales@schaffner.com

Germany
Schaffner Deutschland GmbH
Schoemperlenstrasse 128
76185 Karlsruhe
T +49 721 56910
F +49 721 5691110
germanysales@schaffner.com

India
Schaffner India Pvt. Ltd
Unit 59, Level, Mfr Greenheart 7
Manyata Tech Park, Hebbal Outer Ring Road
560045 Bangalore
T +91 80 6781 9805
F +91 80 6781 9998
indiasales@schaffner.com

Italy
Schaffner EMC S.r.l.
Via Ticino, 30
20900 Monza (MB)
T +39 039 21 41 070
italysales@schaffner.com

Japan
Schaffner EMC K.K.
1-32-12, Kamiuma, Setagaya-ku
7F Mitsui-seimei Sangenjaya Bldg.
154-0011 Tokyo
T +81 3 5712 3650
F +81 3 5712 3651
japansales@schaffner.com
http://www.schaffner.jp

Singapore
Schaffner EMC Pte Ltd.
#05-09, KGI An Ind. Estate
408705 Singapore
T +65 6377 3283
F +65 6377 3281
singapore@schaffner.com

Spain
Schaffner EMC España
Calle Calendula 93, Miniparc III, Edificio E
El Soto de Moraleja, Alcobendas
28109 Madrid
T +34 917 912 900
F +34 917 912 901
spainsales@schaffner.com

Sweden
Schaffner EMC AB
Tegeluddsvagen 76, 7tr
115 28 Stockholm
T +46 8 5050 2425
swedensales@schaffner.com
http://www.schaffner.com

Switzerland
Schaffner EMV AG
Nordstrasse 11
4542 Luterbach
T +41 32 681 66 26
switzerland@schaffner.com

Taiwan R.O.C.
Schaffner EMV Ltd.
20 Floor-2, No 97, Section 1, XinTai 5th Road
22175 Xizhi District New Taipei City 22175
T +886 2 2697 5500
F +886 2 2697 5533
taiwansales@schaffner.com
http://www.schaffner.com.tw

Thailand
Schaffner EMC Co. Ltd.
Northern Region Industrial Estate
67 Moo 4 Tambon Ban Klang
Amphur Muang P.O. Box 14
51000 Lamphun
T +66 53 58 11 04
F +66 53 58 10 19
thailandsales@schaffner.com

United Kingdom
Schaffner Ltd.
5 Ashville Way, Molly Millars Lane
Wokingham
RG41 2PL Berkshire
T +44 118 9770070
F +44 118 9792969
uksales@schaffner.com

USA
Schaffner EMC Inc.
52 Mayfield Avenue
08837 Edison, New Jersey
T +1 800 367 5566
F +1 732 225 9533
usasales@schaffner.com
http://www.schaffnerusa.com

Schaffner North America
6722 Thirlane Road
24019 Roanoke, Virginia
T +1 276 228 7943
F +1 276 228 7953

Schaffner North America
823 Fairview Road
24382 Wytheville, Virginia
T +1 276 228 7943
F +1 276 228 7258

To find your local partner within Schaffner's global network www.schaffner.com
© 2017 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.