Noise Filters

Vol. 14

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Contents

Casing Type
New Products
LF-SF Series Three-Phase Type.................................................................3
GT-SF Series Single-Phase Type...............................................................4
Metal box
LF Series Small Current Type.................................................................5
LF Series Small Current Type with Screw Terminal..............................6
LF Series Screw Terminal Type...............................................................8
LF Series Large Current Type.................................................................10
LF Series Three-Phase Type.................................................................11
LF Series For Inverters........................................................................13
LF Series Three-Phase Terminal Block Type........................................16
LH Series Low-Frequency Inverters.......................................................18
LH Series Three-Phase Terminal Block / High Attenuation Type.........20
HFP Series..........................................................................................21
GT Series Screw Terminal..................................................................23
GT Series Faston Terminal..................................................................25
GT Series For VCCI.............................................................................27
GF Series............................................................................................28
Metal cylinder
VU Series............................................................................................29
VC Series............................................................................................31
VG-FPZ Series for inverter installed home appliances’ surge control...32
RG Series............................................................................................33
Plastic box
MR Series............................................................................................35
MA Series............................................................................................37

Inlet Type
GL Series C Type................................................................................38
GL Series F, FV, FVP Type.................................................................40
GL Series H Type................................................................................42
GL Series M Type................................................................................44
TÜV Rheinland Japan Ltd. Certification Numbers.............................45
Plastic Case Three-Phase Noise Filter
LF-SF Series
[RoHS Compliant]

Features

- Plastic shell of the product eliminates resin filling (weight reduction)
- DIN rail installation types available
- Featuring mechanism of self-jump-up to prevent loss of screw (easy to install)
- Safety cover integrating contact terminal

Applications

- Industrial equipment, machine tools

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage (V)</th>
<th>Rated current (A)</th>
<th>Withstanding voltage 2 sec., line to ground (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ)</th>
<th>Leakage current 480V/50Hz, mA max.</th>
<th>Self-temperature rise (°C) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-3100SF-10/20</td>
<td>520</td>
<td>10</td>
<td>2000</td>
<td>6000</td>
<td>1</td>
<td>50</td>
<td>-25~+100</td>
<td>UL, CSA, ENEC14</td>
<td>520 /540</td>
</tr>
<tr>
<td>LF-3200SF-10/20</td>
<td>520</td>
<td>20</td>
<td>2000</td>
<td>6000</td>
<td>1</td>
<td>50</td>
<td>-25~+100</td>
<td>UL, CSA, ENEC14</td>
<td>520 /540</td>
</tr>
<tr>
<td>LF-3300SF-10/20</td>
<td>520</td>
<td>30</td>
<td>2000</td>
<td>6000</td>
<td>1</td>
<td>50</td>
<td>-25~+100</td>
<td>UL, CSA, ENEC14</td>
<td>520 /540</td>
</tr>
<tr>
<td>LF-3500SF-10/20</td>
<td>520</td>
<td>50</td>
<td>2000</td>
<td>6000</td>
<td>1</td>
<td>50</td>
<td>-25~+100</td>
<td>UL, CSA, ENEC14</td>
<td>550 /560</td>
</tr>
</tbody>
</table>

*1: Model names ending with "10" indicate normal types, and those ending with "20" indicate DIN rail types.

*2: Normal type / DIN rail type (DIN rails not included in the product)

Shape and Dimensions

- LF-3**0SF-10 (Normal type)
- LF-3**0SF-20 (DIN rail type)

Circuit Diagram

- Common mode
- Normal mode

Attenuation (Static Characteristics)

Representative example: 50A

External Specifications

- Plastic shell of the product eliminates resin filling (weight reduction)
- DIN rail installation types available
- Featuring mechanism of self-jump-up to prevent loss of screw (easy to install)
- Safety cover integrating contact terminal

Industrial equipment, machine tools

Noise Filters VOL.14

3

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Plastic Case Single-Phase Noise Filter
GT-SF Series

[RoHS Compliant]

Features

- Plastic shell of the product eliminates resin filling (weight reduction)
- DIN rail installation types available
- Featuring mechanism of self-jump-up to prevent loss of screw (easy to install)
- Safety cover integrating contact terminal

Applications

- Industrial equipment, electronic devices

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min. on ground line (ACV)</th>
<th>Insulation resistance 500VDC 1 min. on ground line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-2060SF-10</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>210</td>
</tr>
<tr>
<td>GT-2100SF-10</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
<tr>
<td>GT-2160SF-10</td>
<td>250</td>
<td>16</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
<tr>
<td>GT-2200SF-10</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
</tbody>
</table>

Noise Filters VOL.14

Features:
- Plastic shell of the product eliminates resin filling (weight reduction)
- DIN rail installation types available
- Featuring mechanism of self-jump-up to prevent loss of screw (easy to install)
- Safety cover integrating contact terminal

Applications:
- Industrial equipment, electronic devices

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min. on ground line (ACV)</th>
<th>Insulation resistance 500VDC 1 min. on ground line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-2060SF-10</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>210</td>
</tr>
<tr>
<td>GT-2100SF-10</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
<tr>
<td>GT-2160SF-10</td>
<td>250</td>
<td>16</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
<tr>
<td>GT-2200SF-10</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
</tbody>
</table>

Casing Type
Plastic box

Noise Filters VOL.14

Features:
- Plastic shell of the product eliminates resin filling (weight reduction)
- DIN rail installation types available
- Featuring mechanism of self-jump-up to prevent loss of screw (easy to install)
- Safety cover integrating contact terminal

Applications:
- Industrial equipment, electronic devices

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min. on ground line (ACV)</th>
<th>Insulation resistance 500VDC 1 min. on ground line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-2060SF-10</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>210</td>
</tr>
<tr>
<td>GT-2100SF-10</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
<tr>
<td>GT-2160SF-10</td>
<td>250</td>
<td>16</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
<tr>
<td>GT-2200SF-10</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>45</td>
<td>-25 to +100</td>
<td>cCSAus,ENEC14</td>
<td>220</td>
</tr>
</tbody>
</table>
Casing Type

LF Series
Small Current Type
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/50Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-202A</td>
<td>250</td>
<td>2</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>95</td>
</tr>
<tr>
<td>LF-202U-1</td>
<td>250</td>
<td>2</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>95</td>
</tr>
</tbody>
</table>

Shape and Dimensions

- LF-202A, LF-202U-1

Circuit Diagram

- LF-200 Series

Measuring Circuit

- Common mode

- Normal mode

Attenuation (Static Characteristics)
## LF Series
Small Current Type with Screw Terminal

[RoHS Compliant]

**Casing Type**
Metal box

### LF Series

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min. line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min. (MΩ) min.</th>
<th>Leakage current 250V/60Hz (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-205A</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>170</td>
</tr>
<tr>
<td>LF-205P</td>
<td>250</td>
<td>5</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>170</td>
</tr>
<tr>
<td>LF-210</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL, UL-L</td>
<td>590</td>
</tr>
<tr>
<td>LF-215</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>620</td>
</tr>
<tr>
<td>LF-215U</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>620</td>
</tr>
<tr>
<td>LF-210N</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>650</td>
</tr>
<tr>
<td>LF-210P</td>
<td>250</td>
<td>10</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>590</td>
</tr>
<tr>
<td>LF-215N</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>650</td>
</tr>
<tr>
<td>LF-215P</td>
<td>250</td>
<td>15</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>620</td>
</tr>
</tbody>
</table>

### Shape and Dimensions

- **LF-205A, LF-205P**

- **LF-215U**


### Circuit Diagram

- **LF-205A, 205P, 215U**

- **LF-210, 215, 210P, 215P**

- **LF-210N, 215N**

---

**Noise Filters VOL.14**

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
Casing Type

Metal box

Measuring Circuit

- **Common mode**
  - Oscillator
  - EMI/EMC filter
  - Level meter
  - $Z_0: 50\Omega$

- **Normal mode**
  - Oscillator
  - EMI/EMC filter
  - Level meter
  - $Z_0: 50\Omega$

**Attenuation (Static Characteristics)**

- **LF-205A, LF-210**
  - LF-205A Common mode
  - LF-205A Normal mode
  - LF-210 Normal mode
  - LF-210 Common mode

- **LF-215, LF-215U, LF-215N**
  - LF-215 Normal mode
  - LF-215U Normal mode
  - LF-215N Normal mode
  - LF-215N Common mode
  - LF-215U Common mode
  - LF-215 Common mode

---

**Noise Filters VOL.14**

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
**LF Series**
**Screw Terminal Type**

[RoHS Compliant]

**Table: Model Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Voltage AC/DC (V)</th>
<th>Rated Current AC/DC (A)</th>
<th>Withstanding Voltage 1 min. Line to Ground AC (V)</th>
<th>Insulation Resistance 500VDC 1 min. (MΩ) min.</th>
<th>Leakage Current 250V±50Hz (mA) max.</th>
<th>Self-temperature Rise (K) max.</th>
<th>Operating Temperature Range (°C)</th>
<th>Certified Standard</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-220</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20→+55</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>LF-230</td>
<td>250</td>
<td>30</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20→+55</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>LF-220N</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20→+55</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>LF-220P</td>
<td>250</td>
<td>20</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20→+55</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>LF-230N</td>
<td>250</td>
<td>30</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20→+55</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>LF-230P</td>
<td>250</td>
<td>30</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20→+55</td>
<td>1.2</td>
<td></td>
</tr>
</tbody>
</table>

**Shape and Dimensions**

![Shape Diagram](image)

- **Recommended torque (N·m) max.**
  - Line terminal (M6: 1.18)
  - Earth terminal (M4: 1.18)

**Circuit Diagram**


- **LF-220N, 230N Series**

- **LF-230FU**

**Measuring Circuit**

- **Common mode**
  - Oscillator
  - EMI/EMC filter
  - Level meter
  - LF Series
  - Screw Terminal Type

- **Normal mode**
  - Oscillator
  - EMI/EMC filter
  - Level meter
  - Z₀: 50Ω

---

*All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.*

*Please request a specification sheet for detailed product data prior to the purchase.*

*Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.*
Casing Type

Noise Filters VOL.14

Metal box

Attenuation (Static Characteristics)

![Graph showing attenuation characteristics]

- LF-220 Common mode
- LF-230, LF-230FU Common mode
- LF-220 Normal mode
- LF-230, LF-230FU Normal mode

Insertion Loss (dB) vs. Frequency (MHz)

- Attenuation (Static Characteristics)

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
LF Series
Large Current Type
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min. line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min.</th>
<th>Leakage current 250V/50Hz (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-240</td>
<td>250</td>
<td>40</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>LF-240P</td>
<td>250</td>
<td>40</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
<td></td>
<td>3.2</td>
</tr>
<tr>
<td>LF-250</td>
<td>250</td>
<td>50</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>LF-250P</td>
<td>250</td>
<td>50</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
<td></td>
<td>4.0</td>
</tr>
<tr>
<td>LF-260N</td>
<td>250</td>
<td>60</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+65</td>
<td></td>
<td>6.5</td>
</tr>
<tr>
<td>LF-240U</td>
<td>250</td>
<td>40</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
<td></td>
<td>3.2</td>
</tr>
</tbody>
</table>

Shape and Dimensions

<table>
<thead>
<tr>
<th>LF-240/240P/240U, LF-250/250P</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-250/250P</td>
</tr>
<tr>
<td>LF-260N Series</td>
</tr>
</tbody>
</table>

Circuit Diagram

<table>
<thead>
<tr>
<th>LF-240, 240P, 240U, 250, 250P</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-260N Series</td>
</tr>
</tbody>
</table>

Measuring Circuit

<table>
<thead>
<tr>
<th>Common mode</th>
</tr>
</thead>
</table>

Attenuation (Static Characteristics)

Noise Filters VOL.14

10
Casing Type

LF Series
Three-Phase Type
[RoHS Compliant]

Shape and Dimensions

Circuit Diagram

Noise Filters VOL.14

11
### Measuring Circuit

**Common mode**

- Power divider
- EMI/EMC filter
- Level meter
- $Z_0: 50\Omega$

**Normal mode**

- Oscillator
- EMI/EMC filter
- Level meter
- $Z_0: 50\Omega$

---

### Attenuation (Static Characteristics)

**Noise Filters VOL.14**

- LF-340 Common mode
- LF-330 Normal mode
- LF-340 Normal mode
- LF-350 Normal mode
- LF-360 Common mode
- LF-350 Common mode
- LF-360 Normal mode

---

**Alerts:**
- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
LF Series
For Inverters
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 600VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Installation position</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-305</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-310</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-315</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-320</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-330</td>
<td>250</td>
<td>30</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-340</td>
<td>250</td>
<td>40</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+45</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-350</td>
<td>250</td>
<td>50</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+45</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-360</td>
<td>250</td>
<td>60</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-20~+45</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-305G</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-310G</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-315K</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-325K</td>
<td>250</td>
<td>25</td>
<td>2000</td>
<td>300</td>
<td>5</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-335K</td>
<td>250</td>
<td>35</td>
<td>2000</td>
<td>300</td>
<td>5</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-380K</td>
<td>250</td>
<td>80</td>
<td>2000</td>
<td>300</td>
<td>5</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-314K4</td>
<td>506</td>
<td>14</td>
<td>2500</td>
<td>300</td>
<td>10</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-330K4</td>
<td>506</td>
<td>30</td>
<td>2500</td>
<td>300</td>
<td>10</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-355K4</td>
<td>506</td>
<td>55</td>
<td>2500</td>
<td>300</td>
<td>10</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-380K4</td>
<td>506</td>
<td>80</td>
<td>2500</td>
<td>300</td>
<td>10</td>
<td>-25~+65</td>
<td>(input side)</td>
<td></td>
</tr>
<tr>
<td>LF-310KA</td>
<td>250</td>
<td>10</td>
<td>2000</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-320KA</td>
<td>250</td>
<td>20</td>
<td>2000</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-350KA</td>
<td>250</td>
<td>50</td>
<td>2000</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-310KB</td>
<td>440</td>
<td>10</td>
<td>2500</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-320KB</td>
<td>440</td>
<td>20</td>
<td>2500</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-335KB</td>
<td>440</td>
<td>35</td>
<td>2500</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-345KB</td>
<td>440</td>
<td>45</td>
<td>2500</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-375KB</td>
<td>440</td>
<td>75</td>
<td>2500</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
<tr>
<td>LF-3110KB</td>
<td>440</td>
<td>110</td>
<td>2500</td>
<td>300</td>
<td>—</td>
<td>-25~+65</td>
<td>(output side)</td>
<td></td>
</tr>
</tbody>
</table>

Installation Diagram

- **N/F** LF-K Series (conforms to CISPR Pub 14)
- LF Series (conforms to FCC P15-J and JTTC)
- LF-G Series (conforms to FCC P15-J and JTTC)
- **N/F** LF-KA Series (200V line)
- LF-KB Series (400V line)

Caution: Only LF-KA and KB can be used in N/F ( ).

Noise Filters VOL.14

All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
Please request for a specification sheet for detailed product data prior to the purchase.
Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Noise Filters VOL.14

Casing Type

Metal box

Shape and Dimensions

- **LF-300 Series**
  - 2-4.5a (LF-305~300)
  - 2-4.5a (LF-340~360)

- **LF-G Series**
  - 2-4.5x7 oval hole
  - Recommended torque (N.m) max.

- **LF-K Series**
  - 2-4.5a (LF-305~300)

Measuring Circuit

- **Common mode**
  - Power divider
  - Z: 50Ω

- **Normal mode**
  - Z: 50Ω

*All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

*Please request for a specification sheet for detailed product data prior to the purchase.

*Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.*
**Casing Type**

- Metal box

---

**Circuit Diagram**

- LF-300 Series
- LF-G Series
- KA, KB Series
- K, K4 Series

---

**Attenuation (Static Characteristics)**

---

**Noise Filters VOL.14**

15
# LF Series
Three-Phase Terminal Block Type

[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz (mA) max.</th>
<th>Self-temperature rise (°C) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>LF-3200</td>
<td>250</td>
<td>20</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LF-3300</td>
<td>250</td>
<td>30</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LF-3400</td>
<td>250</td>
<td>40</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LF-3500</td>
<td>250</td>
<td>50</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LF-3600</td>
<td>250</td>
<td>60</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
</tbody>
</table>

## Shape and Dimensions

![Shape and Dimensions Diagram](image)

## Circuit Diagram

![Circuit Diagram](image)

## Measuring Circuit

![Measuring Circuit Diagram](image)

---

Noise Filters VOL.14

16

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Casing Type

Metal box

Attenuation (Static Characteristics)

 LF-3200

 LF-3300

 LF-3400

 LF-3500

 LF-3600

 Insertion Loss (dB)

 Frequency (MHz)

 Noise Filters VOL.14

 17
LH Series
Low-Frequency Inverters
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH-3102</td>
<td>250</td>
<td>10</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3152</td>
<td>250</td>
<td>15</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3202</td>
<td>250</td>
<td>20</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3302</td>
<td>250</td>
<td>30</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3402</td>
<td>250</td>
<td>40</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3502</td>
<td>250</td>
<td>50</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3602</td>
<td>250</td>
<td>60</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3702</td>
<td>250</td>
<td>70</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
<tr>
<td>LH-3802</td>
<td>250</td>
<td>80</td>
<td>2000</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-20~+45</td>
</tr>
</tbody>
</table>

Shape and Dimensions

Circuit Diagram

Measuring Circuit

- Common mode
- Normal mode

Noise Filters VOL.14

18

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
⚠️ Please request for a specification sheet for detailed product data prior to the purchase.
⚠️ Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
Casing Type

Noise Filters VOL.14

19

Metal box

Attenuation (Static Characteristics)
LH Series
Three-Phase Terminal Block / High Attenuation Type
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz (mA) max.</th>
<th>Self-temperature rise (°C) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>LH-3304</td>
<td>250</td>
<td>30</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LH-3404</td>
<td>250</td>
<td>40</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LH-3604</td>
<td>250</td>
<td>60</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LH-3804</td>
<td>250</td>
<td>80</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LH-31204</td>
<td>250</td>
<td>120</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
<tr>
<td>LH-31504</td>
<td>250</td>
<td>150</td>
<td>2000</td>
<td>300</td>
<td>1.2</td>
<td>30</td>
<td>-25~+55</td>
<td>TÜV</td>
</tr>
</tbody>
</table>

Shape and Dimensions

Circuit Diagram

Measuring Circuit

Attenuation (Static Characteristics)

Noise Filters VOL.14
20

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
⚠️ Please request for a specification sheet for detailed product data prior to the purchase.
⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
## HFP Series

**[RoHS Compliant]**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFP-2153</td>
<td>250</td>
<td>15</td>
<td>AC1500</td>
<td>10</td>
<td>1.5 (250V, 60Hz)</td>
<td>30</td>
<td>-20~+55</td>
<td>UL, CSA, TÜV</td>
<td>0.64</td>
</tr>
<tr>
<td>HFP-2303</td>
<td>250</td>
<td>30</td>
<td>AC1500</td>
<td>10</td>
<td>1.5 (250V, 60Hz)</td>
<td>30</td>
<td>-20~+55</td>
<td>UL, CSA, TÜV</td>
<td>1.3</td>
</tr>
</tbody>
</table>

### Shape and Dimensions

![Shape Diagrams](image)

*Recommended torque [N·m] max. • Line terminal (M4: 0.78, M6: 1.18) • Earth terminal (M4: 1.18)

### Circuit Diagram

**HFP-2153, 2303**

![Circuit Diagram](image)

### Measuring Circuit

- **Common mode**
- **Normal mode**
- **Pulse characteristic measuring circuit**

![Measuring Circuit Diagram](image)

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Noise Filters VOL.14

22
GT Series
Screw Terminal
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC (V)</th>
<th>Rated current AC (A)</th>
<th>Withstanding voltage 1 min., line to ground (AC) (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 2500V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-2050 *</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td></td>
<td>150</td>
</tr>
<tr>
<td>GT-2100 *</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td></td>
<td>260</td>
</tr>
<tr>
<td>GT-2150 *</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td></td>
<td>270</td>
</tr>
<tr>
<td>GT-2200 *</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td></td>
<td>270</td>
</tr>
<tr>
<td>GT-205U *</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL, TÜV, VDE, CSA</td>
<td>170</td>
</tr>
<tr>
<td>GT-210U *</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL, TÜV, VDE, CSA</td>
<td>260</td>
</tr>
<tr>
<td>GT-215U *</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL</td>
<td>270</td>
</tr>
<tr>
<td>GT-220U *</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL, TÜV</td>
<td>270</td>
</tr>
<tr>
<td>GT-2050R *</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL</td>
<td>160</td>
</tr>
<tr>
<td>GT-2100R *</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL</td>
<td>270</td>
</tr>
<tr>
<td>GT-2150R *</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL</td>
<td>280</td>
</tr>
<tr>
<td>GT-2200R *</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+65</td>
<td>UL</td>
<td>280</td>
</tr>
</tbody>
</table>

* - Also supports DC input.

Shape and Dimensions


Circuit Diagram

- GT-200U Series

Pulse Attenuation Example

Noise Filters VOL.14

---

*Recommended torque (Nm) max. *Line terminal (M4: 0.78) *Earth terminal (M4: 1.18) *4.8ø for GT-205U

---

*All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

*Please request for a specification sheet for detailed product data prior to the purchase.

*Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Casing Type
Metal box

Measuring Circuit

- **Common mode**
- **Normal mode**
- **Pulse-characteristic measuring circuit**

![Circuit Diagram]

**Attenuation (Static Characteristics)**

- **GT-205U, GT-2050**
- **GT-210U, GT-2100**
- **GT-215U, GT-2150**
- **GT-220U, GT-2200**
- **GT-2050R**
- **GT-2100R**
- **GT-2150R**
- **GT-2200R**

**Noise Filters VOL.14**

24

⚠️
- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
GT Series Faston Terminal
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage (V)</th>
<th>Rated current (A)</th>
<th>Withstanding voltage 1 min., line to ground (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ)</th>
<th>Leakage Current 2500V/60Hz (mA)</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-205J *</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>135</td>
</tr>
<tr>
<td>GT-210J *</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>240</td>
</tr>
<tr>
<td>GT-215J *</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>255</td>
</tr>
<tr>
<td>GT-20301</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>1.0</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>160</td>
</tr>
<tr>
<td>GT-20601</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>1.0</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>190</td>
</tr>
<tr>
<td>GT-21001</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1.0</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>300</td>
</tr>
<tr>
<td>GT-20302</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>1.0</td>
<td>30</td>
<td>-20~+55</td>
<td>UL, CSA, TÜV, VDE</td>
<td>215</td>
</tr>
</tbody>
</table>

*Also supports DC input.

Shape and Dimensions

**GT-01,02 Type**

**GT-205J**

![Shape and Dimensions Diagram]

Model A B C D E
GT-20301 90.0 53.0 30.0 74.7 85.0
GT-20601 105.5 57.5 32.0 87.0 96.5
GT-21001 105.5 57.5 44.5 87.0 96.5
GT-20302 90.0 53.0 46.0 74.7 84.3

*Faston® is a registered trademark of Tyco Electronics AMP.

Circuit Diagram

**GT-J, 01 Type**

**GT-02 Type**

![Circuit Diagram](image)

---

**Noise Filters VOL.14**

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

⚠️ Please request for a specification sheet for detailed product data prior to the purchase.

⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.

---

9615NFSVL14E1704E1
Noise Filters VOL.14

26

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
⚠️ Please request for a specification sheet for detailed product data prior to the purchase.
⚠️ Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
GT Series
For VCCI
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC (V)</th>
<th>Rated current AC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage Current 250V/60Hz, (mA) max.</th>
<th>Self. temperature rise (°C) Max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT-20501V</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+55</td>
<td>UL, CSA, TUV</td>
<td>220</td>
</tr>
<tr>
<td>GT-21001V</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+55</td>
<td>UL, CSA, TUV</td>
<td>280</td>
</tr>
<tr>
<td>GT-22001V</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>35</td>
<td>-20~+55</td>
<td>UL, TUV</td>
<td>285</td>
</tr>
</tbody>
</table>

Shape and Dimensions

Circuit Diagram

Measuring Circuit

Attenuation (Static Characteristics)

Noise Filters VOL.14

---

*All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

*Please request for a specification sheet for detailed product data prior to the purchase.

*Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
### GF Series

**[RoHS Compliant]**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min, line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min, line to ground (MΩ) min.</th>
<th>Leakage current 2500V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GF-2050</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>130</td>
</tr>
<tr>
<td>GF-205U</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+60</td>
<td>UL</td>
<td>130</td>
</tr>
<tr>
<td>GF-2100</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>140</td>
</tr>
<tr>
<td>GF-210U</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+60</td>
<td>UL</td>
<td>140</td>
</tr>
<tr>
<td>GF-2150</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>150</td>
</tr>
<tr>
<td>GF-2200</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+55</td>
<td>UL</td>
<td>150</td>
</tr>
<tr>
<td>GF-220U</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>30</td>
<td>-20~+60</td>
<td>UL</td>
<td>150</td>
</tr>
</tbody>
</table>

---

**Noise Filters VOL.14**

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
Casing Type

VU Series

[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 2500V/60Hz, line to ground, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VU-210FA</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-25~+55</td>
<td>UL, CSA</td>
<td>130</td>
</tr>
<tr>
<td>VU-215F</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-25~+55</td>
<td>UL, CSA</td>
<td>130</td>
</tr>
<tr>
<td>VU-215F3</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-25~+55</td>
<td>UL, CSA</td>
<td>130</td>
</tr>
<tr>
<td>VU-215FE</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-25~+55</td>
<td>UL, CSA</td>
<td>130</td>
</tr>
<tr>
<td>VU-220F</td>
<td>250</td>
<td>20</td>
<td>1500</td>
<td>300</td>
<td>1</td>
<td>40</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>240</td>
</tr>
</tbody>
</table>

Shape and Dimensions


![Diagram of VU-215FE]

- VU-215FE

*Recommended torque [Nm] max. • Earth terminal [M8: 4.41]

<table>
<thead>
<tr>
<th>Model</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>VU-215F</td>
<td>12</td>
<td>50</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>VU-215F3</td>
<td>12</td>
<td>40</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>VU-215FE</td>
<td>12</td>
<td>50</td>
<td>12</td>
<td>38</td>
</tr>
<tr>
<td>VU-220F, 210FA</td>
<td>12</td>
<td>50</td>
<td>12</td>
<td>50</td>
</tr>
</tbody>
</table>

Circuit Diagram

- VU-210FA, 215F, 220F

- VU-215FE

- VU-215F3

Caution: ⚠️ represents a screw installation portion (M8).

Noise Filters VOL.14

29
Noise Filters VOL.14

Casing Type
Metal cylinder

Measuring Circuit

- **Common mode**
  - Power divider (P)
  - 50 Ohm (Z_0)
  - Level meter

- **Normal mode**
  - Power divider (P)
  - 50 Ohm (Z_0)
  - Level meter

\[ Z_0 = 50 \] Ohm

Attenuation (Static Characteristics)

- **Common mode**
- **Normal mode**

\[ \text{Insertion Loss (dB)} \]

\[ \text{Frequency (MHz)} \]

---

⚠️

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
VC Series
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 50V/DC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (°C) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VC-210FA</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>1.5</td>
<td>40</td>
<td>-20 to +65</td>
<td>VDE</td>
<td>130</td>
</tr>
<tr>
<td>VC-215F3V</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1.5</td>
<td>40</td>
<td>-20 to +65</td>
<td>TÜV</td>
<td>110</td>
</tr>
</tbody>
</table>

Shape and Dimensions

VC-210FA

VC-215F3V

Model | A | B | C | D
--- | --- | --- | --- | ---
VC-210FA | 12 | 70 | 12 | 38
VC-215F3V | 12 | 60 | 12 | 38

*Recommended torque (N·m) max. Earth terminal (M8: 4.41)

Circuit Diagram

Common mode

Normal mode

Measuring Circuit

Attenuation (Static Characteristics)

VC-210FA

Note: This document includes details about the VC Series noise filters, including specifications, circuit diagrams, and measurement data. It is important to consult the catalog for up-to-date information and precautions.
VG-FPZ Series
for inverter installed home appliances' surge control
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Operating temperature range (°C)</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VG-2150FPZ-10</td>
<td>100</td>
<td>15</td>
<td>1000</td>
<td>300</td>
<td>0.5 (125V)</td>
<td>-25~+55</td>
<td>200</td>
</tr>
<tr>
<td>VG-2150FPZ-20</td>
<td>200</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>1.0 (250V)</td>
<td>-25~+55</td>
<td>200</td>
</tr>
<tr>
<td>VG-2200FPZ-10</td>
<td>100</td>
<td>20</td>
<td>1000</td>
<td>300</td>
<td>0.5 (125V)</td>
<td>-25~+55</td>
<td>220</td>
</tr>
</tbody>
</table>

Shape and Dimensions

Circuit Diagram

Caution: [ ] represents a case.

Attenuation Characteristics

Note: All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

Please request a specification sheet for detailed product data prior to the purchase.

Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
RG Series

[RoHS Compliant]

Casing Type

Metal cylinder

Noise Filters VOL.14

33
Measuring Circuit

- **Common mode**
  - Oscillator
  - EMI/EMC filter
  - Level meter
  - P: Power divider
  - Z₀: 50Ω

- **Normal mode**
  - Oscillator
  - EMI/EMC filter
  - Level meter
  - Z₀: 50Ω

### Attenuation (Static Characteristics)

<table>
<thead>
<tr>
<th>Frequency (MHz)</th>
<th>Insertion Loss (dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.01</td>
<td>0</td>
</tr>
<tr>
<td>0.02</td>
<td>1</td>
</tr>
<tr>
<td>0.05</td>
<td>2</td>
</tr>
<tr>
<td>0.1</td>
<td>3</td>
</tr>
<tr>
<td>0.2</td>
<td>4</td>
</tr>
<tr>
<td>0.5</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>50</td>
<td>11</td>
</tr>
<tr>
<td>100</td>
<td>12</td>
</tr>
<tr>
<td>200</td>
<td>13</td>
</tr>
<tr>
<td>500</td>
<td>14</td>
</tr>
<tr>
<td>1000</td>
<td>15</td>
</tr>
</tbody>
</table>

**Noise Filters VOL.14**

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
## Casing Type

### MR Series

**[RoHS Compliant]**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500V DC 1 min., line to ground (MΩ/ min.)</th>
<th>Leakage current 2500 V/60Hz (mA) max.</th>
<th>Self-temperature rise (°K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MR-2021</td>
<td>250</td>
<td>2</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-20 to +60</td>
<td>UL, CSA, VDE</td>
<td>35</td>
</tr>
<tr>
<td>MR-2032</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>-</td>
<td>30</td>
<td>-20 to +60</td>
<td>UL, CSA</td>
<td>35</td>
</tr>
<tr>
<td>MR-2043</td>
<td>250</td>
<td>4</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-20 to +60</td>
<td>UL, CSA, VDE</td>
<td>45</td>
</tr>
<tr>
<td>MR-2053</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-20 to +60</td>
<td>UL, CSA, VDE</td>
<td>40</td>
</tr>
<tr>
<td>MR-2054</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-20 to +60</td>
<td></td>
<td>40</td>
</tr>
<tr>
<td>MR-2029</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-20 to +60</td>
<td>UL, CSA</td>
<td>35</td>
</tr>
<tr>
<td>MR-2059</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-20 to +60</td>
<td></td>
<td>35</td>
</tr>
</tbody>
</table>

### Shape and Dimensions

- 5 Faston® tab #110 (Oval hole 1.2 × 2.0)

Caution: No © terminals on MR-2032.

"Faston® is a registered trademark of Tyco Electronics AMP.

### Circuit Diagram

- **MR-2021**
- **MR-2032**
- **MR-2043, MR-2053**
- **MR-2029, MR-2059**
- **MR-2054**

---

All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

Please request for a specification sheet for detailed product data prior to the purchase.

Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Casing Type
Plastic box

Measuring Circuit

- **Common mode**
  - Diagram with components labeled:
    - Oscillator
    - Power divider $Z_0$: 50Ω
    - EM/EMC filter

- **Normal mode**
  - Diagram with components labeled:
    - Oscillator
    - Power divider $Z_0$: 50Ω
    - EM/EMC filter

---

**Attenuation (Static Characteristics)**

- **Frequency (MHz)**
  - 0.1, 0.5, 1.0, 3.5, 10, 30, 50, 100

- **Insertion Loss (dB)**
  - 0, 10, 20, 30, 40

---

**Noise Filters VOL.14**

---

**Notes:**
- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
## MA Series

[RoHS Compliant]

### Casing Type

- **Plastic box**

### Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min.</th>
<th>Insulation resistance 500VDC 1 min.</th>
<th>Leakage current 250V/60Hz (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA-2013</td>
<td>250</td>
<td>1</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>30</td>
</tr>
<tr>
<td>MA-2023</td>
<td>250</td>
<td>2</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>30</td>
</tr>
<tr>
<td>MA-2033</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>30</td>
</tr>
<tr>
<td>MA-2043</td>
<td>250</td>
<td>4</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>30</td>
</tr>
<tr>
<td>MA-2053</td>
<td>250</td>
<td>5</td>
<td>1500</td>
<td>300</td>
<td>0.75</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>30</td>
</tr>
</tbody>
</table>

### Shape and Dimensions

- **Label**
- **(Base portion)**

### Circuit Diagram

- **MA Series**

### Measuring Circuit

- **Common mode**
- **Normal mode**

### Attenuation (Static Characteristics)

- **MA-2043**

---

⚠️

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
GL Series
C Type
[RoHS Compliant]

Inlet Type

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC (V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground MΩ min.</th>
<th>Leakage current 250V/60Hz, (μA) max.</th>
<th>Self-temperature rise (°K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL-2030C 2</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2060C 2</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2150C 2</td>
<td>250</td>
<td>15</td>
<td>1500</td>
<td>300</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2030C 3</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2060C 3</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2060C 1</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>5</td>
<td>30</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2080C 1</td>
<td>250</td>
<td>8</td>
<td>1500</td>
<td>5</td>
<td>30</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2080C 4</td>
<td>250</td>
<td>8</td>
<td>1500</td>
<td>500</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
<tr>
<td>GL-2060C 4</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>500</td>
<td>500</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV VDE 55</td>
<td>55</td>
</tr>
</tbody>
</table>

### Shape and Dimensions

#### GL-C Type

Reference installation dimensions

1. For rear panel installation
2. For front panel installation

- Recommended torque (N·m) max. for panel installation: M3: 0.78

### Circuit Diagram

#### GL-C, C2, C3, C4 Type

- (Inlet side) (Soldered terminal side)

#### GL-C1

- (Inlet side) (Soldered terminal side)

#### GL-CT

- (Inlet side) (Soldered terminal side)

### Measuring Circuit

#### Common mode

- Connection diagram

#### Normal mode

- Connection diagram

---

Noise Filters VOL.14

38

---

*All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

*Please request for a specification sheet for detailed product data prior to the purchase.

*Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
**Inlet Type**

---

**Attenuation (Static Characteristics)**

- **GL-2030C, 2150C**
  - Frequency (MHz)
  - Insertion Loss (dB)
- **GL-2030C2, 2030C3**
  - Frequency (MHz)
  - Insertion Loss (dB)
- **GL-2080C1, 2080C4, 2030CT**
  - Frequency (MHz)
  - Insertion Loss (dB)

---

**Noise Filters VOL.14**

---

⚠️ **Important Notes:**

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
# GL Series

## F, FV, FVP-XL Type

[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground (ACV)</th>
<th>Leakage current 250V/60Hz, line to ground (mA) max.</th>
<th>Self-temperature rise (°C) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL-2030F</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>-25~+55</td>
<td>UL,CSA,TÜV,VDE</td>
<td>40</td>
</tr>
<tr>
<td>GL-2060F</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>-25~+55</td>
<td>UL,CSA,TÜV,VDE</td>
<td>40</td>
</tr>
<tr>
<td>GL-2030FV</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>-25~+55</td>
<td>UL,CSA,TÜV,VDE</td>
<td>40</td>
</tr>
<tr>
<td>GL-2060FV</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>-25~+55</td>
<td>UL,CSA,TÜV,VDE</td>
<td>40</td>
</tr>
<tr>
<td>GL-2060FVP-XL</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>0.1</td>
<td>-25~+55</td>
<td>–</td>
<td>90</td>
</tr>
</tbody>
</table>

*FV types are also available with Faston® terminal.  
"Faston®" is a registered trademark of Tyco Electronics AMP.

---

## Shape and Dimensions

### GL-F Type

2-3.3ø Flat-head screw  
22.5 +0.5 –0.2  
31.0 –0  
2-3.3ø Flat-head screw  
31.0 –0

Reference installation dimensions  
(1) For rear panel installation  
(2) For front panel installation

### GL-FV,FVP-XL Type

2-M3 Flat-head screw  
2-M3 Flat-head screw  
16  
22.5 (3)  
6.0

Reference installation dimensions  
(1) For rear panel installation  
(2) For front panel installation

---

*Recommended torque (N·m) max:  
Panel installation (M3: 0.78)

---

**Notes:**

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Inlet Type

Circuit Diagram

- **GL-F, FV Type**
- **GL-FVP-XL**

Measuring Circuit

- **Common mode**
- **Normal mode**

Attenuation (Static Characteristics)

- **GL-2030F/2030FV**
- **GL-2060FVP-XL**
GL Series
H Type
[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground (AC) (V)</th>
<th>Insulation 500VDC 1 min., line to line (mA)</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (K) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL-2030H2</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-25~+65</td>
<td>TÜV</td>
<td>90</td>
</tr>
<tr>
<td>GL-2060H2</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-25~+65</td>
<td>TÜV</td>
<td>90</td>
</tr>
</tbody>
</table>

Shape and Dimensions

○GL-H2 Type (2-fuse Type)

Faston® tab terminal #250

2-3.5ø Flat-head screw

EN60320 certified 3P inlet

Reference installation dimensions for front panel installation

*Recommended torque (N·m) max. ○Panel installation (M3: 0.50)

“Faston® is a registered trademark of Tyco Electronics AMP.

Circuit Diagram

○GL-H2 Type

Vin (Inlet side) - Fuse - Vin (Faston® terminal side)

Noise Filters VOL.14

42

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.

Please request for a specification sheet for detailed product data prior to the purchase.

Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Inlet Type

Measuring Circuit

- **Common mode**
  - Oscillator
  - P: Power divider
  - Z₀: 50Ω
  - Level meter

- **Normal mode**
  - Oscillator
  - Z₁
  - Z₀

P: Power divider
Z₀: 50Ω

Attenuation (Static Characteristics)

Insertion Loss (dB) vs. Frequency (MHz)

- GL-2030H2 Common mode
- GL-2030H2 Normal mode

**[Footnotes]**

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read “Precautions” and other safety precautions listed in the printed version catalog.
## GL Series
### M Type

[RoHS Compliant]

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated voltage AC/DC (V)</th>
<th>Rated current AC/DC (A)</th>
<th>Withstanding voltage 1 min., line to ground AC(V)</th>
<th>Insulation resistance 500VDC 1 min., line to ground (MΩ) min.</th>
<th>Leakage current 250V/60Hz, (mA) max.</th>
<th>Self-temperature rise (°C) max.</th>
<th>Operating temperature range (°C)</th>
<th>Certified standard</th>
<th>Weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GL-2030M</td>
<td>250</td>
<td>3</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>200</td>
</tr>
<tr>
<td>GL-2060M</td>
<td>250</td>
<td>6</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>205</td>
</tr>
<tr>
<td>GL-2100M</td>
<td>250</td>
<td>10</td>
<td>1500</td>
<td>300</td>
<td>0.5</td>
<td>30</td>
<td>-25~+55</td>
<td>UL, CSA, TÜV</td>
<td>210</td>
</tr>
</tbody>
</table>

### Shape and Dimensions

- **GL-M Type**

![Reference installation dimensions for panel rear installation]

- Recommended torque (N·m) max. Panel installation (M3: 0.735)
- Faston® is a registered trademark of Tyco Electronics AMP.

### Circuit Diagram

- **GL-M Type**

![Measuring Circuit]

- Common mode
- Normal mode

### Attenuation (Static Characteristics)

![Graph showing attenuation characteristics]

- GL Series M Type
- [RoHS Compliant]

### Precautions

- All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
- Please request for a specification sheet for detailed product data prior to the purchase.
- Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.

Noise Filters VOL.14

---

44
<table>
<thead>
<tr>
<th>Page</th>
<th>Item Description</th>
<th>File No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>LH Series Three-Phase Terminal Block / High Attenuation Type</td>
<td>LH-3304 No.R50133298, LH-3404, LH-3604, LH-3804, LH-31204, LH-31504</td>
</tr>
<tr>
<td>21</td>
<td>HFP Series</td>
<td>HFP-2153 No.R50014217, HFP-2303 No.R50013926</td>
</tr>
<tr>
<td>23</td>
<td>GT Series Screw Terminal</td>
<td>GT-220U No.R9651191, GT-205U, GT-210U</td>
</tr>
<tr>
<td>27</td>
<td>GT Series for VCCI</td>
<td>GT-21001V No.R2-50004781, GT-22001V No.R50007113</td>
</tr>
<tr>
<td>29</td>
<td>VU Series</td>
<td>VU-220F No.R50015793</td>
</tr>
<tr>
<td>31</td>
<td>VC Series</td>
<td>VC-215F9V No.R50013342</td>
</tr>
<tr>
<td>33</td>
<td>RG Series</td>
<td>RG-208F No.R2-50006837, RG-208F1, RG-208F2, RG-208V-A No.R2-50006837</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Page</th>
<th>Item Description</th>
<th>File No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>GL Series F Type</td>
<td>GL-2030F No.R50013360, GL-2060F, GL-2030FV No.R50015850, GL-2060FV</td>
</tr>
<tr>
<td>42</td>
<td>GL Series H Type</td>
<td>GL-2030H2 No.R50015796, GL-2060H2</td>
</tr>
<tr>
<td>44</td>
<td>GL Series M Type</td>
<td>GL-2030M No.R50013384, GL-2060M No.R50013384</td>
</tr>
</tbody>
</table>

---

⚠️ All specifications in this catalog and production status of products are subject to change without notice. Prior to the purchase, please contact TOKIN for updated product data.
⚠️ Please request for a specification sheet for detailed product data prior to the purchase.
⚠️ Before using the product in this catalog, please read "Precautions" and other safety precautions listed in the printed version catalog.
Precautions

● The names of the products and the specifications in this catalog are subject to change without notice for the sake of improvement. The manufacturer also reserves the right to discontinue any of these products. At the time of delivery, please ask for specifications sheets to check the contents in order to use the products properly and safely.

● Descriptions in this catalog regarding product characteristics and quality are based solely on discrete components. When using these components, be sure to check the specifications with the component in question mounted on the products.

● The manufacturer’s warranty will not cover any disadvantage or damage caused by improper use of the products that deviates from the characteristics, specifications, or conditions for use described in this catalog.

● The products in this catalog are intended for use in ordinary electronic products. If any of these products are to be used in special applications requiring extremely high reliability, such as in aviation equipment and nuclear power controllers where product defects might pose a safety risk, please consult your TOKIN sales representatives.

● Though the manufacturer has taken all possible precautions to ensure the quality and reliability of its products, improper use of products may result in bodily injury, fire, or similar accident. If you have any questions regarding the use of the products in question, please consult your TOKIN sales representatives.

● Please be advised that the manufacturer accepts no responsibility for any infraction by users of the manufacturer’s products on third party patents or industrial copyrights. The manufacturer is responsible only when such infractions are attributable to the structural design of the product and its manufacturing process.

● Export Control
For customers outside Japan
TOKIN products should not be used or sold for use in the development, production, stockpiling or utilization of any conventional weapons or mass-destructive weapons (nuclear weapons, chemical or biological weapons, or missiles), or any other weapons.
For customers in Japan
For products which are controlled items subject to the “Foreign Exchange and Foreign Trade Law” of Japan, the export license specified by the law is required for export.

● This catalog is current as of April 2017.