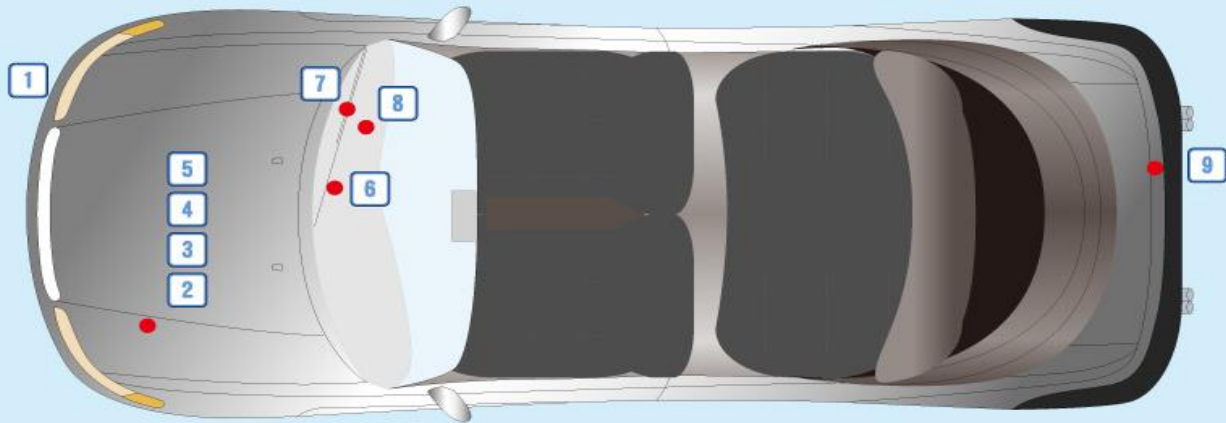


# TOHSEI INDUSTRIAL

No. 1 **Japanese** Choke Supplier for Automotive

車載用途使用例

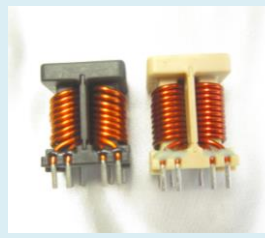
Appllcation for Vehicle



1 HID、LEDヘッドライト  
HID,LED headlight



2 車載充電器  
Charger for vehicle



3 DC/DCコンバータ、ECU  
DC/DC converter,ECU



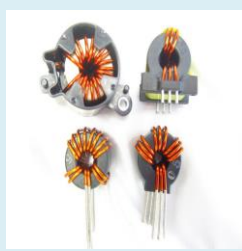
4 EGRバルブ  
EGR valve



5 ウォーター、オイルポンプ  
Water, Oil pump



6 カーオーディオ、カーナビ  
Car audio, Car navigation



7 電動コンプレッサー  
Electric compressor



8 電動パワーステアリング  
Electric power steering



9 バックモニター  
Back monitor

Further Information : <http://to-ind.co.jp/en/>

Tel : +81-48-4812051

Tohsei Industrial Co., Ltd.

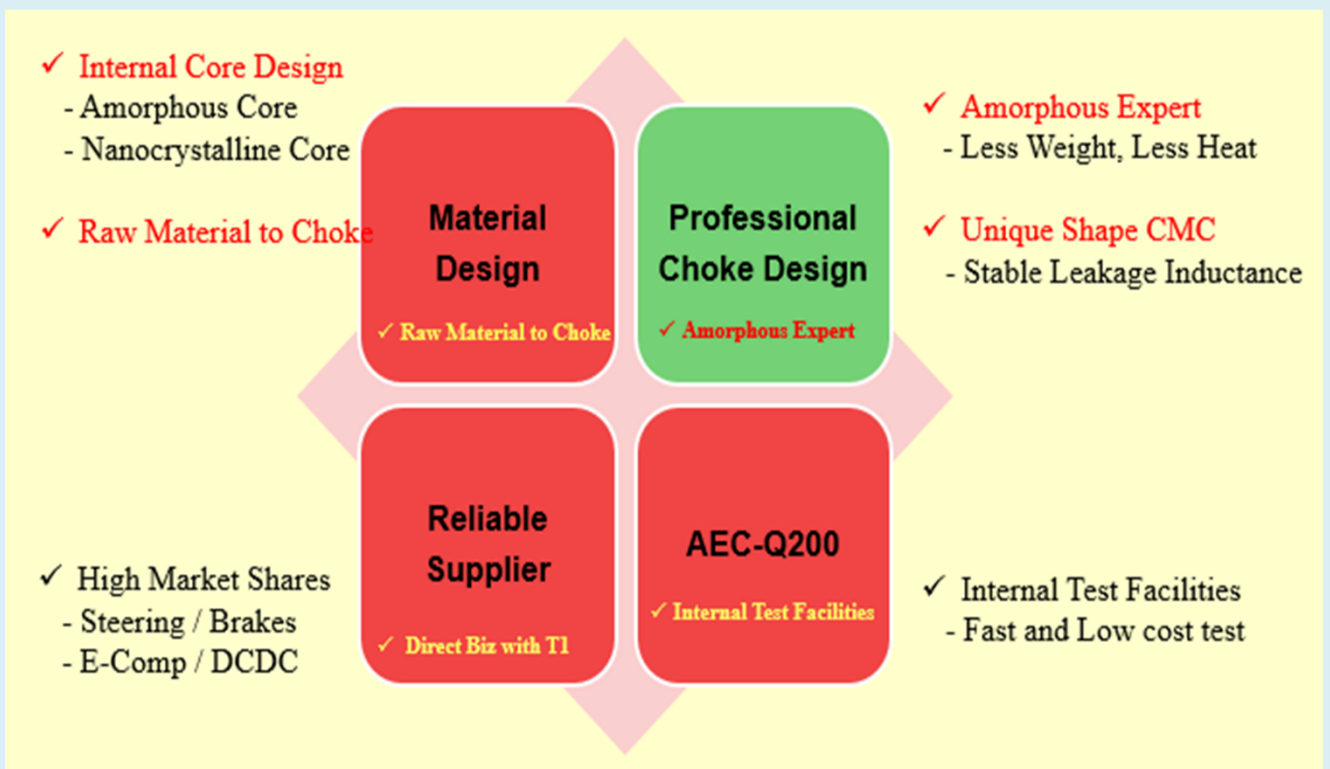
2-16-22 Hatanaka Niiza-City Saitama Japan

# \* T1 Customers

Calsonic Kansei  
Continental  
Denso  
Hanon Systems  
Hitachi Automotive Systems  
Hyundai Kefico  
Hyundai Mobis  
Mitsuba

Mitsubishi Electric  
OMRON Automotive Electronics  
Panasonic  
Sanden Automotive Components  
TDK  
Toyota Industries

# \* Tohsei's Advantage

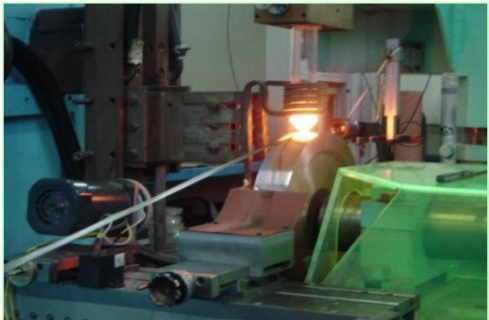


# World No. 1 Supplier of Amorphous Choke

## 1. Basic Information

Amorphous Ribbon has been used for EMC chokes in many cases of Automotive applications like EPS, E-Compressor, Brake, etc, because of its high reliability and high energy storage strip properties.

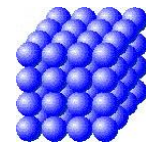
### ▶ Amorphous Ribbon Manufacturing



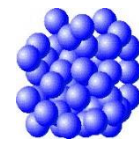
### ▶ Amorphous Ribbon



### ▶ Atomic Structure

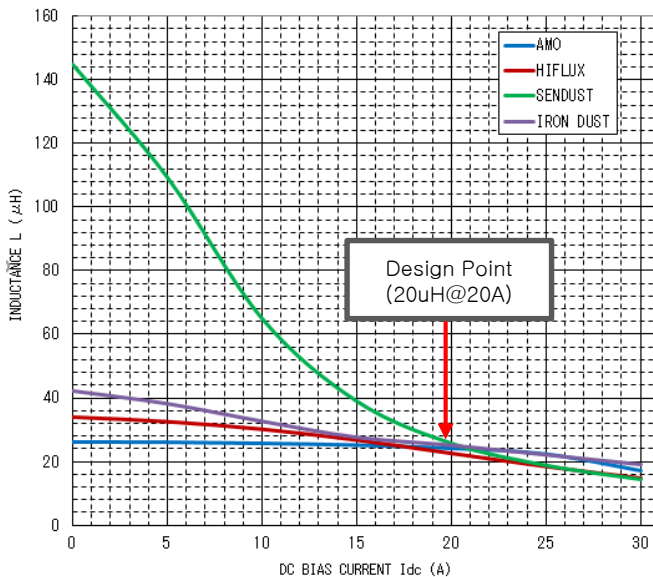


(a) Crystalline



(b) Amorphous

## 2. Design Factors [Size & Turns]



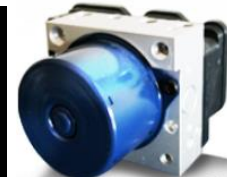
|           | AMO              | HF        | Sendust   | IRON D.       |
|-----------|------------------|-----------|-----------|---------------|
| Core      | ALGP-18-8        | CH203xx   | CS234060  | T130-60       |
| Wire Dia. | 1.3              | 1.3       | 1.3       | 1.3           |
| Turns     | <b>21</b>        | <b>28</b> | <b>54</b> | <b>27</b>     |
| DCR(mΩ)   | 10.4             | 12.4      | 30.7      | 20            |
| Coil Size | <b>ø25×15.35</b> | ø26×15.5  | ø30x17    | <b>ø40x18</b> |



- ✓ Less Heat & Less Weight compared to HF
- ✓ Much smaller size than IRON Dust.

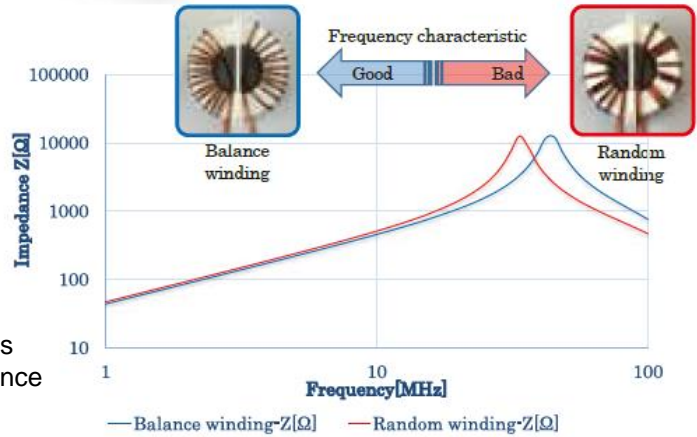
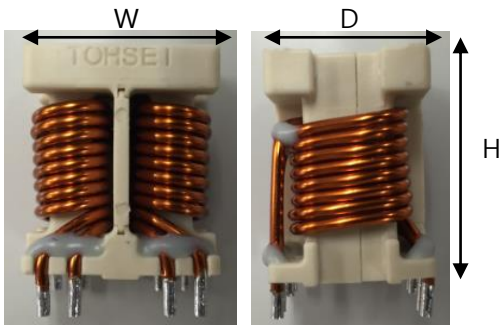
## 3. Amorphous Results in Available Applications

| Chasis     | HVAC & Pumps | Accessory    |
|------------|--------------|--------------|
| EPS        | V            | Inverter V   |
| Brake      | V            | Audio V      |
| ARS        | V            | Head Light V |
| Suspension | EWP V        | PSD V        |
|            | EOP          |              |

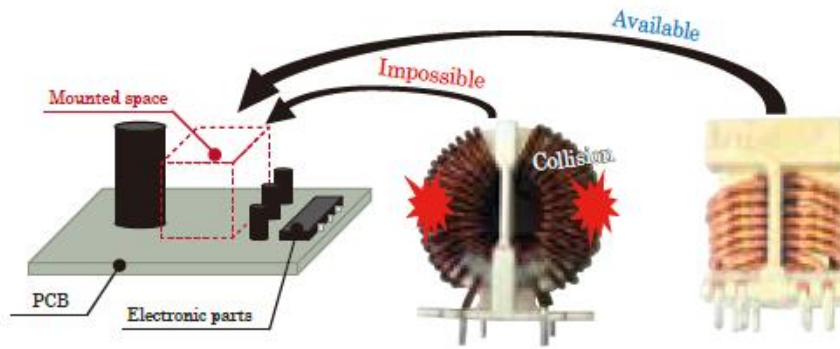


# Square Shaped CM Choke (OT) Series

## 1. Features

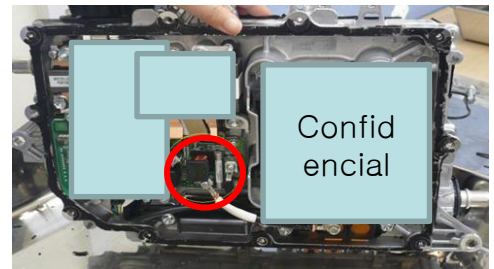


- ✓ Square shape provides more stable windings than Toroidal shape and it improves impedance and leakage inductance properties.
- ✓ Square shape saves PCB layout space.
- ✓ Anti-Vibration by Base and Core Case in one body.



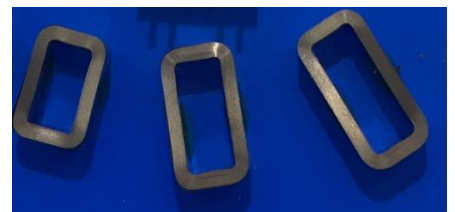
## 2. OT CMC Results in Available Applications

| 12V   |   | 48V   |   | High Voltage |   |
|-------|---|-------|---|--------------|---|
| EPS   | V | EPS   | V | DC-DC        | V |
| Brake | V | Brake |   | OBC          | V |
| ARS   |   | ARS   | V | E-Comp       | V |
|       |   |       |   | EOP/ECF      | V |



## 3. Nanocrystalline based Square CM Choke

- ✓ High Temperature stability thanks to high Currie Temperature.
- ✓ High impedance through wide range of frequency.
- ✓ Various Customized Type available by internal production from core to choke.



# Non-Gapped Amorphous Core ALS Series

Tohsei Industrial Co., Ltd.

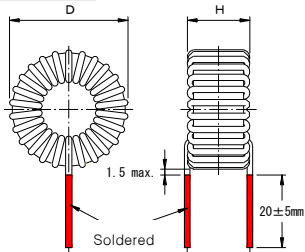
2-16-22 Hatanaka Niiza-City Saitama Japan

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Contact info for inquires :Sales dept

## Outline view



## Characteristics

Core is based on Fe-Amorphous.

Good point is low-leakage magnetic pass.

There is no gap on magnetic path

Main application is for out-put coil of switching power supply

## Application

Out-put coil of switching power supply

Normal mode coil for noise counter plan

| Name      | Rated Current<br>I <sub>dc</sub> (A) | ※1<br>Inductance (μH)    |                          | D.C.R.<br>(mΩ) MAX | Wire dia.<br>(φ mm) | Dimensions<br>D×H (mm)<br>MAX |
|-----------|--------------------------------------|--------------------------|--------------------------|--------------------|---------------------|-------------------------------|
|           |                                      | I <sub>dc</sub> =0 (A)※2 | I <sub>dc</sub> =Rated※3 |                    |                     |                               |
| ALS010250 | 1                                    | 280                      | 250                      | 110                | 0.5                 | 15.0 × 9.5                    |
| ALS010315 |                                      | 330                      | 315                      | 120                | 0.5                 | 16.5 × 10.0                   |
| ALS020065 | 2                                    | 73                       | 65                       | 42                 | 0.6                 | 15.0 × 9.0                    |
| ALS020083 |                                      | 86                       | 83                       | 45                 | 0.6                 | 16.5 × 10.0                   |
| ALS020140 |                                      | 240                      | 140                      | 125                | 0.6                 | 18.0 × 11.0                   |
| ALS020270 |                                      | 450                      | 270                      | 135                | 0.6                 | 17.5 × 13.0                   |
| ALS020300 |                                      | 500                      | 300                      | 145                | 0.6                 | 20.0 × 14.0                   |
| ALS020465 |                                      | 868                      | 465                      | 175                | 0.6                 | 20.0 × 15.0                   |
| ALS020500 |                                      | 869                      | 500                      | 200                | 0.6                 | 24.0 × 14.5                   |
| ALS020620 |                                      | 1050                     | 620                      | 210                | 0.6                 | 23.0 × 16.5                   |
| ALS030027 | 3                                    | 31                       | 27                       | 16                 | 0.8                 | 15.5 × 9.5                    |
| ALS030035 |                                      | 37                       | 35                       | 20                 | 0.8                 | 17.0 × 10.0                   |
| ALS030065 |                                      | 87                       | 65                       | 41                 | 0.8                 | 18.0 × 11.5                   |
| ALS030105 |                                      | 162                      | 105                      | 44                 | 0.8                 | 18.0 × 13.5                   |
| ALS030146 |                                      | 193                      | 146                      | 53                 | 0.8                 | 21.0 × 14.5                   |
| ALS030200 |                                      | 332                      | 200                      | 65                 | 0.8                 | 22.5 × 15.0                   |
| ALS030217 |                                      | 376                      | 217                      | 75                 | 0.8                 | 24.5 × 15.0                   |
| ALS030270 |                                      | 454                      | 270                      | 80                 | 0.8                 | 23.5 × 17.0                   |
| ALS040036 | 4                                    | 50                       | 36                       | 23                 | 0.9                 | 19.0 × 12.5                   |
| ALS040058 |                                      | 93                       | 58                       | 26                 | 0.9                 | 18.5 × 14.0                   |
| ALS040077 |                                      | 98                       | 77                       | 33                 | 0.9                 | 21.0 × 15.0                   |
| ALS040115 |                                      | 201                      | 115                      | 40                 | 0.9                 | 22.5 × 15.0                   |
| ALS040124 |                                      | 223                      | 124                      | 47                 | 0.9                 | 24.5 × 15.0                   |
| ALS040155 |                                      | 270                      | 155                      | 48                 | 0.9                 | 24.0 × 17.5                   |
| ALS040219 |                                      | 454                      | 219                      | 82                 | 0.9                 | 28.5 × 16.0                   |
| ALS040280 |                                      | 616                      | 280                      | 83                 | 0.9                 | 28.5 × 18.0                   |
| ALS040380 | 818                                  | 380                      | 95                       | 0.9                | 32.5 × 18.0         |                               |
| ALS050027 | 5                                    | 38                       | 27                       | 18                 | 0.95                | 18.5 × 11.0                   |
| ALS050043 |                                      | 72                       | 43                       | 21                 | 0.95                | 18.5 × 14.0                   |
| ALS050053 |                                      | 80                       | 53                       | 28                 | 0.95                | 21.0 × 14.0                   |
| ALS050075 |                                      | 129                      | 75                       | 30                 | 0.95                | 23.0 × 15.0                   |
| ALS050082 |                                      | 128                      | 82                       | 31                 | 1.0                 | 25.0 × 15.5                   |
| ALS050100 |                                      | 177                      | 100                      | 35                 | 1.0                 | 24.0 × 17.5                   |
| ALS050146 |                                      | 303                      | 146                      | 56                 | 1.0                 | 28.5 × 16.5                   |
| ALS050185 |                                      | 410                      | 185                      | 59                 | 1.0                 | 28.5 × 18.0                   |
| ALS050250 |                                      | 543                      | 250                      | 65                 | 1.0                 | 32.5 × 18.0                   |
| ALS050370 |                                      | 812                      | 370                      | 80                 | 1.0                 | 33.0 × 24.0                   |
| ALS050530 |                                      | 1260                     | 530                      | 105                | 1.0                 | 37.5 × 24.0                   |

| Name      | Rated Current<br>I <sub>dc</sub> (A) | ※1<br>Inductance (μH)   |                          | D.C.R.<br>(mΩ) MAX | Wire dia.<br>(φ mm) | Dimensions<br>D×H (mm)<br>MAX |
|-----------|--------------------------------------|-------------------------|--------------------------|--------------------|---------------------|-------------------------------|
|           |                                      | I <sub>dc</sub> =0(A)※2 | I <sub>dc</sub> =Rated※3 |                    |                     |                               |
| ALS080028 | 8                                    | 48                      | 28                       | 10                 | 0.9×2               | 23.0 × 15.0                   |
| ALS080030 |                                      | 52                      | 30                       | 12                 | 0.9×2               | 25.0 × 15.5                   |
| ALS080038 |                                      | 64                      | 38                       | 13                 | 0.9×2               | 24.0 × 18.0                   |
| ALS080049 |                                      | 92                      | 49                       | 18                 | 1.3                 | 29.0 × 17.5                   |
| ALS080060 |                                      | 125                     | 60                       | 20                 | 1.3                 | 29.0 × 18.5                   |
| ALS080100 |                                      | 229                     | 100                      | 26                 | 1.3                 | 33.5 × 18.5                   |
| ALS080145 |                                      | 342                     | 145                      | 33                 | 1.3                 | 33.5 × 24.5                   |
| ALS080200 |                                      | 475                     | 200                      | 38                 | 1.3                 | 38.0 × 25.0                   |
| ALS080370 |                                      | 790                     | 370                      | 50                 | 1.3                 | 47.0 × 25.5                   |
| ALS100018 |                                      | 10                      | 32                       | 18                 | 8                   | 0.95×2                        |
| ALS100021 | 36                                   |                         | 21                       | 9                  | 0.95×2              | 25.0 × 16.5                   |
| ALS100025 | 44                                   |                         | 25                       | 10                 | 0.95×2              | 24.0 × 18.0                   |
| ALS100031 | 61                                   |                         | 31                       | 12                 | 1.0×2               | 29.0 × 17.0                   |
| ALS100040 | 83                                   |                         | 40                       | 13                 | 1.0×2               | 29.0 × 18.5                   |
| ALS100064 | 150                                  |                         | 64                       | 18                 | 1.0×2               | 33.5 × 18.5                   |
| ALS100095 | 225                                  |                         | 95                       | 22                 | 1.0×2               | 33.5 × 24.5                   |
| ALS100130 | 315                                  |                         | 130                      | 22                 | 1.6                 | 39.0 × 26.0                   |
| ALS100245 | 557                                  |                         | 245                      | 29                 | 1.6                 | 48.0 × 26.5                   |
| ALS130014 | 13                                   |                         | 24                       | 14                 | 5.5                 | 0.95×3                        |
| ALS130016 |                                      | 32                      | 16                       | 6.5                | 0.95×3              | 29.0 × 17.0                   |
| ALS130021 |                                      | 44                      | 21                       | 7.5                | 0.95×3              | 29.0 × 18.5                   |
| ALS130036 |                                      | 81                      | 36                       | 9.5                | 0.95×3              | 33.0 × 18.5                   |
| ALS130052 |                                      | 110                     | 52                       | 12                 | 0.95×3              | 33.5 × 24.5                   |
| ALS130077 |                                      | 174                     | 77                       | 14                 | 1.0×3               | 38.5 × 25.5                   |
| ALS130140 |                                      | 324                     | 140                      | 19                 | 1.0×3               | 47.5 × 27.0                   |
| ALS150011 |                                      | 15                      | 20                       | 11                 | 5                   | 0.95×3                        |
| ALS150014 | 25                                   |                         | 14                       | 6                  | 1.0×3               | 28.5 × 17.0                   |
| ALS150017 | 35                                   |                         | 17                       | 6                  | 1.0×3               | 29.0 × 19.0                   |
| ALS150028 | 60                                   |                         | 28                       | 8                  | 1.0×3               | 33.0 × 19.0                   |
| ALS150042 | 90                                   |                         | 42                       | 11                 | 1.0×3               | 33.0 × 25.0                   |
| ALS150058 | 136                                  |                         | 58                       | 10                 | 1.1×3               | 38.5 × 26.0                   |
| ALS150105 | 250                                  |                         | 105                      | 14                 | 1.1×3               | 47.5 × 27.0                   |
| ALS200016 | 20                                   |                         | 38                       | 16                 | 5                   | 1.0×4                         |
| ALS200025 |                                      | 56                      | 25                       | 6                  | 1.0×4               | 33.0 × 25.0                   |
| ALS200033 |                                      | 74                      | 33                       | 6                  | 1.1×4               | 38.5 × 26.0                   |
| ALS200060 |                                      | 139                     | 60                       | 8                  | 1.1×4               | 47.5 × 27.0                   |
| ALS250010 | 25                                   | 24                      | 10                       | 3.5                | 1.0×5               | 33.0 × 19.5                   |
| ALS250014 |                                      | 30                      | 14                       | 4                  | 1.0×5               | 33.5 × 24.5                   |
| ALS250021 |                                      | 50                      | 21                       | 4.5                | 1.1×5               | 38.5 × 26.0                   |
| ALS250039 |                                      | 91                      | 39                       | 6                  | 1.1×5               | 48.0 × 27.0                   |
| ALS300007 | 30                                   | 17                      | 7                        | 2.5                | 1.0×6               | 33.0 × 19.5                   |
| ALS300009 |                                      | 20                      | 9.5                      | 3                  | 1.0×6               | 33.5 × 25.0                   |
| ALS300014 |                                      | 31                      | 14                       | 3                  | 1.1×6               | 39.0 × 26.0                   |
| ALS300027 |                                      | 62                      | 27                       | 4                  | 1.1×6               | 47.5 × 27.0                   |

※1 Test Condition : 200kHz, 1V But Tset Contition as follows 100kHz  
 ALS010250, ALS010315, ALS020065, ALS020083, ALS020140,  
 ALS020270, ALS030027, ALS030035, ALS030105, ALS040058,  
 ALS050027, ALS050043, ALS050053

※2 Typical Value

※3 Inductance Tolerance ±25%

※4 When infra-acoustic frequency component is impressed,a beat sound some times occur.

※5 The specifications contained in this catalog are subject to change without notice.

# Gapped Amorphous Core ALG Series

Tohsei Industrial Co., Ltd.

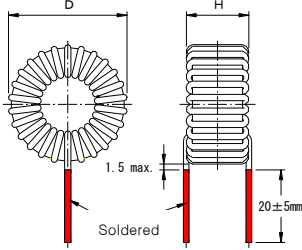
2-16-22 Hatanaka Niiza-City Saitama Japan

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## Outline view



## Characteristics

Core is based on Fe-Amorphous.  
Core controls magnetic permeability by gap.  
This core is quite useful to the size and weight of the coil  
can make a large current design

## Application

Out-put coil of switching power supply  
Normal mode coil for noise counter plan

| Name      | Rated Current<br>Idc (A) | ※1<br>Inductance (μH) |             | D.C.R.<br>(mΩ) MAX | Wire dia.<br>(φmm) | Dimensions<br>D × H (mm)<br>MAX |
|-----------|--------------------------|-----------------------|-------------|--------------------|--------------------|---------------------------------|
|           |                          | Idc=0(A)※2            | Idc=Rated※3 |                    |                    |                                 |
| ALG011550 | 1                        | 1650                  | 1550        | 460                | 0.5                | 23.0 × 16.0                     |
| ALG020780 | 2                        | 890                   | 780         | 250                | 0.6                | 23.0 × 17.0                     |
| ALG021100 |                          | 1250                  | 1100        | 210                | 0.7                | 28.0 × 18.0                     |
| ALG030370 | 3                        | 420                   | 370         | 95                 | 0.8                | 24.0 × 17.5                     |
| ALG030600 |                          | 720                   | 600         | 122                | 0.8                | 28.5 × 18.0                     |
| ALG031050 |                          | 1370                  | 1050        | 140                | 0.85               | 32.5 × 18.5                     |
| ALG040200 | 4                        | 225                   | 200         | 54                 | 0.9                | 24.0 × 17.5                     |
| ALG040460 |                          | 600                   | 460         | 87                 | 0.9                | 28.5 × 18.5                     |
| ALG040580 |                          | 780                   | 580         | 92                 | 0.9                | 33.0 × 18.0                     |
| ALG040870 |                          | 1170                  | 870         | 120                | 0.9                | 33.0 × 24.0                     |
| ALG050130 | 5                        | 145                   | 130         | 36                 | 1.0                | 24.0 × 18.0                     |
| ALG050265 |                          | 340                   | 265         | 54                 | 1.0                | 29.0 × 18.5                     |
| ALG050340 |                          | 450                   | 340         | 49                 | 1.1                | 33.0 × 18.5                     |
| ALG050515 |                          | 675                   | 515         | 63                 | 1.1                | 33.5 × 24.5                     |
| ALG050850 |                          | 940                   | 850         | 93                 | 1.1                | 38.0 × 25.5                     |
| ALG080063 | 8                        | 73                    | 63          | 15                 | 1.3                | 25.0 × 19.0                     |
| ALG080100 |                          | 125                   | 100         | 20                 | 1.3                | 29.0 × 19.0                     |
| ALG080165 |                          | 180                   | 165         | 29                 | 1.3                | 33.5 × 19.0                     |
| ALG080245 |                          | 270                   | 245         | 36                 | 1.3                | 33.5 × 25.0                     |
| ALG080345 |                          | 375                   | 345         | 35                 | 1.4                | 38.0 × 25.5                     |
| ALG080540 |                          | 615                   | 540         | 44                 | 1.4                | 47.5 × 26.0                     |
| ALG080860 |                          | 955                   | 860         | 67                 | 1.4                | 55.0 × 27.0                     |
| ALG100058 | 10                       | 70                    | 58          | 13                 | 1.0 × 2            | 29.0 × 19.0                     |
| ALG100100 |                          | 140                   | 100         | 16                 | 1.0 × 2            | 33.5 × 18.5                     |
| ALG100145 |                          | 200                   | 145         | 21                 | 1.0 × 2            | 33.5 × 24.5                     |
| ALG100205 |                          | 230                   | 205         | 23                 | 1.1 × 2            | 38.5 × 26.0                     |
| ALG100360 |                          | 420                   | 360         | 30                 | 1.1 × 2            | 47.5 × 27.0                     |
| ALG100550 |                          | 610                   | 550         | 43                 | 1.6                | 56.0 × 28.0                     |

(裏面に続く)

| Name      | Rated Current I <sub>dc</sub> (A) | ※1 Inductance (μH)      |                          | D.C.R. (mΩ) MAX | Wire dia. (φmm) | Dimensions D × H (mm) MAX |
|-----------|-----------------------------------|-------------------------|--------------------------|-----------------|-----------------|---------------------------|
|           |                                   | I <sub>dc</sub> =0(A)※2 | I <sub>dc</sub> =Rated※3 |                 |                 |                           |
| ALG130035 | 13                                | 42                      | 35                       | 7.5             | 0.95×3          | 29.0 × 19.0               |
| ALG130055 |                                   | 78                      | 55                       | 9.5             | 0.95×3          | 33.0 × 19.0               |
| ALG130080 |                                   | 110                     | 80                       | 12              | 0.95×3          | 33.5 × 25.0               |
| ALG130125 |                                   | 140                     | 125                      | 15              | 1.0×3           | 38.5 × 26.5               |
| ALG130240 |                                   | 290                     | 240                      | 21              | 1.0×3           | 47.0 × 27.0               |
| ALG130325 |                                   | 360                     | 325                      | 24              | 1.3×2           | 55.0 × 28.0               |
| ALG130470 |                                   | 500                     | 470                      | 31              | 1.3×2           | 56.0 × 38.0               |
| ALG150025 | 15                                | 30                      | 25                       | 6               | 1.0×3           | 29.0 × 19.0               |
| ALG150040 |                                   | 55                      | 40                       | 7.5             | 1.0×3           | 33.0 × 19.0               |
| ALG150060 |                                   | 80                      | 60                       | 9               | 1.0×3           | 33.5 × 24.5               |
| ALG150085 |                                   | 95                      | 85                       | 10              | 1.1×3           | 38.5 × 26.0               |
| ALG150190 |                                   | 220                     | 190                      | 15              | 1.1×3           | 47.5 × 27.5               |
| ALG150245 |                                   | 270                     | 245                      | 18              | 1.4×2           | 56.0 × 30.0               |
| ALG150355 |                                   | 380                     | 355                      | 23              | 1.4×2           | 57.0 × 38.0               |
| ALG200013 | 20                                | 16                      | 13                       | 4               | 1.0×4           | 29.0 × 19.0               |
| ALG200022 |                                   | 30                      | 22                       | 5               | 1.0×4           | 33.0 × 19.0               |
| ALG200033 |                                   | 43                      | 33                       | 6               | 1.0×4           | 33.5 × 24.5               |
| ALG200045 |                                   | 51                      | 45                       | 6               | 1.1×4           | 38.5 × 26.0               |
| ALG200105 |                                   | 125                     | 105                      | 9               | 1.1×4           | 47.5 × 27.5               |
| ALG200135 |                                   | 153                     | 135                      | 11.5            | 1.5×2           | 56.0 × 30.0               |
| ALG200200 |                                   | 213                     | 200                      | 13.5            | 1.6×2           | 57.0 × 40.0               |
| ALG250015 | 25                                | 20                      | 15                       | 3               | 1.0×5           | 33.0 × 19.0               |
| ALG250022 |                                   | 30                      | 22                       | 4               | 1.0×5           | 33.5 × 24.5               |
| ALG250027 |                                   | 30                      | 27                       | 4               | 1.1×5           | 38.5 × 26.0               |
| ALG250065 |                                   | 75                      | 65                       | 6               | 1.1×5           | 47.5 × 27.5               |
| ALG250088 |                                   | 98                      | 88                       | 7.5             | 1.4×3           | 57.0 × 30.0               |
| ALG250125 |                                   | 137                     | 125                      | 8               | 1.6×3           | 57.0 × 40.0               |
| ALG300010 | 30                                | 14                      | 10                       | 2.5             | 1.0×6           | 33.5 × 19.0               |
| ALG300015 |                                   | 20                      | 15                       | 3               | 1.0×6           | 33.5 × 25.0               |
| ALG300020 |                                   | 22                      | 20                       | 3.5             | 1.1×6           | 38.5 × 26.0               |
| ALG300045 |                                   | 52                      | 45                       | 4.5             | 1.1×6           | 47.5 × 27.5               |
| ALG300056 |                                   | 61                      | 56                       | 4.5             | 1.6×3           | 57.0 × 30.0               |
| ALG300080 |                                   | 86                      | 80                       | 6               | 1.6×3           | 57.0 × 40.0               |
| ALG350044 | 35                                | 49                      | 44                       | 3.5             | 1.3×5           | 57.0 × 29.0               |
| ALG350065 |                                   | 68                      | 65                       | 5               | 1.3×5           | 57.0 × 40.0               |
| ALG400035 | 40                                | 38                      | 35                       | 3               | 1.3×6           | 57.0 × 30.0               |
| ALG400050 |                                   | 53                      | 50                       | 3.5             | 1.3×6           | 57.0 × 40.0               |

※1 Test Condition : 20kHz, 1V  
 ※2 Typical value  
 ※3 Inductance Tolerance ±25%  
 ※4 When infra-acoustic frequency component is impressed, a beat sound some times occur.  
 ※5 The specifications contained in this catalog are subject to change without notice.