

1. POWER INDUCTOR SPECIFICATION

CIGB201210AG

Series

Automotive

AEC-Q200

150°C

40V

Metal Composite

Thin Film

FEATURES

- Manufactured by state-of-the-art facilities which are entitled to the registration of ISO/IATF16949
- Meet AEC-Q200 requirements
- Part Type Metal Composite Power Inductor
- Package Type Thin Film Type
- Shielding Magnetically Shielded Type
- Operation Temp. Range -55 to +150°C (Including self generated temperature rise)
- Storage Temp. Range -55 to +150°C (After assembly)
- Termination General Type
- ROHS-Free, Halogen-Free, Beryllium-Free

Application

Car Infotainment, ADAS ECU, in-Vehicle camera (view camera, sensing camera), radar, meter cluster
xEV, automotive communication module Other power supply circuit uses

PRODUCT IDENTIFICATION

CIG

B

2012

10

AG

R24

M

P

E

①

②

③

④

⑤

⑥

⑦

⑧

⑨

- ① Product : Power Inductor
- ② Package Type
- ③ Length & Width
- ④ Thickness
- ⑤ Series Code

- ⑥ Inductance
- ⑦ Tolerance
- ⑧ Internal Code
- ⑨ Packaging Style

⑨	Winding Direction			
	Marking		No marking	
Reel Diameter	7"	13"	7"	13"
Paper Tape	P	R	C	D
Plastic Tape	M	N	E	F

CHARACTERISTIC TABLE

Part no.	Size [mm]	Thickness [mm] (max)	Inductance [uH]	Inductance tolerance [%]	DC Resistance [mΩ]		Rated Current (Isat) [A]		Rated Current (Itemp) [A]		Rated Voltage [V]
					Max.	Typ.	Max.	Typ.	Max.	Typ.	
CIGB201210AGR24MPE	0805/2012	1.0	0.24	±20	22	17	4.9	5.6	4.3	5.0	40
CIGB201210AGR33MPE	0805/2012	1.0	0.33	±20	30	25	4.5	5.1	3.7	4.0	40
CIGB201210AGR47MPE	0805/2012	1.0	0.47	±20	40	33	3.9	4.4	3.2	3.5	40
CIGB201210AGR56MPE	0805/2012	1.0	0.56	±20	49	39	3.0	3.4	3.0	3.3	40
CIGB201210AG1R0MPE	0805/2012	1.0	1.00	±20	81	69	2.7	3.1	2.2	2.4	40
CIGB201210AG1R5MPE	0805/2012	1.0	1.50	±20	130	110	2.0	2.3	1.8	2.0	40
CIGB201210AG2R2MPE	0805/2012	1.0	2.20	±20	282	240	1.2	1.4	1.1	1.3	40

* Inductance : Measured with a LCR meter 4991A(Keysight) or equivalent (Test Freq. 1MHz, Level 0.5V)

* DC Resistance : Measured with a Resistance HI-TESTER RM3545(HIOKI) or equivalent

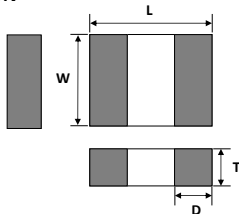
* Isat : DC current value where the Inductance drops by 30%

* Itemp : DC current value where the temperature of the inductor rises by 40°C

* Applied current should be chosen at lower value between Isat Max and Itemp Max.

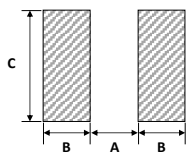
* Measurement Temperature & Humidity : 20±15°C, 65±20%(RH), When accuracy of measurement results is required: 20±2°C, 65±5%(RH)

DIMENSION



TYPE	DIMENSION [mm]			
	L	W	T max	D
2012	2.0 ±0.2	1.25 ±0.2	1.0	0.5 ±0.3

RECOMMENDED LAND PATTERN



DIMENSION [mm]	
A	0.8
B	0.8
C	1.4

UNIT WEIGHT

UNIT WEIGHT (g)
0.013



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2. POWER INDUCTOR CHARACTERISTICS

■ MODEL

CIGB201210AG Series

■ CHARACTERISTICS TABLE

Part no.	Size [mm]	Thickness [mm] (max)	Inductance [uH]	Inductance tolerance (%)	DC Resistance [$m\Omega$]		Rated DC Current (Isat) [A]		Rated DC Current (Itemp) [A]		Rated Voltage [V]
					Max.	Typ.	Max.	Typ.	Max.	Typ.	
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CIGB201210AG1R0MPE	0805/2012	1.0	1.00	±20	81	69	2.7	3.1	2.2	2.4	40
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CIGB201210AG2R2MPE	0805/2012	1.0	2.20	±20	240		1.2	1.4	1.1	1.3	40

* Inductance : Measured with a LCR meter 4991A(Keysight) or equivalent (Test Freq. 1MHz, Level 0.5V)

* DC Resistance : Measured with a Resistance HI-TESTER RM3545(HIOKI) or equivalent

* Isat : DC current value where the Inductance drops by 30%

* Itemp : DC current value where the temperature of the inductor rises by 40°C

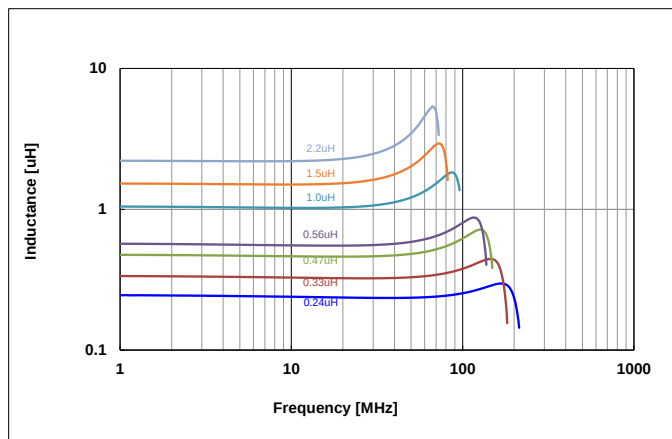
* Applied current should be chosen at lower value between Isat Max and Itemp Max.

* Measurement Temperature & Humidity : 20±15°C, 65±20%(RH), When accuracy of measurement results is required: 20±2°C, 65±5%(RH)

■ CHARACTERISTICS DATA (Reference Only)

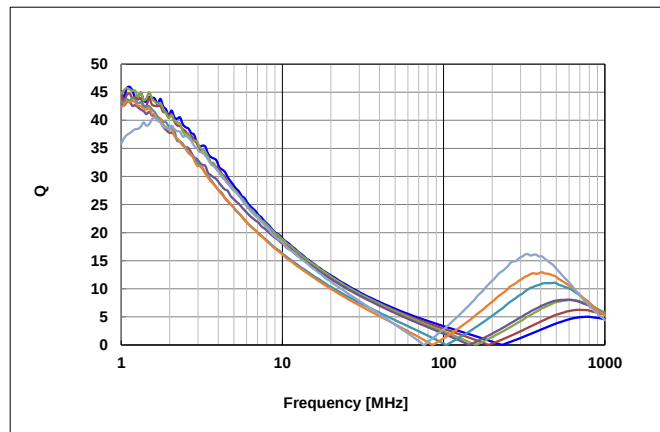
1) Frequency characteristics (Ls)

Keysight E4991A , 1MHz to 1,000MHz

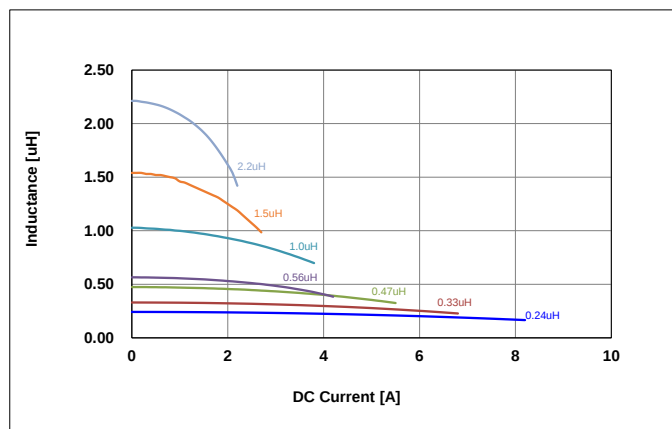


2) Frequency characteristics (Q)

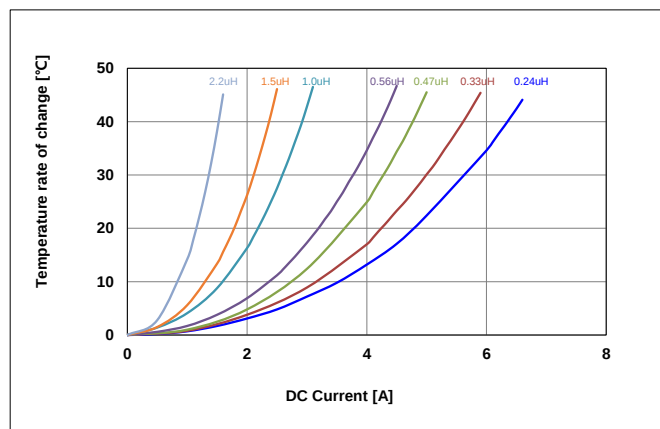
Keysight E4991A , 1MHz to 1,000MHz



3) DC Bias characteristics (Typ.)



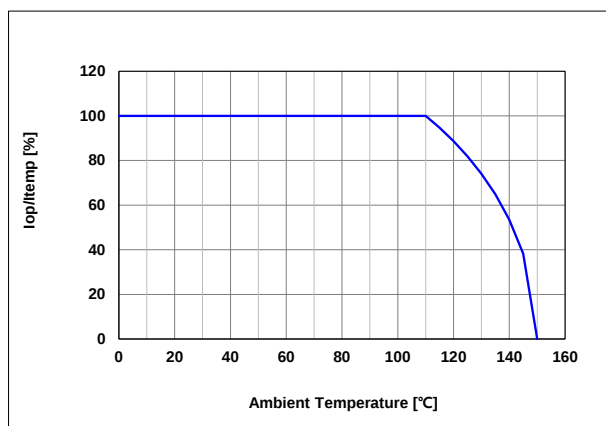
4) Temperature characteristics (Typ.)



5) Derating Characteristics

Regarding the rated current at ambient temperature of 110°C or higher, the rated current temperature characteristic derating is applied.

Derating Current Curve

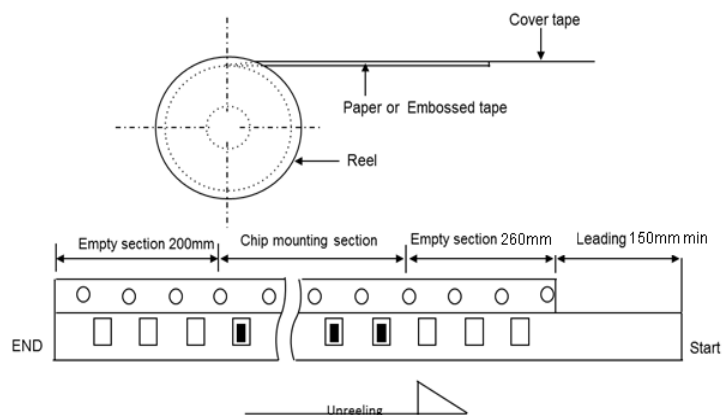


I_{op} : Derating current

I_{temp} : Rated Current

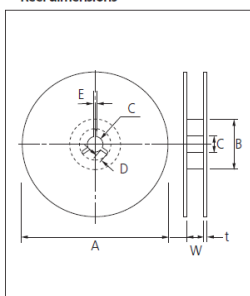
3. PACKAGING SPECIFICATIONS

■ FIGURE



■ REEL SIZES

• Reel dimensions

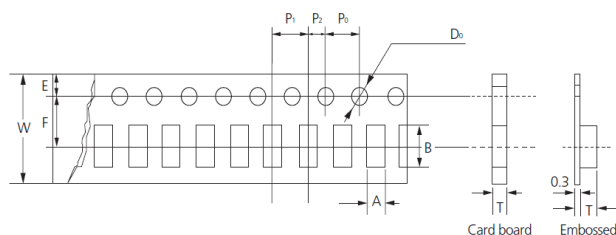


Unit: mm

Symbol	Tape Width	A	B	C	D
7" Reel	8mm	$\Phi 180+0/-3$	$\Phi 60+1/-0$	$\Phi 13\pm 0.3$	4 ± 0.2
	12mm	$\Phi 180+0/-3$	$\Phi 60+1/-0$	$\Phi 13\pm 0.3$	4 ± 0.2
10" Reel	8mm	$\Phi 258+0/-3$	$\Phi 80+1/-0$	$\Phi 13\pm 0.3$	4 ± 0.2
	12mm	$\Phi 330+0/-3$	$\Phi 80\pm 1$	$\Phi 13\pm 0.3$	4 ± 0.2
13" Reel	8mm	$\Phi 330+0/-3$	$\Phi 80\pm 1$	$\Phi 13\pm 0.3$	4 ± 0.2
	12mm	$\Phi 330+0/-3$	$\Phi 80\pm 1$	$\Phi 13\pm 0.3$	4 ± 0.2

Symbol	Tape Width	E	W	t
7" Reel	8mm	2.0 ± 0.5	9 ± 0.5	1.2 ± 0.2
	12mm	2.0 ± 0.5	13 ± 0.5	1.2 ± 0.2
10" Reel	8mm	2.0 ± 0.5	9 ± 0.5	1.8 ± 0.2
	12mm	2.0 ± 0.5	13 ± 0.5	2.2 ± 0.2

■ TAPE SIZE



Type	Tape	Chip Thickness	Chip Cavity		T	W	F	E	P ₁	P ₂	P ₀	D ₀
			A	B								
2012	EMBOSSED	1.0 max	1.52 ± 0.05	2.27 ± 0.05	1.10 ± 0.05	8.00 ± 0.10	3.50 ± 0.05	1.75 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	4.0 ± 0.10	$\Phi 1.5+0.1/-0.0$

■ UNIT WEIGHT & PACKAGING QUANTITY

UNIT WEIGHT (g)	QUANTITY (pcs/ 7" Reel)
0.0130	3000



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 - ② Medical equipment
 - ③ Military equipment
 - ④ Disaster prevention/crime prevention equipment
 - ⑤ Power plant control equipment
 - ⑥ Atomic energy-related equipment
 - ⑦ Undersea equipment
 - ⑧ Traffic signal equipment
 - ⑨ Data-processing equipment
 - ⑩ Traffic signal equipment
 - ⑪ Electric heating apparatus, burning equipment
 - ⑫ Any other applications with the same as or similar complexity or reliability to the applications
-

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[CDRR7D45T125NP-6R8MC](#) [CD105T125NP-681KC](#) [CDRH8D43RT125NP-5R6NC](#) [CDRH60D45BT150NP-100MC](#) [0630CDMCDDS-R15MC](#) [CDRCH12D78BNP-220MC](#) [CDRH40D18ANP-4R7NC](#) [CD75T125NP-471KC](#) [CD105T125NP-101KC](#) [CDRH80D65BT150NP-101MC](#) [CDRH80D65BT150NP-102MC](#) [CD75T125NP-101KC](#) [CDRH10D60BT150NP-101MC](#) [CDRH104RT125NP-6R8PC](#) [CD105T125NP-331KC](#) [CDRH104RT125NP-221MC](#) [CDRR7D45T125NP-3R3MC](#) [CDRH40D18ANP-220NC](#) [CDRR7D45T125NP-470MC](#)
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