

1. POWER INDUCTOR SPECIFICATION

CIGB322512AG

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

①

B

②

3225

③

12

④

AG

⑤

R15

⑥

M

⑦

P

⑧

E

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.	
CIGB322512AGR15MPE	3225	1.2	0.15	±20	9	5	12.0	14	8	11.0	40
CIGB322512AGR22MPE	3225	1.2	0.22	±20	11	6	10.0	12	7	9.5	40
CIGB322512AGR33MPE	3225	1.2	0.33	±20	15	10	8.6	9.5	6	7.3	40
CIGB322512AGR47MPE	3225	1.2	0.47	±20	21	16	7.0	7.7	5.3	6.1	40
CIGB322512AGR68MPE	3225	1.2	0.68	±20	30	23	5.6	6.2	4.4	5.0	40
CIGB322512AG1R0MPE	3225	1.2	1.0	±20	36	29	4.6	5.1	4	4.4	40
CIGB322512AG1R5MPE	3225	1.2	1.5	±20	54	43	4.0	4.5	3.2	3.5	40
CIGB322512AG2R2MPE	3225	1.2	2.2	±20	75	62	3.3	3.6	2.7	3.0	40
CIGB322512AG3R3MPE	3225	1.2	3.3	±20	113	97	2.5	2.8	2.3	2.5	40
CIGB322512AG4R7MPE	3225	1.2	4.7	±20	151	127	2.2	2.5	1.9	2.1	40
CIGB322512AG6R8MPE	3225	1.2	6.8	±20	260	220	2.0	2.3	1.4	1.6	40
CIGB322512AG100MPE	3225	1.2	10	±20	360	305	1.6	1.8	1.2	1.4	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

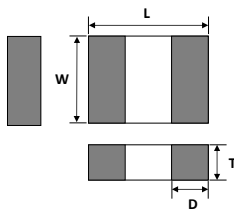
* Isat : DC current value where the Inductance drops by 30%

* 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.

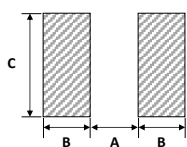
* Measurement Temperature & Humidity : 20±15°C, 65±20%(RH), When accuracy of measurement results is required: 20±2°C, 65±5%(RH)

DIMENSION



TYPE	DIMENSION [mm]			
	L	W	T max	D
3225	3.2 ±0.2	2.5 ±0.2	1.20	0.6 ±0.4

RECOMMENDED LAND PATTERN



DIMENSION [mm]	
A	1.80
B	0.95
C	2.80

UNIT WEIGHT

UNIT WEIGHT (g)
0.0540

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2. POWER INDUCTOR CHARACTERISTICS

■ MODEL CIGB322512AGR15MPE

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

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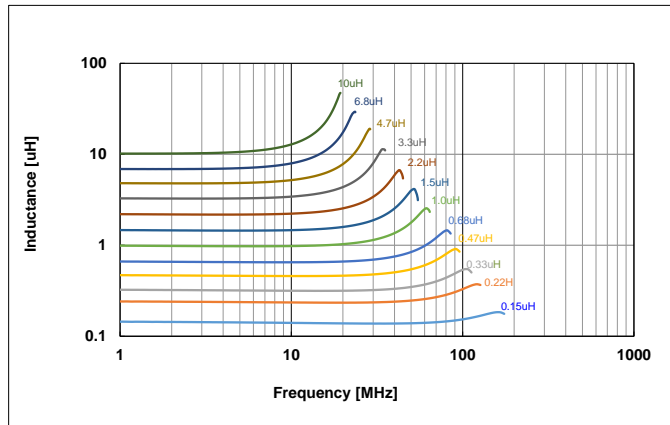
* Applied current should be chosen at lower value between Isat Max and Itemp Max.

* 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)

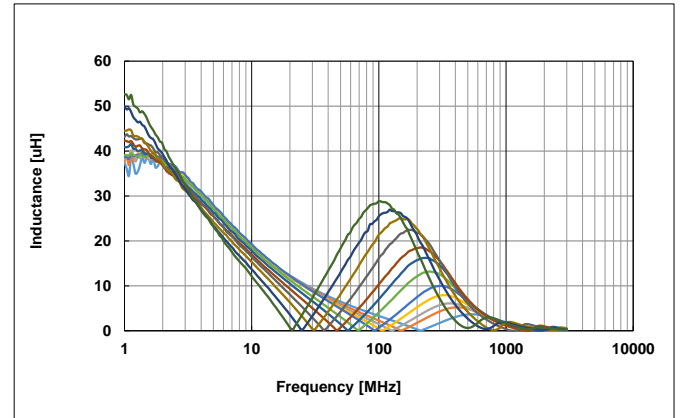
1) Frequency characteristics (Ls)

Keysight E4991A , 1MHz to 1,000MHz

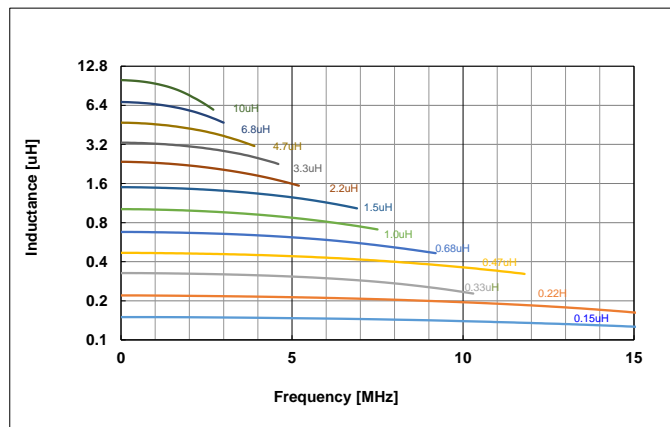


2) Frequency characteristics (Q)

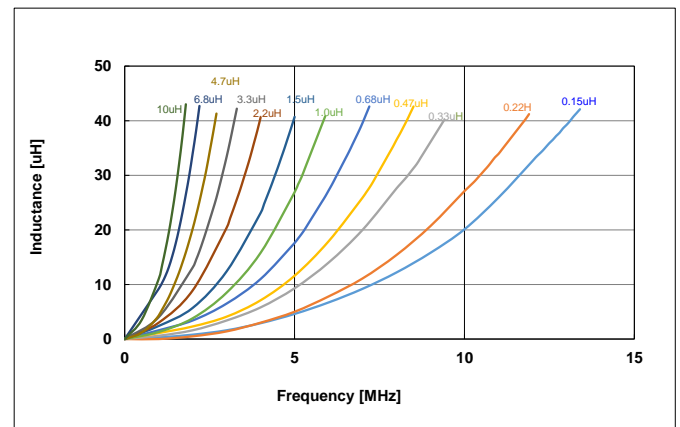
Keysight E4991A , 1MHz to 1,000MHz



3) DC Bias characteristics (Typ.)



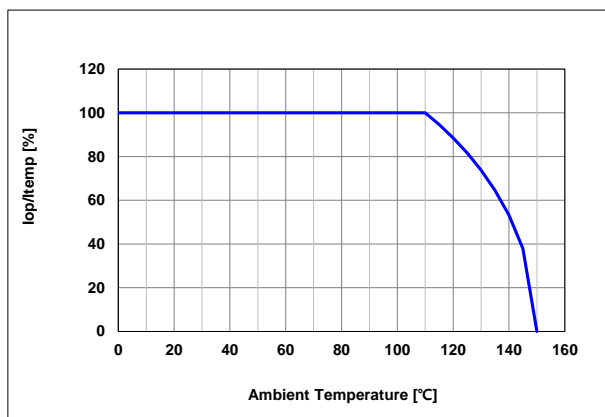
4) Temperature characteristics (Typ.)



5) Derating Characteristics

Regarding the rated current at ambient temperature of 110°C or higher, the rated current temperature characteristic derating is applied.
Using above the derating temperature is available, but not guaranteed.

Derating Current Curve



Iop : Derating current
Itemp : Rated Current



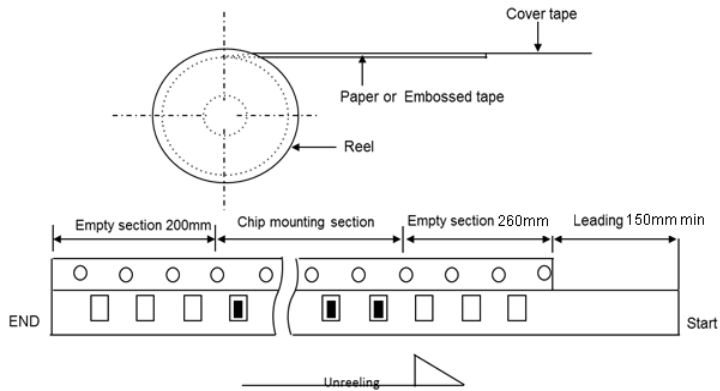
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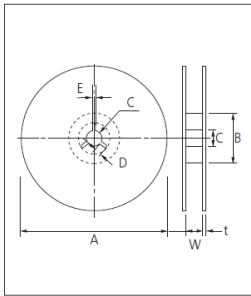
3. PACKAGING SPECIFICATIONS

■ FIGURE



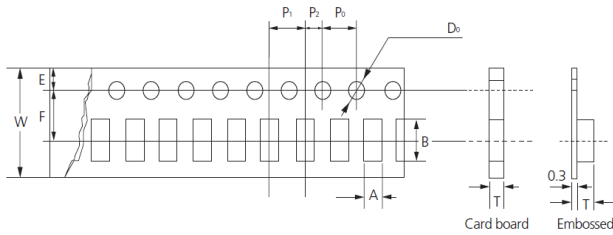
■ REEL SIZES

• 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
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								
3225	EMBOSSSED	1.2	2.90 ± 0.05	3.60 ± 0.05	1.34 ± 0.05	8.00 ± 0.10	3.50 ± 0.05	1.75 ± 0.1	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	$1.50+0.10$

■ UNIT WEIGHT & PACKAGING QUANTITY

UNIT WEIGHT (g)	QUANTITY (pcs/ 7" Reel)
0.0540	2000



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CAUTION OF APPLICATION

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The products listed in this Specification sheet are NOT designed and manufactured for any use and applications set forth below.

Please note that any misuse of the products deviating from products specifications or information provided in this spec & data sheet may cause serious property damages or personal injury.

We will NOT be liable for any damages resulting from any misuse of the products, specifically including using the products for high reliability applications as listed below.

If you have any questions regarding this 'Limitation of Use and Application', you should first contact our sales personnel or application engineers.

- ① Aerospace/Aviation equipment
 - 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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