

1. POWER INDUCTOR SPECIFICATION

CIGB252012AG Series



AEC-Q200

150°C

40V

Metal Composite

REACH

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** **2520** **12** **AG** **R10** **M** **P** **E**
 ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Product : Power Inductor	⑥ Inductance
② Package Type	⑦ Tolerance
③ Length & Width	⑧ Internal Code
④ Thickness	⑨ Packaging Style
⑤ Series Code	

⑨	Winding Direction			
	Marking	No marking	7"	13"
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.	
CIGB252012AGR10MPE	2520	1.2	0.10	±20	9	4	11.0	13.0	8.0	12.0	40
CIGB252012AGR15MPE	2520	1.2	0.15	±20	11	6	10.0	11.0	7.3	9.8	40
CIGB252012AGR22MPE	2520	1.2	0.22	±20	13	8	9.0	10.0	6.7	8.5	40
CIGB252012AGR33MPE	2520	1.2	0.33	±20	17	12	8.0	8.8	5.7	6.6	40
CIGB252012AGR47MPE	2520	1.2	0.47	±20	23	17	5.9	6.6	5.0	5.7	40
CIGB252012AGR68MPE	2520	1.2	0.68	±20	31	24	4.9	5.5	4.1	4.7	40
CIGB252012AG1R0MPE	2520	1.2	1.0	±20	40	33	4.4	4.9	3.7	4.1	40
CIGB252012AG2R2MPE	2520	1.2	2.2	±20	84	75	3.0	3.5	2.6	2.8	40
CIGB252012AG3R3MPE	2520	1.2	3.3	±20	135	118	2.3	2.7	2.0	2.2	40
CIGB252012AG4R7MPE	2520	1.2	4.7	±20	195	175	2.0	2.3	1.6	1.8	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

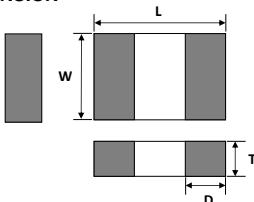
* Isat : DC current value where the Inductance drops by 30%

* 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.

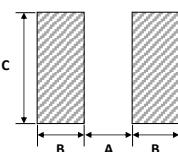
* Measurement Temperature & Humidity : 20±15°C, 65±20%(RH), When accuracy of measurement results is required: 20±2°C, 65±5%(RH)

■ DIMENSION



TYPE	DIMENSION [mm]			
	L	W	T max	D
2520	2.5 ±0.2	2.0 ±0.2	1.2 max	0.6 ±0.3

■ RECOMMENDED LAND PATTERN



DIMENSION [mm]	
A	1.20
B	0.85
C	2.20

■ UNIT WEIGHT

UNIT WEIGHT (g)	
0.0340	

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2. POWER INDUCTOR CHARACTERISTICS

■ MODEL CIGB252012AGR10MPE

■ CHARACTERISTICS TABLE

Part no.	Size [mm]	Thickness [mm] (max)	Inductance [uH]	Inductance tolerance (%)	DC Resistance [mΩ]		Rated DC Current (Isat) [A]		Rated DC Current (Itemp) [A]		Rated Voltage [V]
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* Isat : DC current value where the Inductance drops by 30%

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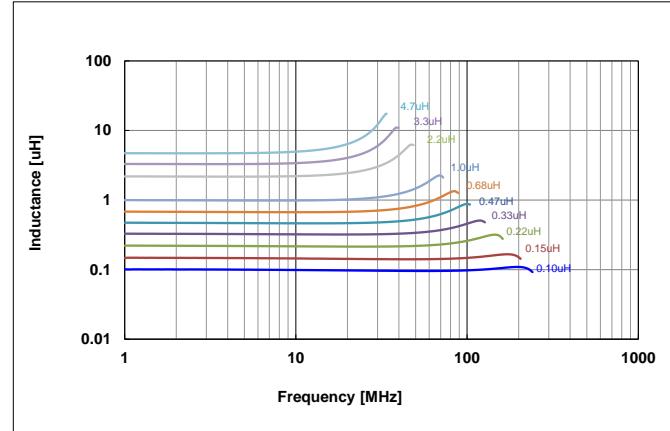
* Applied current should be chosen at lower value between Isat Max and Itemp Max.

* 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)

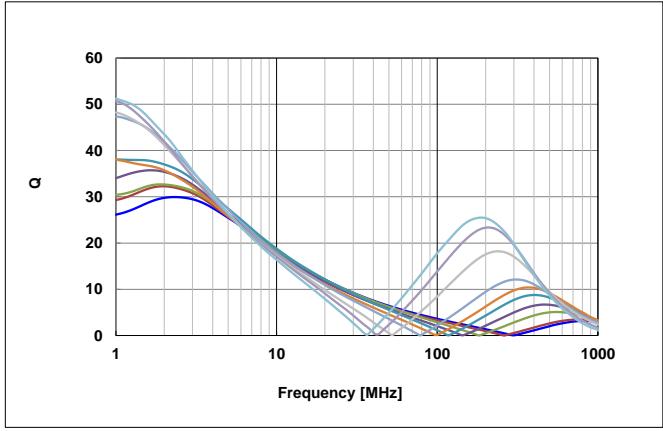
1) Frequency characteristics (Ls)

Keysight E4991A , 1MHz to 1,000MHz

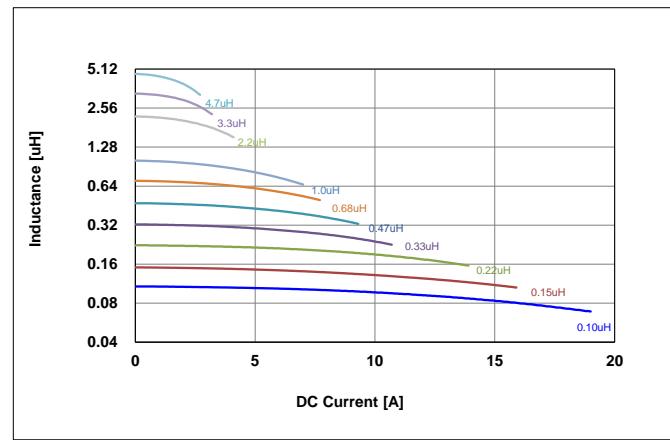


2) Frequency characteristics (Q)

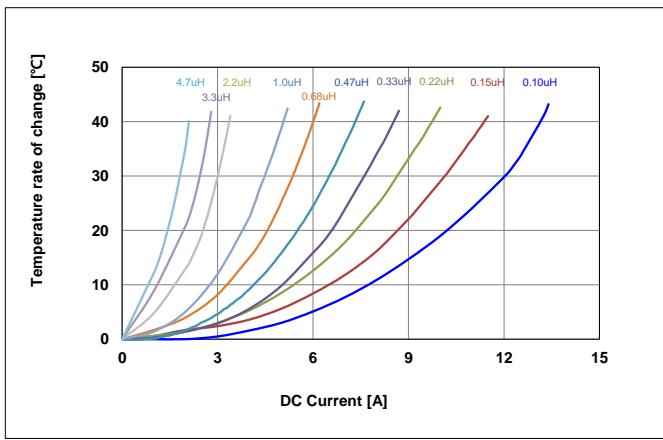
Keysight E4991A , 1MHz to 1,000MHz



3) DC Bias characteristics (Typ.)



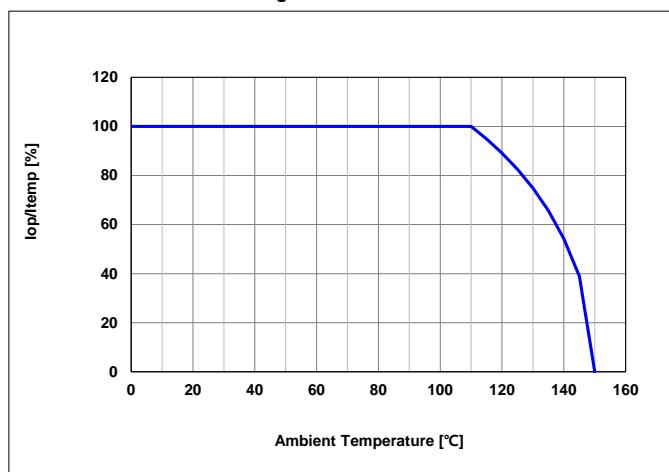
4) Temperature characteristics (Typ.)



5) Derating Characteristics

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

Derating Current Curve



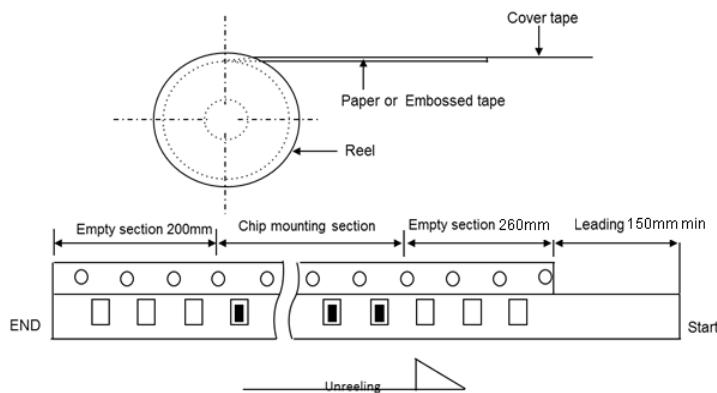
I_{op} : Derating current
I_{temp} : Rated Current

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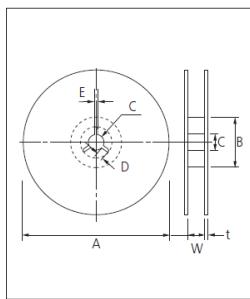
3. PACKAGING SPECIFICATIONS

■ FIGURE



■ REEL SIZES

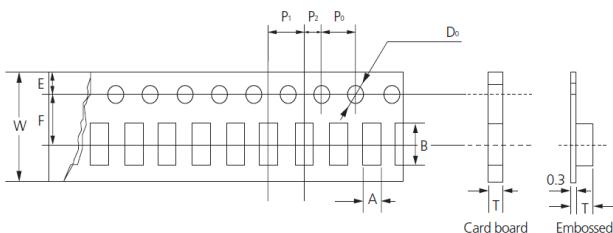
- Reel dimensions



Symbol	Tape Width	A	B	C	D	Unit: mm
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	
	8mm	$\Phi 330+0/-3$	$\Phi 80\pm 1$	$\Phi 13\pm 0.3$	4 ± 0.2	
13" Reel	12mm	$\Phi 330+0/-3$	$\Phi 80\pm 1$	$\Phi 13\pm 0.3$	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	9 ± 0.5	2.2 ± 0.2
13" Reel	8mm	2.0 ± 0.5	13 ± 0.5	2.2 ± 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								
2520	EMBOSSED	1.2 Max	2.30 ± 0.08	2.80 ± 0.08	1.30 ± 0.08	8.00 ± 0.10	3.50 ± 0.05	1.75 ± 0.10	4.0 ± 0.10	2.0 ± 0.05	4.0 ± 0.10	$1.50+0.1/-0.0$

■ UNIT WEIGHT & PACKAGING QUANTITY

UNIT WEIGHT (g)	QUANTITY (pcs/ 7" Reel)
0.0340	2500

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- 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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[CDRH8D43RT125NP-680MC](#) [CDRH80D65BT150NP-4R7NC](#) [CDRH70D45BT150NP-101MC](#) [CDRH10D68RT125NP-102PC](#) [CD43NP-1R0MC](#) [CDRH60D45BT150NP-331MC](#) [CDRH104NP-221MC](#) [CDRH5D28RBH125NP-100MC](#) [CDRH6D38T125NP-330PC](#)
[CDRH60D45BT150NP-221MC](#) [CDRR126NP-331MC](#) [CDRH60D45BT150NP-4R7NC](#) [CDRH124NP-331MC](#) [CD75T125NP-221KC](#)
[CDRH70D45BT150NP-471MC](#) [DEP1016NP-330PB](#) [CDRH6D38T125NP-3R9NC](#) [CDRH127L125NP-680MC](#) [CD43T125NP-680KC](#)
[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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