



SPECIFICATION FOR APPROVAL

Customer : Harman

Customer P/N: _____

Drawing No : _____

Quantity : _____ **Pcs.** **Date :** 2019/9/18

Chilisin P/N : AFSIGA1211091R0M05

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="3" style="text-align: center; padding: 5px;">Automotive Grade Inductor</td> </tr> <tr> <td colspan="3" style="text-align: center; padding: 10px;"> Holegen Free RoHS Compliant REACH Compliant Lead Free Solders AEC-Q200 </td> </tr> </table>			Automotive Grade Inductor			Holegen Free RoHS Compliant REACH Compliant Lead Free Solders AEC-Q200		
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<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; vertical-align: top; padding: 5px;"> HQ:Chilisin Electronics Corp No. 29, Alley 301, Tehhsin Rd., Hukou,Hsinchu 303, Taiwan TEL : +886-3- 599-2646 FAX : +886-3- 599-9176 E-mail : sales@chilisin.com.tw http : //www.chilisin.com.tw </td> <td style="width: 50%; vertical-align: top; padding: 5px;"> Factory:Chilisin Electronics (HuNan)Co., Ltd. No. 8 Shaziao Liangshuijing Town Yuanling County Hunan Province TEL : +86-745 -8675-882 E-mail : hunan@chilisin.com.tw </td> </tr> <tr> <td style="vertical-align: top; padding: 5px;"> Chilisin Electronics (Dongguan) Co., Ltd. No. 78, Puxing Rd., Yuliangwei Administration Area, Qingxi Town, Dongguan City, Guangdong,China TEL : +86-769-8773-0251~3 FAX : +86-769-8773-0232 E-mail : cect@chilisin.com.tw </td> <td style="vertical-align: top; padding: 5px;"> Chilisin Electronics (Suzhou) Co., Ltd. No.143,Song Shan Rd., Suzhou New District, Suzhou,China Postal Code:215129 TEL:+86-512-6841-2350 FAX:+86-512-6841-2356 E-mail : suzhou@chilisin.com.tw </td> </tr> </table>			HQ:Chilisin Electronics Corp No. 29, Alley 301, Tehhsin Rd., Hukou,Hsinchu 303, Taiwan TEL : +886-3- 599-2646 FAX : +886-3- 599-9176 E-mail : sales@chilisin.com.tw http : //www.chilisin.com.tw	Factory:Chilisin Electronics (HuNan)Co., Ltd. No. 8 Shaziao Liangshuijing Town Yuanling County Hunan Province TEL : +86-745 -8675-882 E-mail : hunan@chilisin.com.tw	Chilisin Electronics (Dongguan) Co., Ltd. No. 78, Puxing Rd., Yuliangwei Administration Area, Qingxi Town, Dongguan City, Guangdong,China TEL : +86-769-8773-0251~3 FAX : +86-769-8773-0232 E-mail : cect@chilisin.com.tw	Chilisin Electronics (Suzhou) Co., Ltd. No.143,Song Shan Rd., Suzhou New District, Suzhou,China Postal Code:215129 TEL:+86-512-6841-2350 FAX:+86-512-6841-2356 E-mail : suzhou@chilisin.com.tw		
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DRAWN BY Xiao linmei	CHECKED BY Hu feng	APPROVED BY Hu feng						

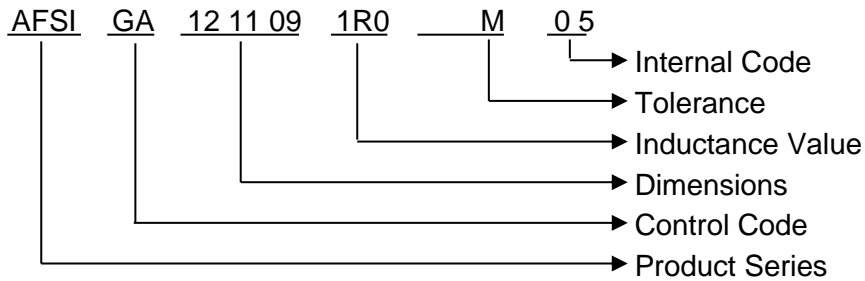


AFSIGA1211091R0M05 Specification

AEC-Q200

1 Scope: This specification applies to large current and low RDC DIP power inductor.

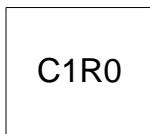
2 Part Numbering:



3 Rating:

Operating temperature range: $-55^{\circ}\text{C} \sim 155^{\circ}\text{C}$ (Including self - temperature rise)
Storage condition: $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$; 75%RH Max

4 Marking:



Marking color : Black

Marking : C → Chilisin
1R0 → Inductance

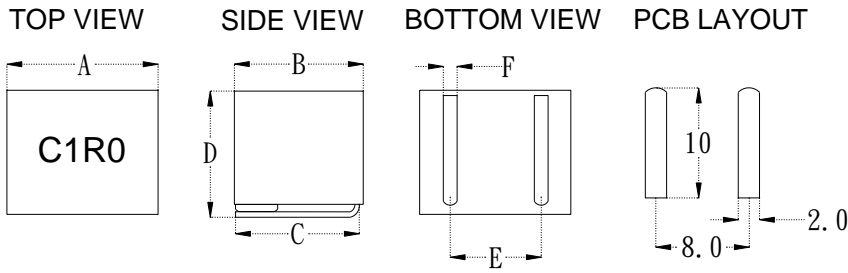
5 Standard Testing Condition

	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35°C)	20 to 30°C
Humidity	Ordinary Humidity(25 to 85% RH)	50 to 80 %RH

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6 Configuration and Dimensions:



A	12.0±0.5	m/m
B	11.0±0.5	m/m
C	8.2±0.5	m/m
D	8.8 max	m/m
E	8.0±0.3	m/m
F	1.6±0.1	m/m

7 Product appearance



8 Electrical Characteristics:

Part No.	Inductance (uH)	Test Freq.	Tolerance (±%)	I _{rms} (A)Typ.	I _{sat} (A)Typ.	RDC (mΩ)Max.	Marking
AFSIGA1211091R0M05	1.0	100kHz,1.0V	20	40	45	2.0 (1.48 typ)	C1R0

Note:

- 1.Ambient + temperature rise range -55°C ~155°C (Including self - temperature rise)
- 2.I_{sat} for Inductance drop 30% from its value without current.
- 3.I_{rms} for a 40°C temperature rise from 25°C ambient.
- 4.The part temperature (ambient + temp rise) should not exceed 155°C under worst case operating conditions.
Circuit design 155°C under worst case operating conditions. Component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.



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AEC-Q200

9 Data sheet

MEAS.	L	RDC	T(Irms)	L(Isat)	A	B	C	D	E	F
ITEM	uH	mΩ	°C	uH	m/m	m/m	m/m	m/m	m/m	m/m
SPEC Specification	1.0	2.0	40 A typ	45 A typ	12.0	11.0	8.2	8.8	8.0	1.6
	±20%	max	$\Delta T \leq 40^\circ\text{C}$		±0.5	±0.5	±0.5	max	±0.3	±0.1
Test Condition	100KHz/1V		100KHz/1V	100KHz/1V						
1	0.904	1.48	39.50	0.642	11.83	10.61	8.17	8.34	8.07	1.58
2	0.922	1.49	39.20	0.643	11.85	10.67	8.12	8.22	8.11	1.58
3	0.904	1.50	39.50	0.642	11.82	10.65	8.11	8.20	8.09	1.60
4	0.914	1.48	39.60	0.648	11.80	10.62	8.16	8.17	8.11	1.57
5	0.901	1.47	39.40	0.648	11.83	10.62	8.09	8.26	8.10	1.58
6	0.920	1.49	39.60	0.647	11.83	10.64	8.16	8.32	8.11	1.59
7	0.896	1.48	39.50	0.644	11.81	10.63	8.14	8.15	8.13	1.59
8	0.902	1.46	39.50	0.640	11.84	10.61	8.10	8.19	8.08	1.57
9	0.920	1.49	39.30	0.647	11.81	10.63	8.13	8.28	8.10	1.58
10	0.918	1.48	39.20	0.650	11.80	10.65	8.12	8.30	8.12	1.58
\bar{X}	0.910	1.48	39.43	0.645	11.82	10.63	8.13	8.24	8.10	1.58
R	0.026	0.04	0.40	0.010	0.05	0.06	0.08	0.19	0.06	0.03

10 Material List:

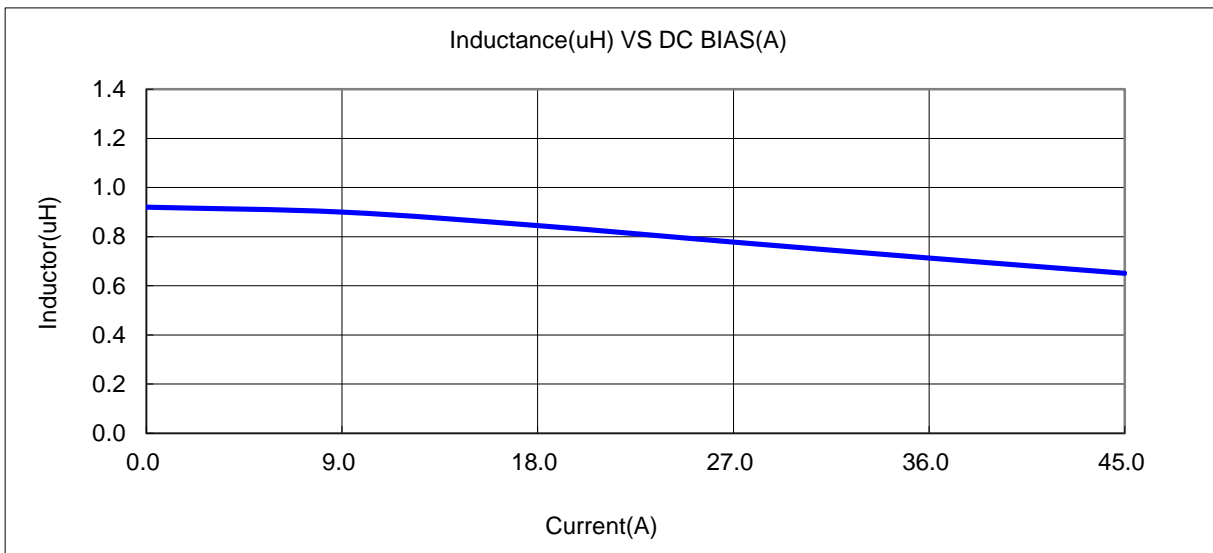
NO	Part	Material
1	Flat copper wire	AIW (220°C)
2	Core	Iron powder
3	coating	Paint Gray (127# matte)
4	Solder	Sn96.5-Ag3.0-Cu0.5
5	Ink	jet ink black (9210)



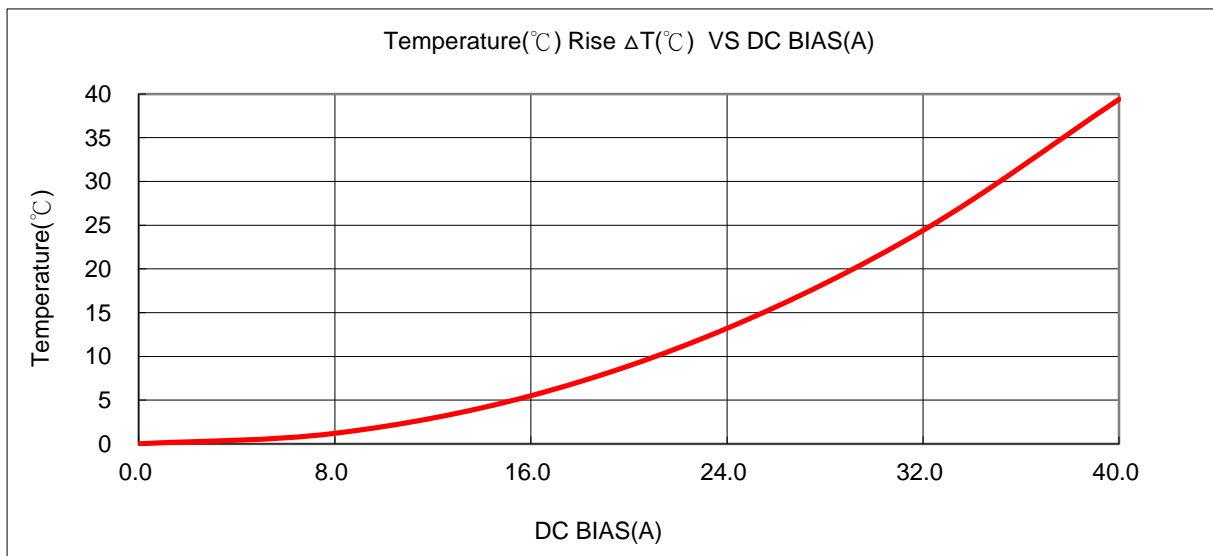
AFSIGA1211091R0M05 Specification AEC-Q200

11 PERFORMANCE GRAPHS:

Current(A)	0.0	9.0	18.0	27.0	36.0	45.0			
Inductor(uH)	0.920	0.900	0.845	0.778	0.713	0.651			
Test instrument	WK 3260B/3265B		Frequency		100KHZ/1.0V		Room temperature: 25°C		



Current(A)	0.0	8.0	16.0	24.0	32.0	40.0			
Temperature(°C)	0.0	1.2	5.5	13.2	24.4	39.4			
Test instrument	WK 3260B/3265B		Frequency		100KHZ/1.0V		Room temperature: 25°C		

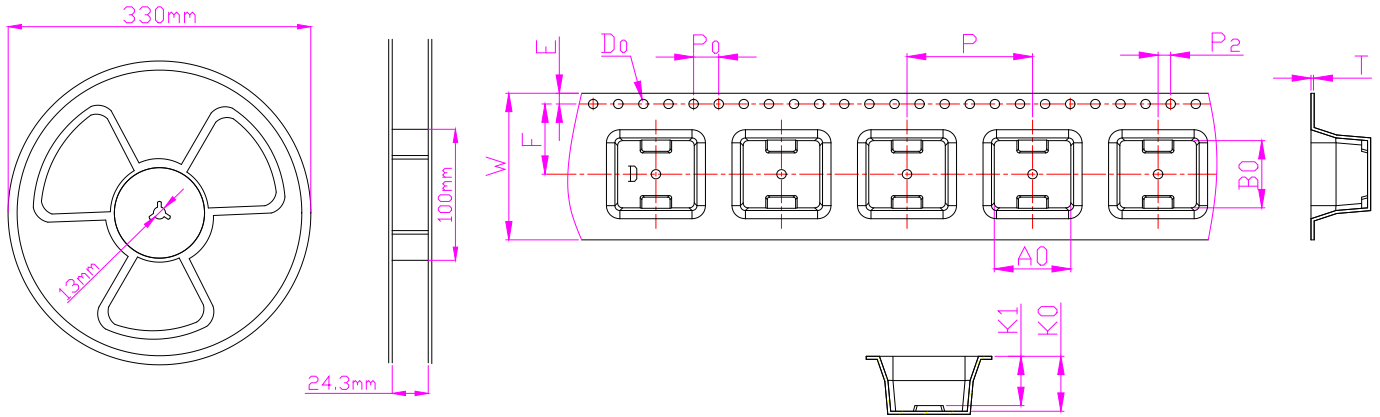


AFSIGA1211091R0M05 Specification

AEC-Q200

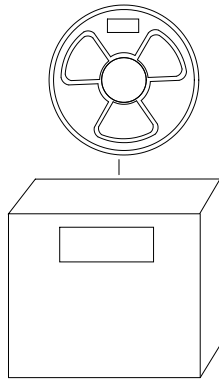
12 Packaging:

12.1 Small Pack: 240pcs per reel



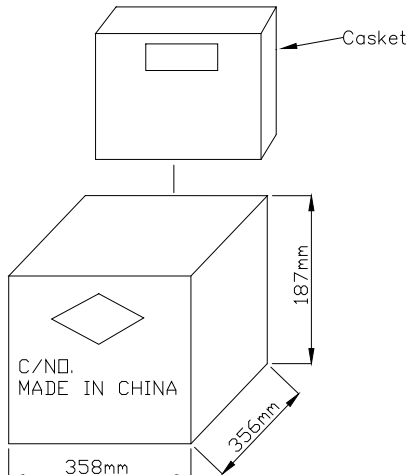
项目	W	A ₀	B ₀	K ₀	K ₁	P	F	E	D ₀	D ₁	P ₀	P ₂	T
尺寸 (mm)	24.0 ^{±0.30}	12.2 ^{±0.10}	11.0 ^{±0.10}	9.0 ^{±0.10}	8.07 ^{±0.10}	20.0 ^{±0.10}	11.5 ^{±0.10}	1.75 ^{±0.10}	1.5 ^{+0.10/-0.00}	/	4.0 ^{±0.10}	2.0 ^{±0.10}	0.5 ^{±0.05}

12.2 Medium pack: 3reel per casket (720pcs)



Inner carton number	8401-013-01
Carrier	M30-021-454-0
Cover	M30-010-05-1
Reel	M34-006-12
Desiccant	M66.002
pouch	M32-002-09
Label type	Self-adhesion

12.3 Large pack: 2 small carton per carton (1440pcs)



Carton number	8402-049-01
Label location	Top left corner on side surface
Label size	
Label type	Self-adhesion

Products piece weight:	5.78g
Products net weight:	8.33kg
Products gross weight:	10.83kg