MESSRS:
全緯科技有限公司

RoHS Compliant
環保品

SPEC NO.	H500-0190

DATE: 2010/04/16

《NEW/~~AMENDED~~》

APPROVAL SPECIFICATION

DESCRIPTION: FIXED INDUCTOR

MODEL (PART NO.) CECNP SERIES

CUSTOMER'S PART NO.

AMENDED
CUSTOMER'S PART NO.

【FOR APPROVAL】

DATE:

* THIS SPECIFICATION IS CONSTITUTED WITH PAGES INCLUDING ATTACHMENTS.

COILS ELECTRONIC CO., LTD.

Approved by	Checked by	In charge
R&D 2010-4-16 楊向東	R&D 2010-4-16 孟聖賢	R&D 2010-04-16

			AMENDMENT RECORD	TYPE CECNP		
SYMBOL	DATE	PAGE	CONTENTS	DWN. BY	CHK. BY	APP. BY
△1	2005/11/24	P.3/6	UPDATE THE MATERIAL LIST.	Q.Y.Pi	Z.H.Xiao	H.Z.Cao

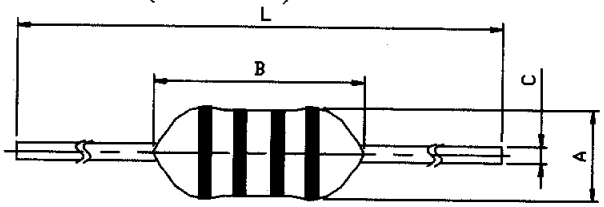
SPEC. No. 1/6

H500-0190

SPECIFICATION

TYPE
CECNP

1. DIMENSION (UNIT: mm)

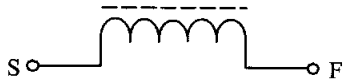


COLOR RING 1 2 3 4

A	Ø3.2 Max.
B	7.0 Max.
C	Ø0.50±0.05 (0.1~18 μH) Ø0.48±0.05 (22~1000 μH)
L	61.0±1.0

* THE LENGTH OF THE TERMINAL PINS DOES NOT INCLUDE SOLDER TIP.

2. CIRCUIT



3. MARKING

COLOR	FIRST FIGURE 1	SECOND FIGURE 2	MULTIPLIER 3	TOLERANCE 4
BLACK	0	0	1	± 20%
BROWN	1	1	10	-
RED	2	2	100	-
ORANGE	3	3	1000	-
YELLOW	4	4	-	-
GREEN	5	5	-	-
BLUE	6	6	-	-
VIOLET	7	7	-	-
GRAY	8	8	-	-
WHITE	9	9	-	-
GOLD	-	-	0.1	± 5%
SILVER	-	-	0.01	± 10%

11th, Oct., 2003			CECNP. P/N	
APPROVAL	CHECK	DESIGN	Refer To P.5/6, 6/6	
R&D 2010-4-16 向東	R&D 2010-4-16 孟聖賢	R&D 2010-04-16 許彩珍	REMARK RoHS Compliant 環保品	SPEC. No. 2/6 **H500-0190**

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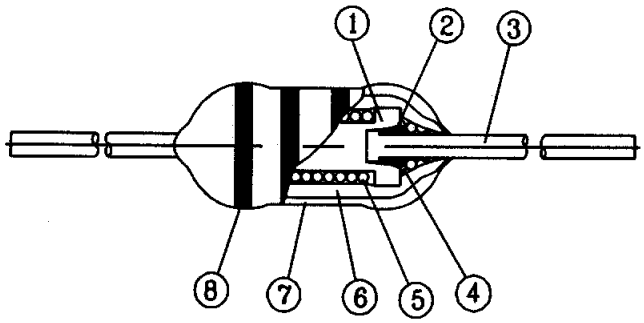
4. CONSTRUCTION:



⚠1 No.	PARTS	MATERIAL	MANUFACTURER	COUNTRY OF ORIGIN	UL No.	TEMP CLASS
①	CORE	FERRITE CORE EM11,EM9D,EL9H OR EQUIVALENT	TONICHI FERRITE PRODUCTS CO., LTD.	CHINA	NA	NA
②	ADHESIVE	EPOXY RESIN (6642-1)	GUANG ZHOU WELLS CHEMICAL CO., LTD.	CHINA	NA	NA
③	LEAD WIRE	SOLDER PLATED COPPER WIRE	WELL FORE SPECIAL WIRE CORPORATION	CHINA	NA	NA
④	SOLDER	Sn99.3-Cu0.7	ALPHA METALS LTD.	CHINA HONG KONG	NA	NA
		OR Sn-Cu-Ni (SN100C4)	NIHON SUPERIOR., LTD.	JAPAN	NA	NA
⑤	WIRE	POLYURETHANE ENAMELLED COPPER WIRE	JUNG SHING WIRE CO., LTD.	CHINA	E174837	130℃
			PACIFIC-THAI ELECTRIC WIRE & CABLE CO.,LTD.	THAILAND	E142108	130℃
⑥	UNDER-COATING RESIN	BUTADIENE RESIN (UV-321)	HOMETOWN INDUSTRIAL CO., LTD.	CHINA (TAIWAN)	NA	NA
⑦	OVER-COATING RESIN	EPOXY RESIN (13012-G)	HOMETOWN INDUSTRIAL CO., LTD.	CHINA (TAIWAN)	NA	NA
⑧	COLOR CODE	MELAMINE RESIN	HOMETOWN INDUSTRIAL CO., LTD.	CHINA (TAIWAN)	NA	NA

5. GENERAL CHARACTERISTICS

* STANDARD TESTING CONDITIONS:
UNLESS OTHERWISE SPECIFIED, THE STANDARD RANGE OF ATMOSPHERIC CONDITIONS FOR MEASUREMENTS AND TESTS ARE AS FOLLOWS: AMBIENT TEMPERATURE: 15℃~35℃. RELATIVE HUMIDITY : 25% ~85%. AIR PRESSURE : 86kPa ~106kPa.
IF THERE IS ANY DOUBT ABOUT THE RESULTS, MEASUREMENT SHALL BE MADE WITHIN THE FOLLOWING LIMITS: AMBIENT TEMPERATURE: 20℃±1℃. RELATIVE HUMIDITY : 63% ~67%. AIR PRESSURE : 86kPa ~106kPa.

No.	ITEMS		TEST CONDITIONS	SPECIFICATION
1	OPERATION TEMPERATURE STORAGE TEMPERATURE			-25 ～ +85℃ (INCLUDING COIL TEMPERATURE RISE) -40 ～ +85℃
2	LEAD TERMINAL STRENGTH	PULLING	A STATIC PULLING FORCE OF 25N IN A DIRECTION PARALLEL TO THE LEAD TERMINALS FOR 5±1 SECONDS.	NO TERMINAL BREAKAGE OR LOOSENING
		BENDING	LOAD WITH 3.0N AND 90° BENDING AND STRAIGHTENING TWICE IN TWO DIRECTIONS (UPWARD & DOWNWARD)	
3	DIELECTRIC WITHSTAND VOLTAGE TEST		D.C.500V APPLIED BETWEEN WINDING-BODY FOR 1 MINUTE.	NO DIELECTRIC DAMAGE
4	INSULATION RESISTANCE TEST		D.C.500V APPLIED BETWEEN WINDING-BODY FOR 1 MINUTE.	OVER 100 MΩ
5	OVER CURRENT TEST		INPUT 2 TIMES OF RATED INTO THE SAMPLE FOR 5 MINUTES.	NO FIRE OR ANY ABNORMALITY
6	RESISTANCE TO SOLDERING HEAT TEST		FIX THE SAMPLES ON A 1.6MM THICKNESS PCB, THEN DIP THE SAMPLE LEADS INTO A SOLDERING BATH OF 260±5℃ UP TO THE PCB FOR 5±1 SECONDS.	NO MECHANICAL BREAKAGE. DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±3.0% Qu: WITHIN ±20%
7	SOLDER ABILITY TEST		IMMERSE THE TERMINAL IN FLUX FOR 5 SECONDS. THEN DIP THE TERMINAL INTO A SOLDERING BATH OF 245±5℃ FOR 2±0.5 SECONDS.	OVER 90% OF THE SURFACE BEING IMMERSED SHALL BE COVERED WITH NEW SOLDER UNIFORMLY.
8	VIBRATION TEST		AMPLITUDE: 1.5MM-P.P FREQUENCY:10～55～10HZ (1 MINUTE PER CYCLE) DURATION: 2 HOURS IN EACH OF X,Y,Z AXIS. (TOTAL 6 HOURS)	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±1.0% Qu: WITHIN ±20%
9	SHOCK TEST		PEAK ACCELERATION: 981M/S^2 DURATION OF PULSE: 10MS SHOCK TIMES: 3 TIMES IN EACH OF X, Y, Z AXIS. (TOTAL 9 TIMES)	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±1.0% Qu: WITHIN ±20%
10	HUMIDITY TEST		TEMPERATURE: 40℃±2℃ HUMIDITY: 90%～95%RH DURATION: 500±12 HOURS.	DEVIATION RELATIVE TO INITIAL VALUE: L: WITHIN ±10% Qu: WITHIN ±20%
11	DRY HEAT TEST		TEMPERATURE: 85℃±2℃ DURATION: 500±12 HOURS.	
12	COLD TEST		TEMPERATURE: -25℃±3℃ DURATION: 500±12 HOURS.	
13	DRY HEAT WITH LOAD		TEMPERATURE: 85℃±2℃ LOAD CONDITION: RATED CURRENT DURATION: 500±12 HOURS.	
14	DAMP HEAT WITH LOAD		TEMPERATURE: 40℃±2℃ HUMIDITY: 90%～95%RH LOAD CONDITION: RATED CURRENT DURATION: 500±12 HOURS.	
15	THERMAL SHOCK		5 CONTINUOUS CYCLES SHOWN AS BELOW	

TEMPERATURE	DURATION
-25℃±3℃	30 MINUTES
85℃±2℃	30 MINUTES

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6. ELECTRICAL CHARACTERISTICS

No.	PART NO.	L (μH)	L TOLERANCE	Qu Min.	D.C.R. (Ω) Max.	RATED CURRENT Max. (A)		S.R.F. (MHz) Min.	MEASURING FREQUENCY (MHz)	MATERIAL
						Idc1	Idc2			
01	CECNP-R10☐	0.10	M、K	60	0.070	2.72	1.18	220	25.2	EM11
02	CECNP-R12☐	0.12			0.080	2.69	1.02	200		
03	CECNP-R15☐	0.15		50	0.085	2.64	0.91	185		
04	CECNP-R18☐	0.18			0.090	2.62	0.78	180		
05	CECNP-R22☐	0.22			0.103	2.60	0.75	170		
06	CECNP-R27☐	0.27			0.110	2.58	0.70	165		
07	CECNP-R33☐	0.33			0.120	2.55	0.68	160		
08	CECNP-R39☐	0.39			0.13	2.52	0.65	155		
09	CECNP-R47☐	0.47			0.14	2.33	0.64	150		
10	CECNP-R56☐	0.56			0.15	2.24	0.63	150		
11	CECNP-R68☐	0.68			0.17	2.21	0.62	150		
12	CECNP-R82☐	0.82			0.19	2.00	0.61	150		
13	CECNP-1R0M	1.0	M、K、J		0.22	1.82	0.59	150		
14	CECNP-1R2☐	1.2			0.23	1.81	0.57	145	7.96	EM9D
15	CECNP-1R5☐	1.5			0.25	1.75	0.565	140		
16	CECNP-1R8☐	1.8			0.27	1.39	0.555	138		
17	CECNP-2R2☐	2.2			0.30	1.15	0.515	110		
18	CECNP-2R7☐	2.7			0.33	1.12	0.505	100		
19	CECNP-3R3☐	3.3			0.50	1.06	0.365	100		
20	CECNP-3R9☐	3.9			0.59	1.01	0.350	90		
21	CECNP-4R7☐	4.7		60	1.12	0.91	0.260	84		
22	CECNP-5R6☐	5.6			1.16	0.84	0.235	65		
23	CECNP-6R8☐	6.8			1.29	0.74	0.230	60		
24	CECNP-8R2☐	8.2			1.39	0.73	0.215	58		
25	CECNP-100☐	10			1.56	0.67	0.210	28.7		
26	CECNP-120☐	12		50	1.64	0.60	0.200	18.9	2.52	
27	CECNP-150☐	15			1.85	0.56	0.190	16.8		
28	CECNP-180☐	18			1.94	0.52	0.185	12.8		
29	CECNP-220☐	22			2.24	0.48	0.160	10.4		
30	CECNP-270☐	27			2.39	0.41	0.155	10.2		
31	CECNP-330☐	33			2.71	0.38	0.150	8.4		

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ELECTRICAL CHARACTERISTICS

No.	PART NO.	L (μH)	L TOLERANCE	Qu Min.	D.C.R. (Ω) Max.	RATED CURRENT Max. (A)		S.R.F. (MHz) Min.	MEASURING FREQUENCY (MHz)	MATERIAL
						Idc1	Idc2			
32	CECNP-390☐	39	M、K、J	50	3.00	0.36	0.145	7.4	2.52	EM9D
33	CECNP-470☐	47			3.30	0.33	0.135	6.9		
34	CECNP-560☐	56			3.85	0.32	0.135	6.6		
35	CECNP-680☐	68			4.07	0.27	0.125	6.1		
36	CECNP-820☐	82		45	4.62	0.24	0.125	5.4		
37	CECNP-101☐	100			4.98	0.24	0.110	5.0		
38	CECNP-121☐	120			5.45	0.23	0.110	4.3	0.796	EL9H
39	CECNP-151☐	150			5.83	0.22	0.10	4.3		
40	CECNP-181☐	180			8.46	0.20	0.095	3.4		
41	CECNP-221☐	220			9.23	0.18	0.090	3.3		
42	CECNP-271☐	270			11.7	0.15	0.085	2.9		
43	CECNP-331☐	330			13.2	0.14	0.075	2.7		
44	CECNP-391☐	390			19.9	0.13	0.060	2.3		
45	CECNP-471☐	470			21.4	0.12	0.055	2.2		
46	CECNP-561☐	560			22.8	0.11	0.055	2.1		
47	CECNP-681☐	680			25.2	0.10	0.050	1.9		
48	CECNP-821☐	820			28.4	0.09	0.045	1.7		
49	CECNP-102☐	1000			31.3	0.08	0.045	1.5		

* ☐ : M: ±20%, K: ±10%, J: ±5%
* TESTING INSTRUMENT
  INDUCTANCE & Q: HP 4285A OR EQUIVALENT.
  D.C.R.: HP 34420A OR EQUIVALENT.
  RATED CURRENT: HP 4284A, HP42841A, HP E3632A, HP 34401A OR EQUIVALENT.
  S.R.F. : HP 4395A, HP4285A OR EQUIVALENT.
* Idc1: THE CURRENT WHEN THE INDUCTANCE DECREASES TO 90% OF INITIAL VALUE. (Ta=25℃)
* Idc2: THE CURRENT WHEN THE TEMPERATURE OF COIL IS INCREASED BY 20℃. (Ta=25℃)
* THE RATED CURRENT INDICATES THE SMALLER ONE BETWEEN Idc1 AND Idc2.

6. PACKING

* PACKAGE TO BE ACCORDING TO SPECIFICATION (TICK THE RELEVANT "√").

☐ KB-PAT003 ☑ KB-PAT601
☐ KB-PAT004 ☐ KB-PAT602
☐ KB-OTH019
☐ KB-OTH020
☐ SPECIAL FOR CUSTOMER KB_____ .

7. REMARK

* THE WARNING FOR LEAD WIRE FORMING TO BE ACCORDING TO STD-003.