Lead-Free & RoHs Compliance!!

SPECIFICATION FOR APPROVAL

CUSTOMER：

CUSTOMER P/N：

OUR DWG No： CE1-361017

QUANTITY： X Pcs. **DATE：** 2013/7/3

ITEM： NL453232T-SERIES-N

SPECIFICATION ACCEPTED BY:	
COMPONENT ENGINEER	
ELECTRICAL ENGINEER	
MECHANICAL ENGINEER	
APPROVED	
REJECTED	

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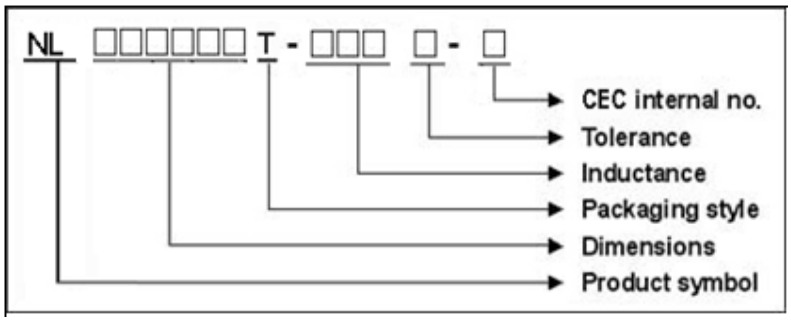
DRAWN BY	CHECKED BY	APPROVED BY
ANNIE	**ANNIE**	**唐威德**

ISO9001 & ISO14001 & TS16949 **CHILISIN ELECTRONICS CORP.**

NL453232T Series Specification

1 Scope: This specification applies to Wire Wound Ferrite Chip Inductors

2 Part Numbering: Product Identification

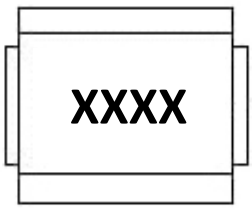


3 Rating:

Operating Temperature: －40℃～125 ℃(Including self - temperature rise)

Storage Temperature: －40℃～125 ℃

4 Marking:



Ex: NL453232T-100K-N

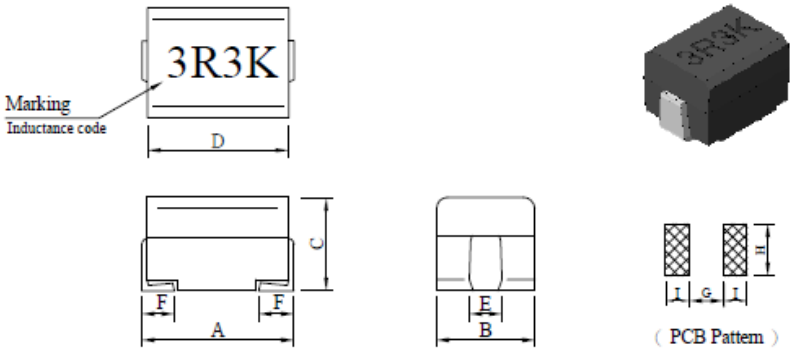
Marking : 100K

5 Standard Testing Condition

	Unless otherwise specified	In case of doubt
Temperature	Ordinary Temperature(15 to 35℃)	20±2℃
Humidity	Ordinary Humidity(25 to 85% RH)	60 to 70 % RH

NL453232T Series Specification

6 Configuration and Dimensions:



Unit : m/m

A	B	C	D	E	F	G	H	I
4.50 ±0.3	3.20 ±0.2	3.20 ±0.2	4.20 ±0.2	1.20	$1.00^{+0.3}_{-0.0}$	2.20	1.60	1.50

7 ELECTRICAL CHARACTERISTICS :

Part No.	Inductance (uH)	L,Q Test Freq. (MHZ)	Q Min.	SRF (MHZ)Min.	RDC (Ω)Max.	IDC (mA)Max.	Tolerance (±%)
NL453232T-R10□-N	0.10	25.2	35	300	0.18	800	20
NL453232T-R12□-N	0.12	25.2	35	280	0.20	770	20
NL453232T-R15□-N	0.15	25.2	35	250	0.22	730	20
NL453232T-R18□-N	0.18	25.2	35	220	0.24	700	20
NL453232T-R22□-N	0.22	25.2	40	200	0.25	665	20
NL453232T-R27□-N	0.27	25.2	40	180	0.26	635	20
NL453232T-R33□-N	0.33	25.2	40	165	0.28	605	20
NL453232T-R39□-N	0.39	25.2	40	150	0.30	575	20
NL453232T-R47□-N	0.47	25.2	40	145	0.32	545	20
NL453232T-R56□-N	0.56	25.2	40	140	0.36	520	20
NL453232T-R68□-N	0.68	25.2	40	135	0.40	500	20
NL453232T-R82□-N	0.82	25.2	40	130	0.45	475	20
NL453232T-1R0□-N	1.0	7.96	50	100	0.50	450	10,20
NL453232T-1R2□-N	1.2	7.96	50	80	0.55	430	10,20
NL453232T-1R5□-N	1.5	7.96	50	70	0.60	410	10,20
NL453232T-1R8□-N	1.8	7.96	50	60	0.65	390	10,20
NL453232T-2R2□-N	2.2	7.96	50	55	0.70	380	10,20
NL453232T-2R7□-N	2.7	7.96	50	50	0.75	370	10,20
NL453232T-3R3□-N	3.3	7.96	50	45	0.80	355	10,20
NL453232T-3R9□-N	3.9	7.96	50	40	0.90	330	10,20
NL453232T-4R7□-N	4.7	7.96	50	35	1.00	315	10,20
NL453232T-5R6□-N	5.6	7.96	50	33	1.10	300	10,20
NL453232T-6R8□-N	6.8	7.96	50	27	1.20	285	10,20
NL453232T-8R2□-N	8.2	7.96	50	25	1.40	270	10,20
NL453232T-100□-N	10	2.52	50	20	1.60	250	10,20

NOTE: □-tolerance J=±10% / K=±10% / M=±20%

1.Operating temperature range －40℃～125℃

2.IDC:Applied the current to coils, the inductance shall be less than 10% initial value.

"-N" FOR COMPLETELY LEAD FREE TYPE(INCLUDING FERRITE BODY & SOLDER)

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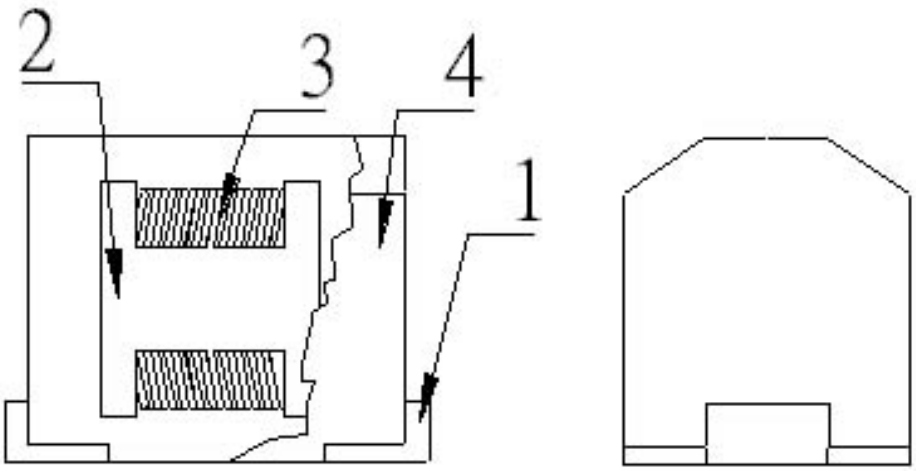
Part No.	Inductance (uH)	L,Q Test Freq. (MHZ)	Q Min.	SRF (MHZ)Min.	RDC (Ω)Max.	IDC (mA)Max.	Tolerance (±%)
NL453232T-120□-N	12	2.52	50	18	2	225	10,20
NL453232T-150□-N	15	2.52	50	17	2.5	200	10,20
NL453232T-180□-N	18	2.52	50	15	2.8	190	10,20
NL453232T-220□-N	22	2.52	50	13	3.2	180	10,20
NL453232T-270□-N	27	2.52	50	12	3.6	170	10,20
NL453232T-330□-N	33	2.52	50	11	4.0	160	10,20
NL453232T-390□-N	39	2.52	50	10	4.5	150	10,20
NL453232T-470□-N	47	2.52	50	10	5.0	140	10,20
NL453232T-560□-N	56	2.52	50	9	5.5	135	10,20
NL453232T-680□-N	68	2.52	50	9	6.0	130	10,20
NL453232T-820□-N	82	2.52	50	8	7.0	120	10,20
NL453232T-101□-N	100	0.796	40	8	8.0	110	10,20
NL453232T-121□-N	120	0.796	40	6	8.0	110	10,20
NL453232T-151□-N	150	0.796	40	5	9.0	105	10,20
NL453232T-181□-N	180	0.796	40	5	9.5	102	10,20
NL453232T-221□-N	220	0.796	40	4	10	100	10,20
NL453232T-271□-N	270	0.796	40	4	12	92	10,20
NL453232T-331□-N	330	0.796	40	3.5	14	85	10,20
NL453232T-391□-N	390	0.796	40	3	18	80	10,20
NL453232T-471□-N	470	0.796	40	3	26	62	10,20
NL453232T-561□-N	560	0.796	30	3	30	50	10,20
NL453232T-681□-N	680	0.796	30	3	30	50	10,20
NL453232T-821□-N	820	0.796	30	2.5	35	30	10,20
NL453232T-102□-N	1000	0.252	20	2.5	40	30	10,20

8 NL453232T Series

8.1 Construction:



8.2 Material List:

ITEM	PART	DESCRIPTION	SUPPLIES
1	TERMINAL	TERMINAL COPPER	CHILISIN
2	CORE	FERRITE	CHILISIN
3	WIRE	COPPER WIRE	
4	EPOXY	EME-1200D3	SUMITOMO

NL453232T Series Specification

9 Reliability Of Ferrite Wire Wound Chip Inductor/FERRITE SERIES

Test item	Specification	Test condition / Test method
● Electrical performance test		
Inductance L	Refer to standard electrical characteristic list	□HP4194A with HP-16034E test fixture
Q		
Self resonance frequency SRF		□HP4291A with HP-16093A test fixture
DC Resistance RDC		CH-502AC
Rated current IDC		Applied the current to coils, The Inductance change shall be less than 10% to initial value & temperature rise shall not be more than 20℃
Temperature rise test	20℃ max.	1. Applied the allowed DC current for 10 minutes 2. Temperature measure by digital surface thermometer
Over load test	After test, Inductors shall be no evidence of electrical and mechanical damage	Applied 2 times of rated allowed DC current to inductor for a period of 5 minutes
Withstanding voltage test	After tset, Inductors shall be no evidence of electrical and mechanical damage	AC voltage of 1000VAC applied between inductors terminal and coating for 5 seconds
Insulation resistance test	1000 MΩ min.	100 VDC applied between inductor terminal and coating
● Mechanical performance test		
Vibration test (Low frequency)	1. Inductors shall be no evidence of electrical and mechanical damage 2. Inductance shall not change more than±5% 3. Q Shall not change more than ±20%	1. Amplitude : 1.5 m/m 2. Frequency : 10 -- 55 -- 10 Hz / 1min. 3. Direction : X, Y, Z 4. Duration : 2 hrs / X, Y, Z
Shock test		Inductors shall be dropped 10 times from a height of 1m onto 3cm wooden board
Resistance to soldering heat		Temp : 260±5℃ Time : 10±1.0 sec.

NL453232T Series Specification

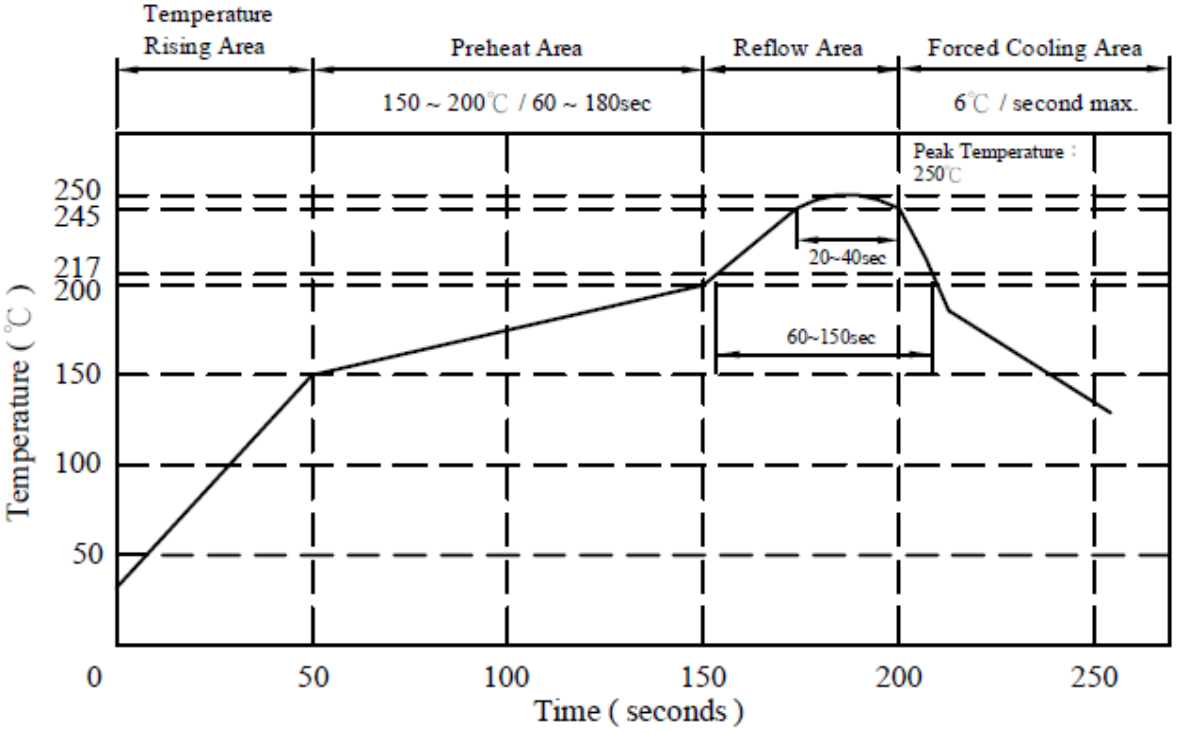
Terminal strength-pull test	Terminal shall not be loosened or ruptured	A 0.5kg load shall be applied to both Terminals in the axis direction for 1 minute .
Solderability test	The terminal shall be at least 90% covered with solder	After fluxing , Inductor shall be dipped in a melted solder bath at 240±5℃ for 5 seconds .
Resistance to solvent test	There shall be no case deformation change in appearance or obliteration of marking	MIL-STD-202F , Method 215D
● Climatic test		
Temperature characteristic	1 . Inductors shall be no evidence of electrical and mechanical damage 2 . Inductance shall not change more than ±10% 3 . Q shall not change more than ±20%	-40℃ -- +125℃
Humidity test		1 . Temp : 40±2℃ 2 . R.H. : 90 -- 95% 3 . Time : 96±2 hours
Cold test		1 . Temp : -25±2℃ 2 . Time : 96±2 hours
Thermal shock test		Room temp (15 mins) → -40±2℃ (30 mins) Room temp (15 mins) → +125±2℃ (30 mins) Total : 5 cycles
Dry heat test		1 . Temp : 85±2℃ 2 . Time : 96±2 hours
High temperature load life test	There shall be no evidence of short or open circuiting	1 . Temp : 85±2℃ 2 . Time : 1000±12 hours 3 . Load : Allowed DC current
Humidity load life		1 . Temp : 40±2℃ 2 . R.H. : 90 -- 95% 3 . Time : 1000±12 hours 4 . Load : Allowed DC current

● Note :

Unless otherwise specified , Allow the specimen to stand at room temperature for 1 hour or more but not more than 2 hours , Measure the electrical and mechanical performances

NL453232T Series Specification

Reflow profile
Peak Temp：250℃ max.
Max time above 245℃ ：20~40sec max.
Max time above 217℃ ：60~150sec max.
200℃~250℃ Average Ramp-up Rate：3℃/second max.

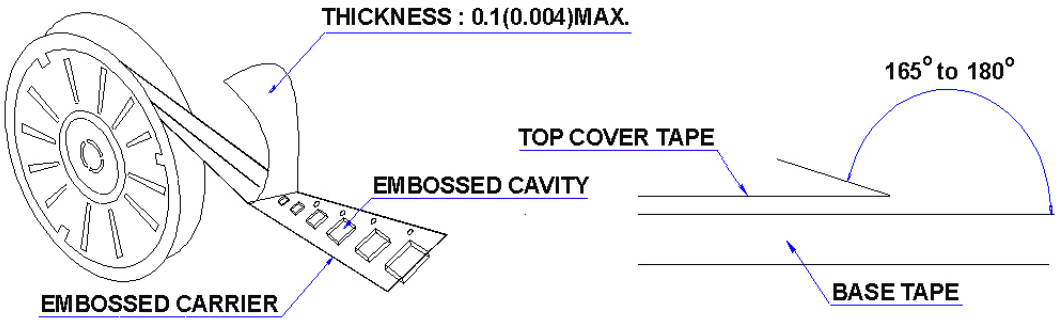


NL453232T Series Specification

11 PACKAGING

11.1 Packaging -Cover tape

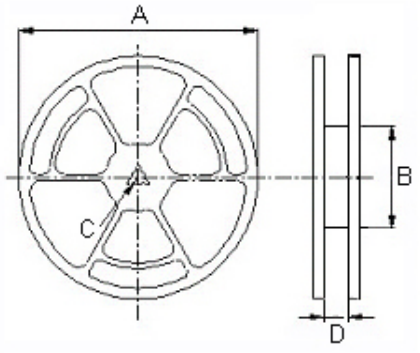
The force for tearing off cover tape is 10 to 100 grams in the arrow direction.



11.2 Packaging Quantity

TYPE	BULK	PCS / REEL
NL453232	V	500

11.3 Reel Dimensions



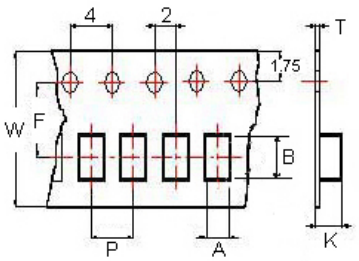
Reel Dimensions: m/m

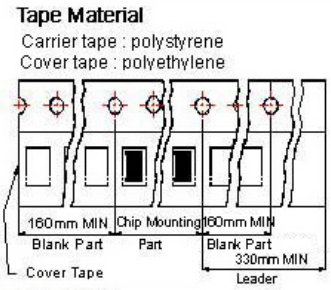
TYPE	A	C	D	D
NL453232	330	100	13	13.4

NL453232T Series Specification

11 PACKAGING

11.4 Tape Dimensions in mm





Dimesions in mm

TYPE	A	B	T	W	P	F	K
NL453232	3.30	5.0	0.30	12	8	5.5	3.5

12 Note:

1. Please make sure that your product is has been evaluated and confirmed against your specifications when our product is mounted to your product.
2. Do not knock nor drop.
3. All the items and parameters in this product specification have been prescribed on the premise that our product is used for the purpose,under the condition and in the environment agreed upon between you and us. You are requested not to use our product deviating from such agreement.
4. Please keep the distance between transformer/coil and other components (refer to the standard IEC 950)