SPECIFICATION FOR APPROVAL

REF. :

PROD. NAME	Wound chip Inductor	ABC'S DWG NO.	CM4532□□□□L□-□□□		
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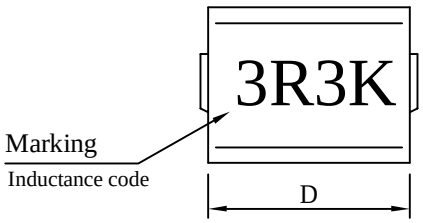
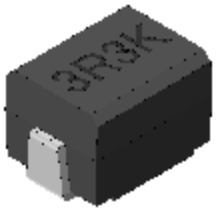
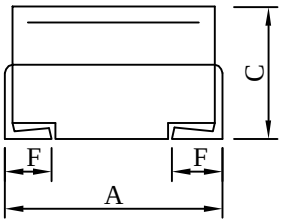
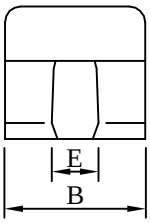
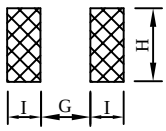
Ⅰ．Configuration and dimensions：











（ PCB Pattern ）

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

Ⅱ．Description：

a．Ferrite drum core construction.

b．Enamelled copper wire：H class

c．Product weight： 0.110 g（ref.）

d．Moisture sensitivity Level 3

e．Products comply with RoHS' requirements

Ⅲ．General specification：

a．Temp. rise ：20℃ max.

b．Ambient temp.：100℃ max.

c．Storage temp.：-40℃ ----+125℃

d．Operating temp.：-40℃----+125℃
(Temp. rise included)

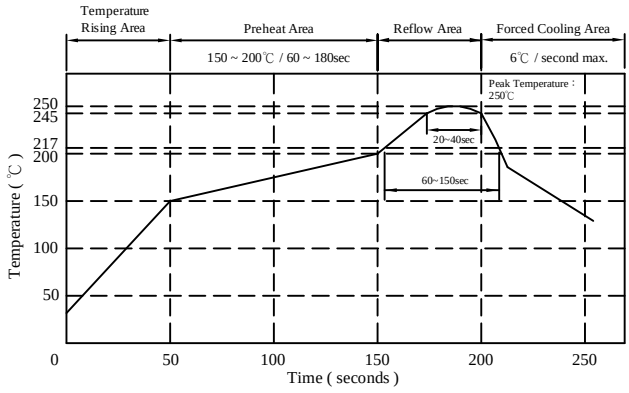
e．Terminal pull strength：1.5 kg min.

f．Rated current：Current cause
inductance drop within 10%

g．Resistance to solder heat：250℃.10 secs.

h．Resistance to solvent：Per MIL-STD-202F

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.



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Ⅳ . Electrical characteristics：

DWG No.	Inductance (μH)	Q min.	Test Freq. (MHz)	SRF (MHz) min.	RDC (Ω) max.	IDC (mA) max.
CM4532R10ML□-□□□	0.10 ±20%	35	25.200	300.0	0.18	800
CM4532R12ML□-□□□	0.12 ±20%	35	25.200	280.0	0.20	770
CM4532R15ML□-□□□	0.15 ±20%	35	25.200	250.0	0.22	730
CM4532R18ML□-□□□	0.18 ±20%	35	25.200	220.0	0.24	700
CM4532R22ML□-□□□	0.22 ±20%	40	25.200	200.0	0.25	665
CM4532R27ML□-□□□	0.27 ±20%	40	25.200	180.0	0.26	635
CM4532R33ML□-□□□	0.33 ±20%	40	25.200	165.0	0.28	605
CM4532R39ML□-□□□	0.39 ±20%	40	25.200	150.0	0.30	575
CM4532R47ML□-□□□	0.47 ±20%	40	25.200	145.0	0.32	545
CM4532R56ML□-□□□	0.56 ±20%	40	25.200	140.0	0.36	520
CM4532R68ML□-□□□	0.68 ±20%	40	25.200	135.0	0.40	500
CM4532R82ML□-□□□	0.82 ±20%	40	25.200	130.0	0.45	475
CM45321R0KL□-□□□	1.00 ±10%	50	7.960	100.0	0.50	450
CM45321R2KL□-□□□	1.20 ±10%	50	7.960	80.0	0.55	430
CM45321R5KL□-□□□	1.50 ±10%	50	7.960	70.0	0.60	410
CM45321R8KL□-□□□	1.80 ±10%	50	7.960	60.0	0.65	390
CM45322R2KL□-□□□	2.20 ±10%	50	7.960	55.0	0.70	380
CM45322R7KL□-□□□	2.70 ±10%	50	7.960	50.0	0.75	370
CM45323R3KL□-□□□	3.30 ±10%	50	7.960	45.0	0.80	355
CM45323R9KL□-□□□	3.90 ±10%	50	7.960	40.0	0.90	330
CM45324R7KL□-□□□	4.70 ±10%	50	7.960	35.0	1.00	315
CM45325R6KL□-□□□	5.60 ±10%	50	7.960	33.0	1.10	300
CM45326R8KL□-□□□	6.80 ±10%	50	7.960	27.0	1.20	285
CM45328R2KL□-□□□	8.20 ±10%	50	7.960	25.0	1.40	270
CM4532100KL□-□□□	10.00 ±10%	50	2.520	20.0	1.60	250
CM4532120KL□-□□□	12.00 ±10%	50	2.520	18.0	2.00	225
CM4532150KL□-□□□	15.00 ±10%	50	2.520	17.0	2.50	200
CM4532180KL□-□□□	18.00 ±10%	50	2.520	15.0	2.80	190
CM4532220KL□-□□□	22.00 ±10%	50	2.520	13.0	3.20	180
CM4532270KL□-□□□	27.00 ±10%	50	2.520	12.0	3.60	170
CM4532330KL□-□□□	33.00 ±10%	50	2.520	11.0	4.00	160
CM4532390KL□-□□□	39.00 ±10%	50	2.520	10.0	4.50	150
CM4532470KL□-□□□	47.00 ±10%	50	2.520	10.0	5.00	140
CM4532560KL□-□□□	56.00 ±10%	50	2.520	9.0	5.50	135
CM4532680KL□-□□□	68.00 ±10%	50	2.520	9.0	6.00	130
CM4532820KL□-□□□	82.00 ±10%	50	2.520	8.0	7.00	120
CM4532101KL□-□□□	100.00 ±10%	40	0.796	8.0	8.00	110
CM4532121KL□-□□□	120.00 ±10%	40	0.796	6.0	8.00	110
CM4532151KL□-□□□	150.00 ±10%	40	0.796	5.0	9.00	105
CM4532181KL□-□□□	180.00 ±10%	40	0.796	5.0	9.50	102
CM4532221KL□-□□□	220.00 ±10%	40	0.796	4.0	10.00	100
CM4532271KL□-□□□	270.00 ±10%	40	0.796	4.0	12.00	92
CM4532331KL□-□□□	330.00 ±10%	40	0.796	3.5	14.00	85
CM4532391KL□-□□□	390.00 ±10%	40	0.796	3.0	18.00	80
CM4532471KL□-□□□	470.00 ±10%	40	0.796	3.0	26.00	62
CM4532561KL□-□□□	560.00 ±10%	30	0.796	3.0	30.00	50
CM4532681KL□-□□□	680.00 ±10%	30	0.796	3.0	30.00	50
CM4532821KL□-□□□	820.00 ±10%	30	0.796	2.5	35.00	30
CM4532102KL□-□□□	1000.00 ±10%	20	0.252	2.5	40.00	30

1). □: Packaging information： □ Code

2). "-□□□"：Reference code

3). Electrical specifications at 25℃

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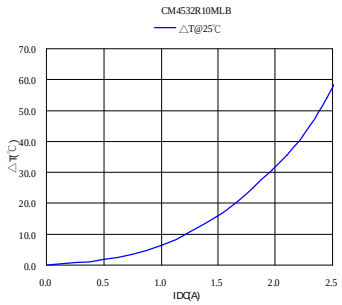
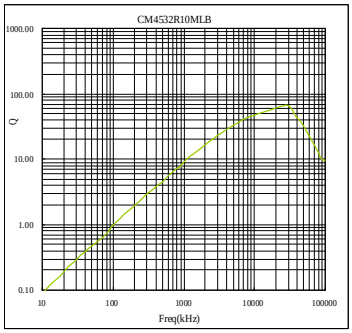
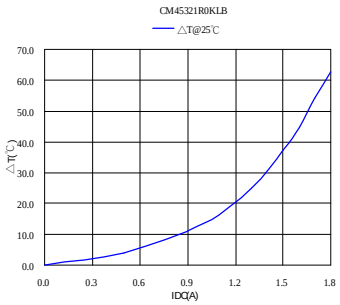
V ．Curve：

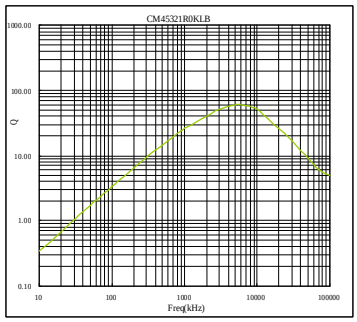
CM4532R10ML□-□□□



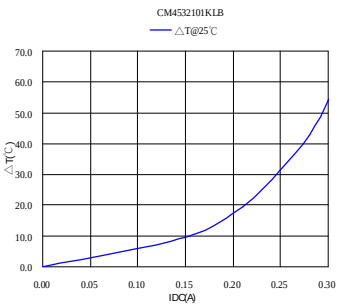


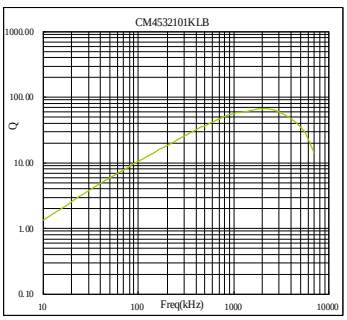
CM45321R0KL□ -□□□



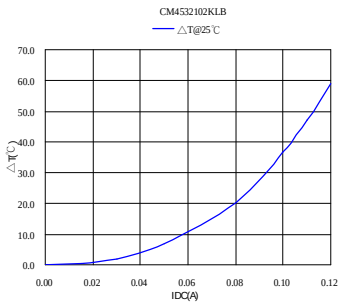


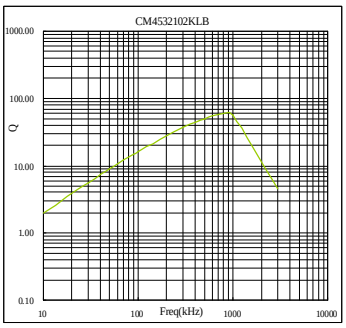
CM4532101KL□ -□□□





CM4532102KL□ -□□□





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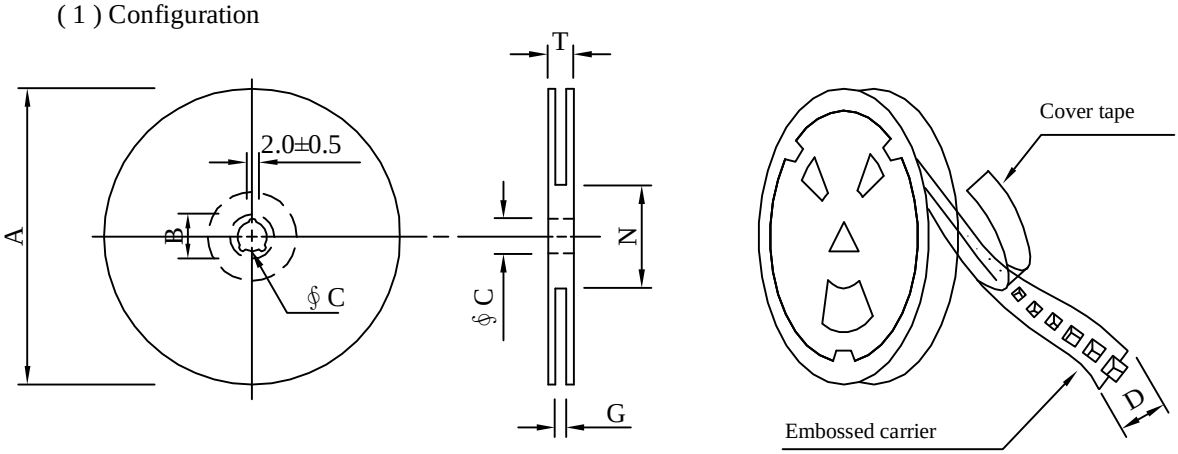
Ⅵ-1．Packaging information：

(1) Configuration



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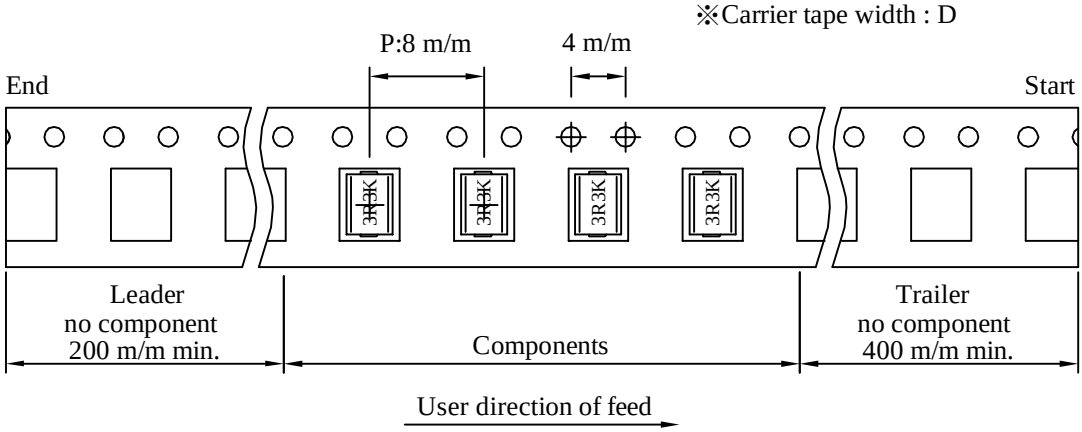

(2) Dimensions Unit:m/m

Style	A	B	C	D	G	N	T
07 - 12	178	21±0.8	13	12	14^{+0}	50^{-0}	16.5

(3) Q'TY & G.W. Pe package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
B	500	130	07 - 12	20,000	7.20	41 x 39 x 22
D	500	130	07 - 12	20,000	7.20	41 x 39 x 22

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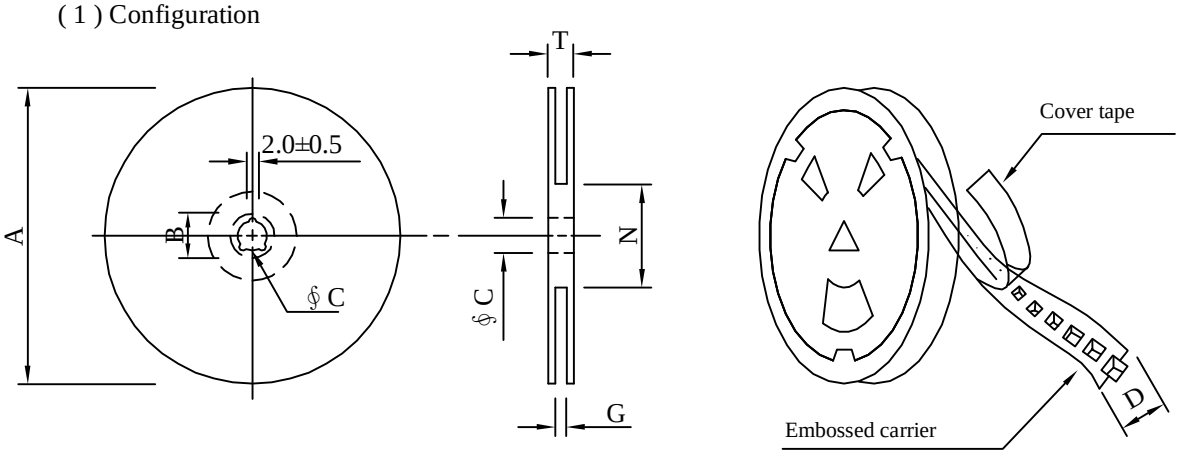
Ⅵ-2．Packaging information：

(1) Configuration



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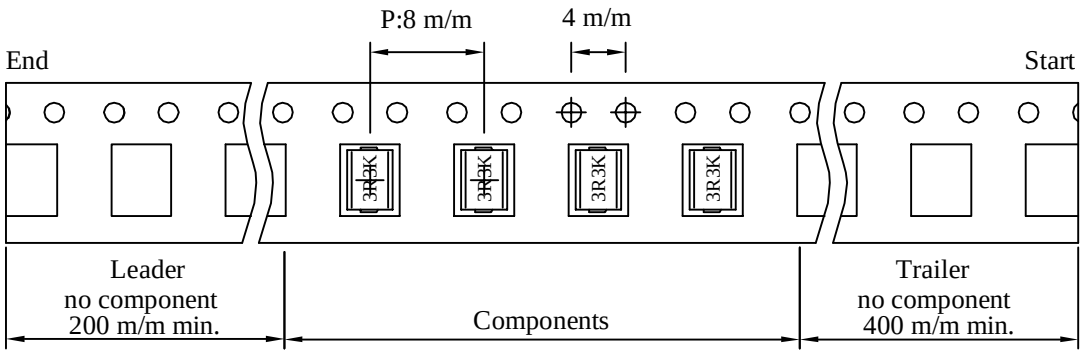

(2) Dimensions Unit:m/m

Style	A	B	C	D	G	N	T
13 - 12	330	21±0.8	13±0.5	12	14^{+0}	50^{-0}	18.4

(3) Q'TY & G.W. Pe package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
C	2,000	540	13 - 12	18,000	6.50	41 x 39 x 22
F	2,000	540	13 - 12	18,000	6.50	41 x 39 x 22
G	1,000	270	13 - 12	9,000	3.25	41 x 39 x 22

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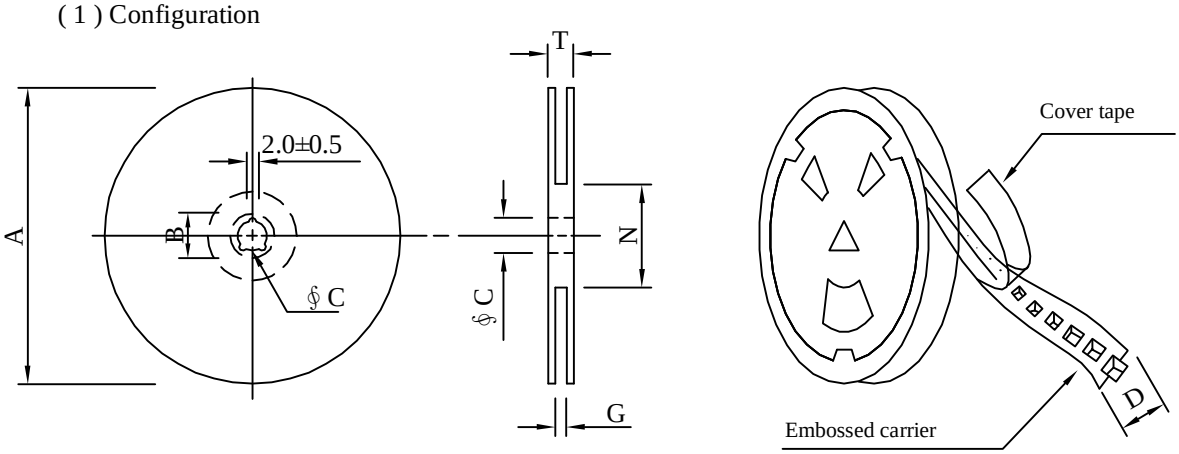
Ⅵ-3．Packaging information：

(1) Configuration



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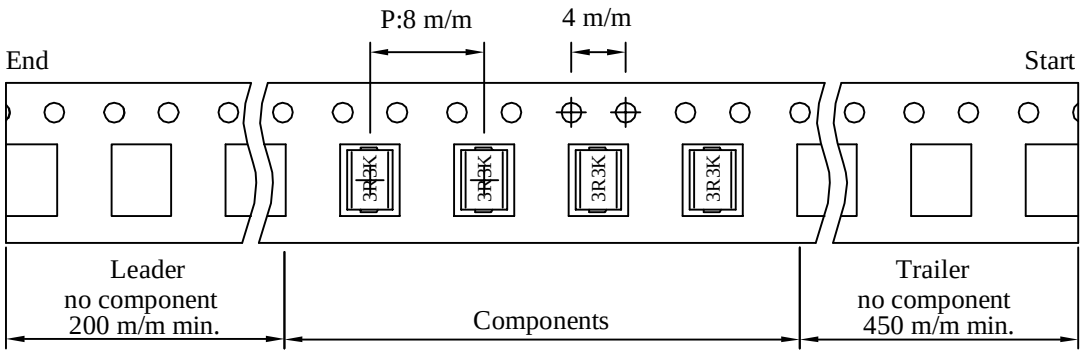

(2) Dimensions Unit:m/m

Style	A	B	C	D	G	N	T
13 - 12	330	21±0.8	13±0.5	12	14^{+0}	50^{-0}	18.4

(3) Q'TY & G.W. Pe package

Code	Inner : Reel			Outer : Carton		
	Q'TY (pcs)	G.W. (gw)	Style	Q'TY (pcs)	G.W. (Kg)	Size (cm)
E	2,000	540	13 - 12	18,000	6.50	41 x 39 x 22

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Ⅶ-1．Reliability test：

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.

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Ⅶ-2．Reliability test：

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