SPECIFICATION FOR APPROVAL

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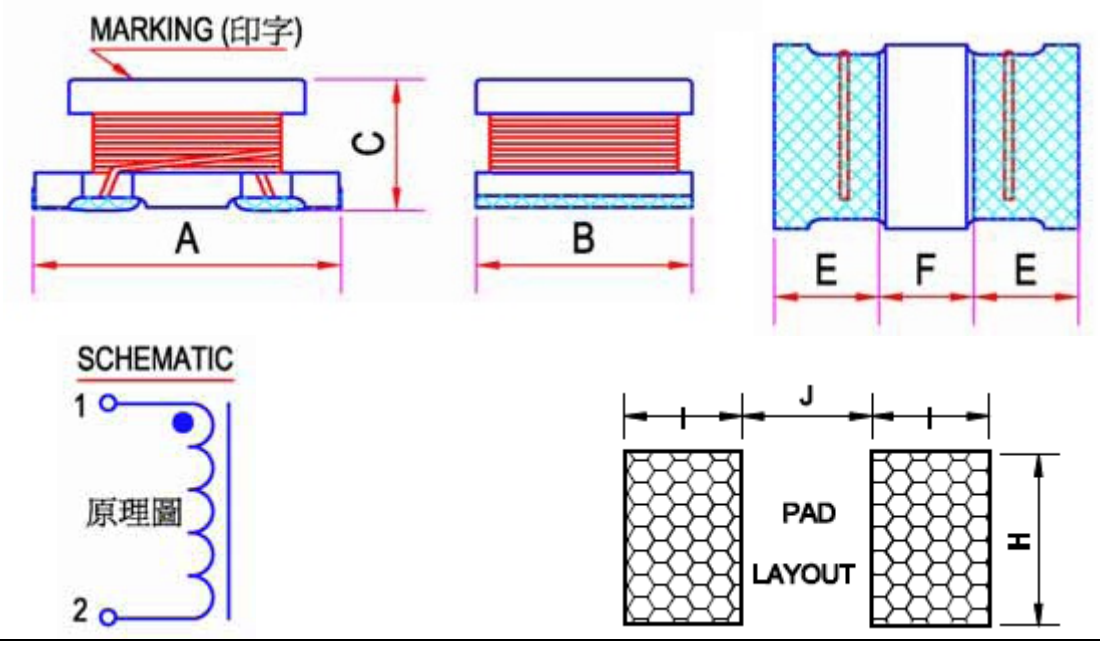
RoHS

PRODUCT DETAIL

Electrical Characteristics			Test Instruments
L	Page 3~8	**TEST FREQ:** Page 3~8 **Test Level:** Page 3~8 **Ope.Temp.:** -30℃~105℃	•L & Q：HP4285A Precision LCR meter •SRF：HP4291B RF Impedance Analyzer •DCR：Milli-ohm meter •Rated DC Current: It is either the inductance is 10% lower than its initial value in D.C. saturation characteristics or temperature raise becomes △T=20℃ (Ta=20℃), whichever is lower.
DCR	Page 3~8		
R.Current	Page 3~8		
SRF	Page 3~8		

SHAPES AND DIMENSIONS：



Series	Item /Spec.(mm)							
	A	B	C	E	F	H	I	J
SSDR322515	3.2±0.3	2.5±0.2	1.55±0.3	0.7 min	0.7 min	2.0	1.5	1.0
SSDR321618C	3.2±0.3	1.6±0.2	1.8±0.3	0.7 min	0.7 min	1.5	1.5	1.0
SSDR322520(C)	3.2±0.3	2.5±0.2	2.0±0.3	0.7 min	0.7 min	2.0	1.5	1.0
SSDR453226(C)	4.5±0.3	3.2±0.2	2.6±0.3	1.0 min	1.0 min	3.0	2.0	1.2
SSDR575047C	5.7±0.3	5.0±0.3	4.7±0.3	1.3 min	1.7 min	5.0	2.0	2.0
Marking： **“XXX”**								

RoHS

PART NUMBER CODE

SSDR	322520C	1R0	K	A
1	2	3	4	5

1. Series Name
2. Size Code
3. Inductance (R=Decimal Point) Unit：μH
4. Inductance tolerance：”M”±20% ；”K”±10%；”J”±5%.
5. Soldering：A=Lead Free

MINIATURE SMD CHIP CHOKE COILS

SSDR322515 TYPE

Part No.	Inductance (uH)	TEST FREQ. (0.1V)	DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
SSDR322515-1R0MA	1.0	1MHz	0.078	1000	100
SSDR322515-2R2MA	2.2	1MHz	0.126	790	64
SSDR322515-4R7MA	4.7	1MHz	0.195	650	43
SSDR322515-100KA	10	1MHz	0.42	400	26
SSDR322515-150KA	15	1MHz	0.75	300	22
SSDR322515-220KA	22	1MHz	0.92	250	19
SSDR322515-330KA	33	1MHz	1.4	200	17
SSDR322515-470KA	47	1MHz	1.7	170	13
SSDR322515-680KA	68	1MHz	3.6	130	9
SSDR322515-101KA	100	1MHz	4.5	100	8

RoHS

MINIATURE SMD CHIP CHOKE COILS

SSDR322520 TYPE

Part No.	Inductance			Q		DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
	(uH)	Tolerance	TEST FREQ.	min	TEST FREQ.			
SSDR322520-1R0	1.0	M	1MHz	20	1MHz	0.50	445	100
SSDR322520-1R2	1.2	M	1MHz	20	1MHz	0.60	425	100
SSDR322520-1R5	1.5	M,K	1MHz	20	1MHz	0.60	400	75
SSDR322520-1R8	1.8	M,K	1MHz	20	1MHz	0.70	390	60
SSDR322520-2R2	2.2	M,K	1MHz	20	1MHz	0.80	370	50
SSDR322520-2R7	2.7	M,K	1MHz	20	1MHz	0.90	320	43
SSDR322520-3R3	3.3	M,K	1MHz	20	1MHz	1.0	300	38
SSDR322520-3R9	3.9	M,K	1MHz	20	1MHz	1.1	290	35
SSDR322520-4R7	4.7	M,K	1MHz	20	1MHz	1.2	270	31
SSDR322520-5R6	5.6	M,K	1MHz	20	1MHz	1.3	250	28
SSDR322520-6R8	6.8	M,K	1MHz	20	1MHz	1.5	240	25
SSDR322520-8R2	8.2	M,K	1MHz	20	1MHz	1.6	225	23
SSDR322520-100	10	K,J	1MHz	35	1MHz	1.8	190	20
SSDR322520-120	12	K,J	1MHz	35	1MHz	2.0	180	18
SSDR322520-150	15	K,J	1MHz	35	1MHz	2.2	170	16
SSDR322520-180	18	K,J	1MHz	35	1MHz	2.5	165	15
SSDR322520-220	22	K,J	1MHz	35	1MHz	2.8	150	14
SSDR322520-270	27	K,J	1MHz	35	1MHz	3.1	125	13
SSDR322520-330	33	K,J	1MHz	40	1MHz	3.5	115	12
SSDR322520-390	39	K,J	1MHz	40	1MHz	3.9	110	11
SSDR322520-470	47	K,J	1MHz	40	1MHz	4.3	100	11
SSDR322520-560	56	K,J	1MHz	40	1MHz	4.9	85	10.0
SSDR322520-680	68	K,J	1MHz	40	1MHz	5.5	80	9.0
SSDR322520-820	82	K,J	1MHz	40	1MHz	6.2	70	8.5
SSDR322520-101	100	K,J	1MHz	40	796kHz	7.0	80	8.0
SSDR322520-121	120	K,J	1MHz	40	796kHz	8.0	75	7.5
SSDR322520-151	150	K,J	1MHz	40	796kHz	9.3	70	7.0
SSDR322520-181	180	K,J	1MHz	40	796kHz	10.2	65	6.0
SSDR322520-221	220	K,J	1MHz	40	796kHz	11.8	65	5.5
SSDR322520-271	270	K,J	1MHz	40	796kHz	12.5	65	5.0
SSDR322520-331	330	K,J	1MHz	40	796kHz	13.0	65	5.0
SSDR322520-391	390	K,J	1MHz	50	796kHz	22.0	50	5.0
SSDR322520-471	470	K,J	1kHz	50	796kHz	25.0	45	5.0
SSDR322520-561	560	K,J	1kHz	50	796kHz	28.0	40	5.0(ref)

MINIATURE SMD CHIP CHOKE COILS

SSDR453226 TYPE

Part No.	Inductance			Q		DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
	(uH)	Tolerance	TEST FREQ.	min	TEST FREQ.			
SSDR453226-1R0	1.0	M	1MHz	20	1MHz	0.20	500	120
SSDR453226-1R2	1.2	M	1MHz	20	1MHz	0.20	500	100
SSDR453226-1R5	1.5	M	1MHz	20	1MHz	0.30	500	85
SSDR453226-1R8	1.8	M	1MHz	20	1MHz	0.30	500	75
SSDR453226-2R2	2.2	M	1MHz	20	1MHz	0.30	500	62
SSDR453226-2R7	2.7	M	1MHz	20	1MHz	0.32	500	53
SSDR453226-3R3	3.3	M	1MHz	20	1MHz	0.35	500	47
SSDR453226-3R9	3.9	M	1MHz	20	1MHz	0.38	500	41
SSDR453226-4R7	4.7	M,K	1MHz	30	1MHz	0.40	500	38
SSDR453226-5R6	5.6	M,K	1MHz	30	1MHz	0.47	500	33
SSDR453226-6R8	6.8	M,K	1MHz	30	1MHz	0.50	450	31
SSDR453226-8R2	8.2	M,K	1MHz	30	1MHz	0.56	450	27
SSDR453226-100	10	K,J	1MHz	35	1MHz	0.56	400	23
SSDR453226-120	12	K,J	1MHz	35	1MHz	0.62	380	21
SSDR453226-150	15	K,J	1MHz	35	1MHz	0.73	360	19
SSDR453226-180	18	K,J	1MHz	35	1MHz	0.82	340	17
SSDR453226-220	22	K,J	1MHz	35	1MHz	0.94	320	15
SSDR453226-270	27	K,J	1MHz	35	1MHz	1.1	300	14
SSDR453226-330	33	K,J	1MHz	35	1MHz	1.2	270	12
SSDR453226-390	39	K,J	1MHz	35	1MHz	1.4	240	11
SSDR453226-470	47	K,J	1MHz	35	1MHz	1.5	220	10
SSDR453226-560	56	K,J	1MHz	35	1MHz	1.7	200	9.3
SSDR453226-680	68	K,J	1MHz	35	1MHz	1.9	180	8.4
SSDR453226-820	82	K,J	1MHz	35	1MHz	2.2	170	7.5
SSDR453226-101	100	K,J	1MHz	40	796kHz	2.5	160	6.8
SSDR453226-121	120	K,J	1MHz	40	796kHz	3.0	150	6.2
SSDR453226-151	150	K,J	1MHz	40	796kHz	3.7	130	5.5
SSDR453226-181	180	K,J	1MHz	40	796kHz	4.5	120	5.0
SSDR453226-221	220	K,J	1MHz	40	796kHz	5.4	110	4.5
SSDR453226-271	270	K,J	1MHz	40	796kHz	6.8	100	4.0
SSDR453226-331	330	K,J	1MHz	40	796kHz	8.2	95	3.6
SSDR453226-391	390	K,J	1MHz	40	796kHz	9.7	90	3.3
SSDR453226-471	470	K,J	1kHz	40	796kHz	11.8	80	3.0
SSDR453226-561	560	K,J	1kHz	40	796kHz	14.5	70	2.7
SSDR453226-681	680	K,J	1kHz	40	796kHz	17.0	65	2.5
SSDR453226-821	820	K,J	1kHz	40	796kHz	20.5	60	2.2
SSDR453226-102	1000	K,J	1kHz	40	252kHz	25.0	50	2.0
SSDR453226-122	1200	K,J	1kHz	40	252kHz	30.0	45	1.8
SSDR453226-152	1500	K,J	1kHz	40	252kHz	37.0	40	1.6
SSDR453226-182	1800	K,J	1kHz	40	252kHz	45.0	35	1.5
SSDR453226-222	2200	K,J	1kHz	40	252kHz	50.0	30	1.3

MINIATURE SMD CHIP CHOKE COILS
SSDR321618C TYPE

Part No.	Inductance (uH)	Tolerance	TEST FREQ.	DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
SSDR321618C-R22	0.22	M	1MHz	0.140	850	250
SSDR321618C-R47	0.47	M	1MHz	0.210	700	180
SSDR321618C-1R0	1.0	M	1MHz	0.364	510	100
SSDR321618C-2R2	2.2	M	1MHz	0.533	430	50
SSDR321618C-4R7	4.7	M,K	1MHz	0.845	340	31
SSDR321618C-100	10	M,K	1MHz	1.690	230	20
SSDR321618C-220	22	K,J	1MHz	3.900	160	14
SSDR321618C-470	47	K,J	1MHz	10.40	100	10
SSDR321618C-101	100	K,J	1MHz	15.60	80	7

MINIATURE SMD CHIP CHOKE COILS
SSDR322520C TYPE

Part No.	Inductance (uH)	Tolerance	TEST FREQ.	DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
SSDR322520C-1R0	1.0	M	1MHz	0.078	1000	100
SSDR322520C-2R2	2.2	M	1MHz	0.126	790	64
SSDR322520C-4R7	4.7	M	1MHz	0.195	450	43
SSDR322520C-100	10	M	1MHz	0.572	300	26
SSDR322520C-200	22	M,K	1MHz	0.923	250	19
SSDR322520C-470	47	M,K	1MHz	1.690	170	12
SSDR322520C-101	100	K,J	1MHz	4.550	100	8
SSDR322520C-221	220	K,J	1MHz	10.92	70	5.5
SSDR322520C-331	330	K,J	1MHz	13.00	60	4.5
SSDR322520C-391	390	K,J	1MHz	22.10	60	4
SSDR322520C-471	470	K,J	1MHz	24.70	60	3.7
SSDR322520C-561	560	K,J	1MHz	28.60	60	3.4

MINIATURE SMD CHIP CHOKE COILS

SSDR453226C TYPE

Part No.	Inductance (uH)	Tolerance	TEST FREQ.	DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
SSDR453226C-1R0	1.0	M	1MHz	0.08	1080	100
SSDR453226C-1R5	1.5	M	1MHz	0.09	1000	85
SSDR453226C-2R2	2.2	M	1MHz	0.11	900	60
SSDR453226C-3R3	3.3	M	1MHz	0.13	800	47
SSDR453226C-4R7	4.7	M,K	1MHz	0.15	750	35
SSDR453226C-6R8	6.8	M,K	1MHz	0.20	720	30
SSDR453226C-100	10	K,J	1MHz	0.24	650	23
SSDR453226C-150	15	K,J	1MHz	0.32	570	20
SSDR453226C-220	22	K,J	1MHz	0.60	420	15
SSDR453226C-330	33	K,J	1MHz	1.00	310	12
SSDR453226C-470	47	K,J	1MHz	1.1	280	10
SSDR453226C-680	68	K,J	1MHz	1.7	220	8.4
SSDR453226C-101	100	K,J	1MHz	2.2	190	6.8
SSDR453226C-151	150	K,J	1MHz	3.5	130	5.5
SSDR453226C-221	220	K,J	1MHz	4.0	110	4.5
SSDR453226C-331	330	K,J	1MHz	6.8	100	3.6
SSDR453226C-471	470	K,J	1MHz	8.5	90	3.0

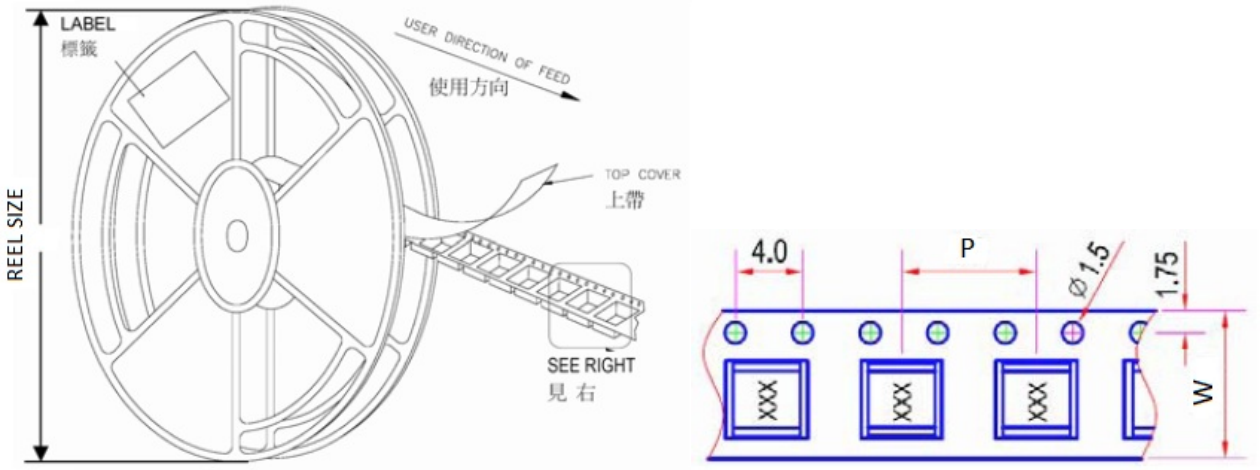
MINIATURE SMD CHIP CHOKE COILS

SSDR575047C TYPE

Part No.	Inductance (uH)	Tolerance	TEST FREQ.	DCR (Ω) max	Rated DC Current (mA) max	SRF (MHz) min
SSDR575047C-R12	0.12	M	1MHz	0.0098	6000	450
SSDR575047C-R27	0.27	M	1MHz	0.0140	5300	300
SSDR575047C-R47	0.47	M	1MHz	0.0182	4800	200
SSDR575047C-1R0	1.0	M	1MHz	0.0270	4000	150
SSDR575047C-1R5	1.5	M	1MHz	0.0310	3700	110
SSDR575047C-2R2	2.2	M	1MHz	0.0410	3200	80
SSDR575047C-3R3	3.3	M	1MHz	0.0500	2900	40
SSDR575047C-4R7	4.7	M	1MHz	0.0574	2700	30
SSDR575047C-6R8	6.8	M	1MHz	0.1040	2000	25
SSDR575047C-100	10	M,K	1MHz	0.1300	1700	20
SSDR575047C-150	15	M,K	1MHz	0.210	1400	17
SSDR575047C-220	22	M,K	1MHz	0.266	1200	15
SSDR575047C-330	33	M,K	1MHz	0.448	900	12
SSDR575047C-470	47	M,K	1MHz	0.560	800	10(ref)
SSDR575047C-680	68	M,K	1MHz	0.938	640	7.6
SSDR575047C-101	100	M,K	100kHz	1.204	560	6.5(ref)
SSDR575047C-151	150	M,K	100kHz	2.660	420	5.0(ref)
SSDR575047C-221	220	M,K	100kHz	3.360	320	4.0
SSDR575047C-331	330	M,K	100kHz	6.160	270	3.1
SSDR575047C-471	470	M,K	100kHz	7.560	240	2.4
SSDR575047C-681	680	M,K	100kHz	11.34	190	1.9
SSDR575047C-102	1000	M,K	10kHz	14.42	150	1.7
SSDR575047C-222	2200	M,K	10kHz	30.10	100	1.2
SSDR575047C-472	4700	M,K	10kHz	61.04	70	0.8
SSDR575047C-103	10000	M,K	10kHz	140.0	50	0.5

REEL DIMENSIONS：

Unit: mm



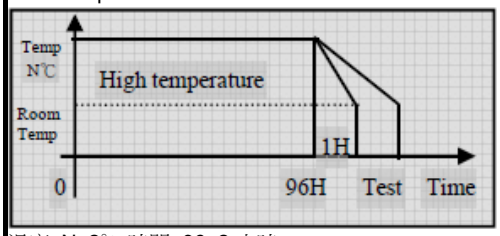
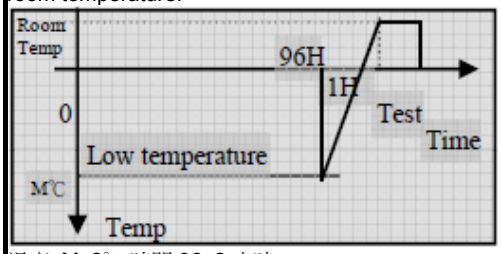
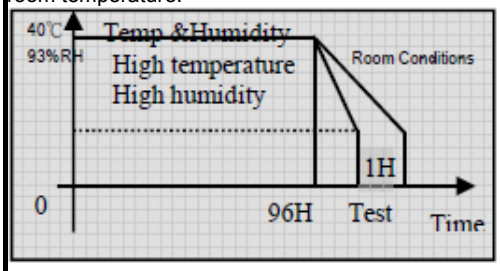
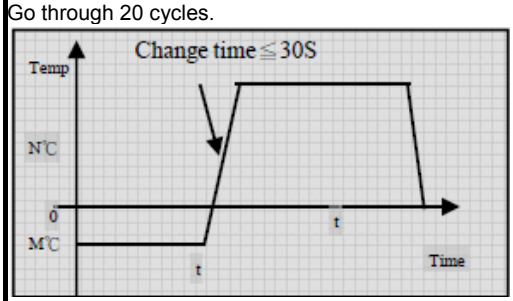
REEL PACKAGING QUANTITY

TYPE	W	P	REEL SIZE	PCS / REEL
SSDR322515	8	4	178 mm (7”)	2000
SSDR321618C	8	4	178 mm (7”)	2000
SSDR322520(C)	8	4	178 mm (7”)	2000
SSDR453226(C)	12	8	178 mm (7”)	500
SSDR575047C	16	12	330 mm (13”)	1000

RoHS

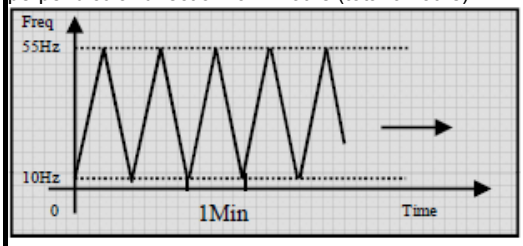
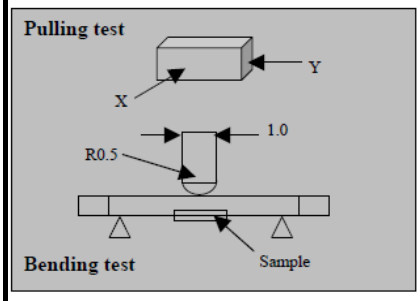
RELIABILITY AND TEST CONDITION

Environmental tests conditions (SMD wire wound Inductor)

Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
High temperature Storage test Reference documents: MIL-STD-202G Method 108A 高溫儲存試驗	1.No case deformation or change in appearance. 2.ΔL/L≦10% or 15% 3.ΔDCR/DCR≦10% N：The High temperature, depend on the spec. N：高溫設定，依據產品規格設定 1.無明顯的外觀缺陷 2.感值變化不超過 10% 或者 15% 3.直流電阻變化不超過 10%	Temperature: N±2℃ Time : 96±2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.  溫度: N±2℃,時間: 96±2,小時 樣品在室溫下放置 1 小時,不超過 2 小時間必須測試.
Low temperature Storage test Reference documents: IEC 68-2-1A 6.1 6.2 低溫儲存試驗	1.No case deformation or change in appearance. 2.ΔL/L≦10% or 15% 3.ΔDCR/DCR≦10% M：The Low temperature, depend on the spec. M：低溫設定，依據產品規格設定 1.無明顯的外觀缺陷 2.感值變化不超過 10% 或者 15% 3.直流電阻變化不超過 10%	Temperature: M±2℃ Time : 96±2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.  溫度: M±2℃,時間:96±2,小時 樣品在室溫下放置 1 小時,不超過 2 小時間必須測試.
Humidity test Reference documents: MIL-STD-202G Method 103B 濕度測試	1.No case deformation or change in appearance. 2.ΔL/L≦10% or 15% 3.ΔDCR/DCR≦10% 1.無明顯的外觀缺陷 2.感值變化不超過 10% 或者 15% 3.直流電阻變化不超過 10%	Temperature: 40±2℃ , Humidity: 93±3%RH Time : 96±2 hours Tested not less than 1 hour, nor more than 2 hours at room temperature.  溫度:40±2℃ , 濕度: 93±3%RH 時間 :96±2 hours 樣品在室溫下放置 1 小時,不超過 2 小時間必須測試.
Thermal shock test Reference documents: MIL-STD-202G Method 107G 熱衝擊測試	1.No case deformation or change in appearance. 2.ΔL/L≦10% or 15% 3.ΔDCR/DCR≦10% N：The High temperature, depend on the spec. M：The Low temperature, depend on the spec. For T: weight≦28g : 15Min; 28g≦weight≦136g : 30Min 1.無明顯的外觀缺陷 2.感值變化小於 10% 或者 15% 3.直流電阻變化小於 10%	First M℃ for T time, next N℃ for T time as 1 cycle. Go through 20 cycles.  從 M℃作用 T 分鐘,然後溫度衝擊到 N℃ 作用 T 分鐘, 作為一個循環,共作用 20 次.

RoHS

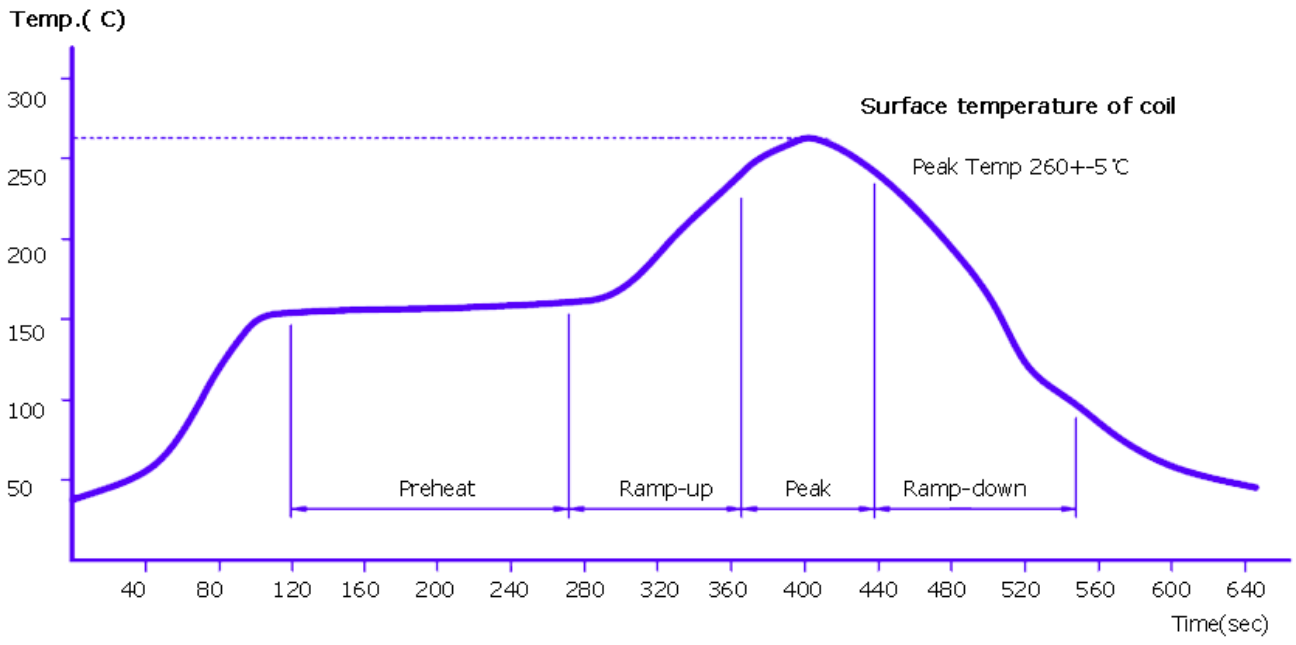
Physical characteristic tests conditions (SMD wire wound Inductor)

Item (項目)	Required Characteristics (要求)	Test Method/Condition (測試方法)
Solderability test Reference documents: MIL-STD-202G Method 208H IPC J-STD-002B 可焊性測試	Terminals area must have 95% min. Solder coverage 端子必須有 95%以上著錫	● Dip pads in flux then dip in solder pot at 245±5°C for 5 second. ● Soler: lead free ● Flux: rosin flux ● 端子侵入著焊劑，然後侵入 245±5°C 錫爐中 5 秒 ● 焊料 ：無鉛焊料 ● 助焊劑: 松香助焊劑
Heat endurance of Reflow soldering Reference documents: IPC J-STD-020D 過再流焊測試	● No case deformation or change in appearance. ● ΔL/L≦10% or 15% ● ΔDCR/DCR≦10% ● 無明顯的外觀缺陷 ● 感值變化不超過 10% 或者 15% ● 直流電阻變化不超過 10%	● Refer to the next page reflow curve Go through 3 times ● The peak temperature : 260+/-5℃ ● 參照下頁回流焊曲線過三次 ● 峰值溫度為: 260+/-5℃
Vibration test Reference documents: MIL-STD-202G Method 201A 振動測試	1.No case deformation or change in appearance. 2.No short and no open. 1.無明顯的外觀缺陷 2.無短路開路異常	Apply frequency 10~55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.(total 6 hours)  用 10~55Hz 振動頻率 1.5mm 振幅沿 X,Y,Z 方向各振動 2 小時.(共 6 小時)
Drop test Reference documents: MIL-STD-202G Method 203C 落下試驗	1.No case deformation or change in appearance. 2.No short and no open. 1.無明顯的外觀缺陷 2.無短路開路異常	Packaged & Drop down from 1m with 981m/s2(100G) attitude In 1 angle 1 ridges & 2 surfaces orientations. 將產品包裝後從 1 米高度自然落下至試驗板上 1 角 1 棱 2 面
Terminal strength push test Reference documents: JIS C 5321:1997 端子強度試驗	Pulling test: DEFINE: A: sectional area of terminal 0.5mm^2<A≦1.2mm^2；force >2kgf； time : 10sec 1.2mm^2<A ；force >4kgf； time: 10sec Bending test: Soldering the products on PCB, after the pulling test and bending test ,terminal should not pull off 推力測試 定義: A: 焊接端子截面積 0.5mm^2<A≦1.2mm^2；推力 >2kgf； 時間: 10sec 1.2mm^2<A ；推力 >4kgf； 時間: 10sec 彎折測試： :將產品焊於 PCB 上,分別經過推力測試和彎折測試後,端子不會發生松脫	Bend the testing PCB at middle point, the deflection shall be 2mm  將 PCB 對中彎折,到達撓度 2mm
Resistance to solvent test Reference documents: IEC 68-2-45:1993 耐溶劑性試驗	No case deformation or change in appearance, or obliteration of marking 無外觀破壞及標記破損	To dip parts into IPA solvent for 5±0.5Min, then drying them at room temp for 5Min,at last ,to brushing making 10 times. 在 IPA 溶劑中浸泡 5±0.5 分鐘,室溫下乾燥 5 分鐘,然後擦拭 10 次.

RELIABILITY TEST CONDITIONS
WIRE WOUND CHIP INDUCTORS TYPE

Item (項目)	Required Characteristics(要求)	Test Method / Condition (測試方法)
Electronic characteristic test of major products 主要產品電特性測試	Refer to catalogue of specific products 參照具體產品目錄頁	Refer to catalogue of specific products 參照具體產品目錄頁書
Overload test Reference documents: JIS C5311-6.13 過負荷試驗	● During the test no smoke, no peculiar, smell, no fire ● The characteristic is normal after test ● 試驗過程中無冒煙,異味,著火等, ● 試驗後產品特性正常	Apply twice as rated current for 5 minutes. (It's not application to some special design) 通兩倍額定電流 5 分鐘 (部分特殊設計產品不適用)

Curve of Heat endurance of Reflow soldering test



1. This peak temperature only applicable to some special parts. The operating parameter may very according to the part type.
2. A test is made under the conditions mentioned above. And it is left 1 hour in the normal temperature and humidity. After that, no mechanical and electrical defeat should be found out.
3. The reflow condition is according to the machine used by our company.

NOTE：Above specifications are only for reference, follow confirmation documents for the specific test conditions.

RoHS