



汇隆电子(金华)有限公司
HUILONG ELECTRONIC (JINHUA) CO.,LTD

SPECIFICATION FOR APPROVAL

CUSTOMER _____

NOMINAL FREQUENCY _____ 32.000000 MHz _____

HOLDER TYPE _____ 2520 _____

SPEC. NO. (P/N) _____ HH32000023 _____

CUSTOMER P/N _____

ISSUE DATE _____ Nov.12,2020 _____

APPROVED	PREPARED	QA
		
APPROVED BY CUSTOMER :		AVL Status
Please return one copy with approval toHLC		

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399号
No.399 Qiutao North Str.,Industrial
Area,Economic Development
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ISO9001
ISO14001



RoHS Compliant (Pb- Free)



TYPE HH SEAM SEALED X'TAL

ELECTRICAL SPECIFICATIONS

HLC Parts Number : HH32000023

Item	Symbol	Specifications				Notes
		Min	Type	Max	Units	
Nominal frequency	FO	32.000000			MHz	
Mode of Oscillation	OT	Fundamental				
Load Capacitance	LC	12			pF	
Frequency Tolerance	FT	± 20			ppm	at 25°C $\pm 3^\circ\text{C}$
Frequency Stability		± 20			ppm	with working temperature Reference to 25°C
Working temperature rang	TR	-40~85			°C	
Drive Level	DL	500			μW	
Series Resonant Resistance	CI/RR	50			Ω	Max.
Insulation Resistance	IR	>500			M Ω	
Shunt Capacitance C0	C0	5			pF	
Aging		3			ppm/yr.	
Storage temperature range		-55 ~ 125			°C	
Unit Weight					g	

Circuit : Measured by SAUNDERS & ASSOCIATES 250B-1
NETWORK ANALYZER

Insulation Resistance : More Than 500 M Ω at DC 100V

Hermetically (1)Fine Leak : Helium Bombing 4kg /cm² for 1 Hours

(2)Gross Leak : Leak Rate Less Than 1*10⁻⁹ Pa · m³/sec

By Heliot 701W1 M/C

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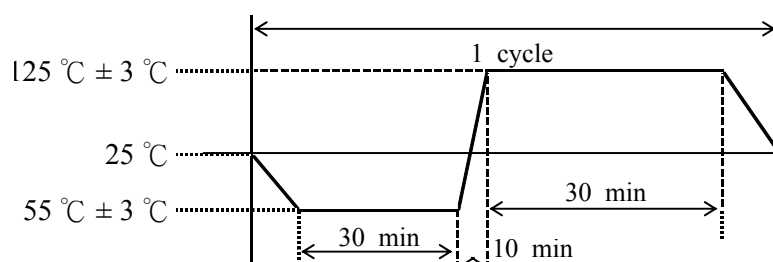
H0-R-4-014



TYPE HH SEAM SEALED X'TAL

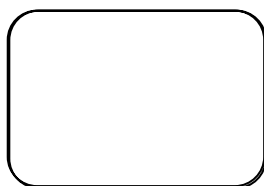
RELIABILITY SPECIFICATIONS

NO.	TEST ITEM	TEST METHODS
1	DROP TEST	Device are dropped from a height of 75 cm onto 2 mm thickness stainless plate executing 3 times of random drops.
2	MECHANICAL SHOCK	Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times.
3	VIBRATION	Frequency range 10 ~ 2000 Hz Amplitude 1.5 mm Sweep Time 20 minute Test Time 2 hours
4	SOLDERABILITY	MIL - STD - 20E Method 208C Temperature $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ Material H63A (Silver 2 ~ 3 %) Immersion depth 0.5 mm minimum Immersion time 3 ± 0.5 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)
5	RESISTANCE TO SOLDERING HEAT	MIL - SLD -202, Method 210, Condition I or J 10 sec immersion into $260 \pm 5^{\circ}\text{C}$ solder pot, above 180°C is 90 ~ 120 sec.
6	LOW TEMP. STORAGE	Leave at $-55^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 1000 ± 12 hours
7	HIGH TEMP. STORAGE	Leave at $125^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 1000 ± 12 hours
8	THERMAL SHOCK	Total 100 cycles of the following temperature cycle

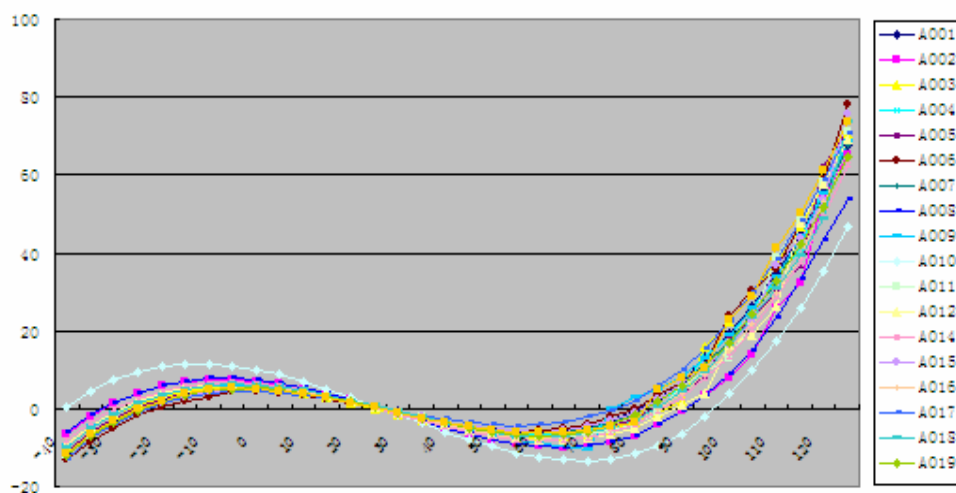




TYPE HH SEAM SEALED X'TAL



	A001	A002	A003	A004	A005	A006	A007	A008	A009	A010	A011	A012	A013	A014	A015	A016	A017	A018	A019	A020
-10	4.83	7.55	5.46	5	5	3.09	4.6	7.75	5.89	11.5	4.75	6.12	-7.93	6.5	4.17	5.9	3.82	5.8	4.67	4.72
-5	5.32	7.61	5.74	5.47	5.4	4.36	5.06	7.83	6.07	11.1	5.29	6.35	-8.06	6.75	4.72	6.15	4.3	6.17	5.14	5.17
0	5.24	7.12	5.59	5.31	5.35	4.28	5.02	7.26	6.31	10.1	5.3	6.09	-5.19	6.49	4.78	5.93	4.3	6.03	5.18	5.1
5	4.86	6.29	4.96	4.9	4.89	3.9	4.66	6.42	5.73	8.67	4.89	5.51	-5.04	5.79	4.43	5.4	3.84	5.59	4.74	4.61
10	4.06	5.11	4.08	4.08	4.1	3.46	3.89	5.21	4.73	6.98	4.09	4.61	-6.03	4.73	3.71	4.6	3.39	4.69	3.99	3.86
15	3.03	3.84	2.93	3.02	3.04	2.45	2.92	3.75	3.4	5	3.11	3.37	-5.14	3.45	2.8	3.41	2.83	3.57	3.02	2.79
20	1.87	2.18	1.56	1.79	1.9	1.33	1.71	2.17	1.95	2.85	1.88	2	-5.76	1.9	1.65	2.05	1.68	2.15	1.84	1.61
25	0.53	0.45	0.16	0.45	0.53	0.17	0.5	0.44	0.79	0.59	0.58	0.37	-2.74	0.34	0.42	0.56	0.53	0.68	0.49	0.31
30	-0.79	-1.39	-1.39	-0.96	-0.92	-1.1	-0.87	-1.35	-0.79	-1.82	-0.87	-1.09	-1.56	-1.37	-0.91	-0.98	-0.68	-0.74	-0.9	-1.04
35	-2.11	-3.26	-2.87	-2.34	-2.35	-2.35	-2.25	-3.22	-2.51	-3.79	-2.31	-2.67	-0.55	-3.02	-2.19	-2.52	-1.83	-2.24	-2.33	-2.35
40	-3.33	-5.07	-4.23	-3.59	-3.74	-3.54	-3.53	-4.96	-4.19	-5.88	-3.7	-4.23	-1.16	-4.5	-3.38	-4.06	-2.82	-3.65	-3.75	-3.53
45	-4.43	-6.7	-5.46	-4.78	-4.94	-4.49	-4.74	-6.61	-5.68	-7.93	-4.97	-5.59	-0.19	-5.91	-4.38	-5.41	-3.69	-4.99	-4.93	-4.67
50	-5.29	-8.05	-6.41	-5.73	-5.9	-5.16	-5.7	-8.01	-6.92	-9.73	-6.01	-6.77	0.03	-7.02	-5.19	-6.6	-4.16	-6.02	-5.93	-5.51
55	-5.81	-9.12	-7.06	-6.33	-6.57	-5.48	-5.92	-9.06	-8.06	-11.3	-6.73	-7.63	-0.3	-7.82	-5.73	-7.53	-4.35	-6.81	-6.6	-5.99
60	-5.9	-9.76	-7.38	-6.54	-6.81	-5.43	-6.05	-9.73	-8.89	-12.5	-7.14	-8.04	0.46	-8.26	-5.82	-8.29	-4.15	-7.16	-6.84	-6.17
65	-5.52	-9.92	-7.22	-6.3	-6.66	-4.9	-5.74	-9.97	-9.77	-13.1	-7.11	-8.06	0.63	-8.13	-5.64	-8.6	-3.49	-7.02	-6.67	-5.96
70	-4.58	-9.56	-6.5	-5.48	-5.99	-3.96	-4.89	-9.74	-10.7	-13.3	-6.6	-7.57	2.16	-7.42	-4.73	-6.17	-2.27	-6.3	-5.96	-5.43
75	-2.96	-8.57	-5.34	-4	-4.69	-2.29	-3.39	-8.79	-10.13	-12.9	-5.5	-6.48	2.98	-6.16	-3.28	-5.07	-0.47	-4.96	-3.86	-4.62
80	-0.76	-6.96	-3.61	-1.79	-2.77	-0.09	-1.16	-7.21	2.83	-11.7	-3.94	-4.82	5.55	-4.16	-1.2	-3.2	1.95	-2.88	-1.8	-3.47
85	2.63	-4.01	-1.05	1.72	0.42	3.35	2.42	-4.27	4.93	-9.44	-1.22	-2.08	9.26	-0.76	2.31	0.14	5.81	0.64	1.77	4.97
90	6.94	-0.68	1.78	5.39	3.69	6.93	6.44	-0.76	8.23	-6.7	6.07	0.87	14.3	3.07	6.19	3.99	9.92	4.61	5.88	7.74
95	13.6	3.4	15.7	13.3	8.57	10.9	11.4	3.61	12.8	-2.1	9.37	4.05	16.1	7.81	10.8	8.83	15.5	9.4	10.9	10.3
100	19.4	8.11	22.5	18.6	17.6	23.8	17.3	8.92	18.6	3.81	13.1	16.4	16.4	13.5	16.1	14.7	22.3	16.1	17	22.9
105	26.5	14.1	29.7	25.3	23.4	30.4	24.4	15.1	25.6	9.77	22.5	18.6	11.5	20.5	22.1	21.8	29.7	23.2	24.2	28.6
110	34.8	26	37.4	33.1	30	35.7	32.1	23.4	33.9	17.1	39	26.5	0.88	28.7	36.9	30	38.1	30.9	32.6	41.4
115	44.5	32.1	46.8	41.2	36.7	47.8	44.4	33.2	44	25.6	48	47.8	---	37.8	43.5	39.5	48.3	39.3	42	50.3
120	55.5	54.2	57.9	57.1	62.1	58.9	54.1	43.3	55.2	35.3	56.2	57.5	-1K	49	53.8	53	58.7	48.6	51.9	61
125	67.7	65.1	70.5	73.4	71.7	78	67.7	53.6	68.5	46.9	71	69	-1K	62.9	75.7	64.8	70.5	73.6	64.8	73.8

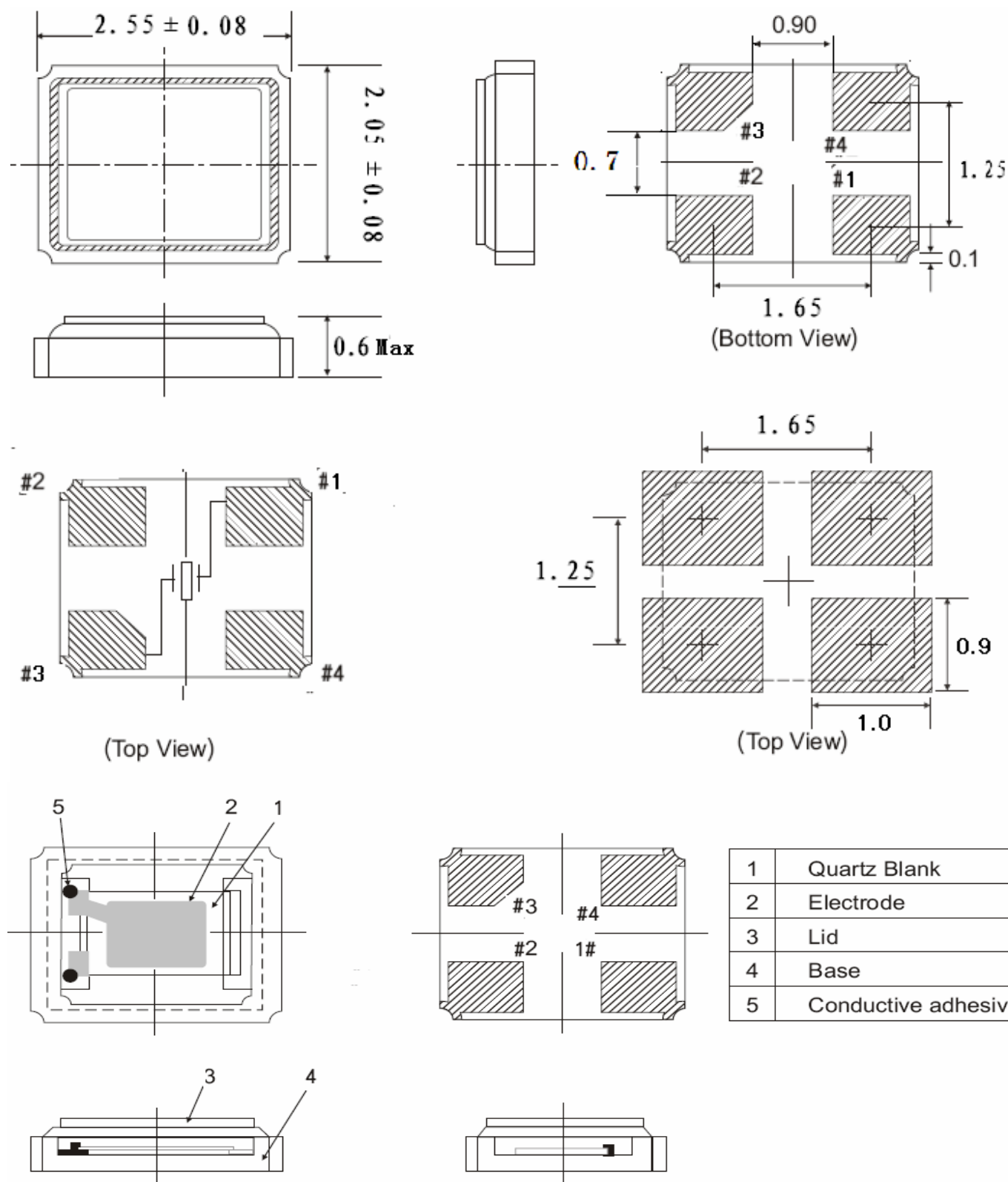


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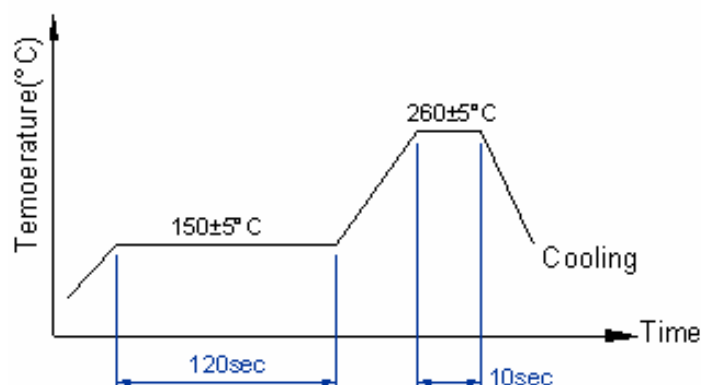
DIMENSIONS





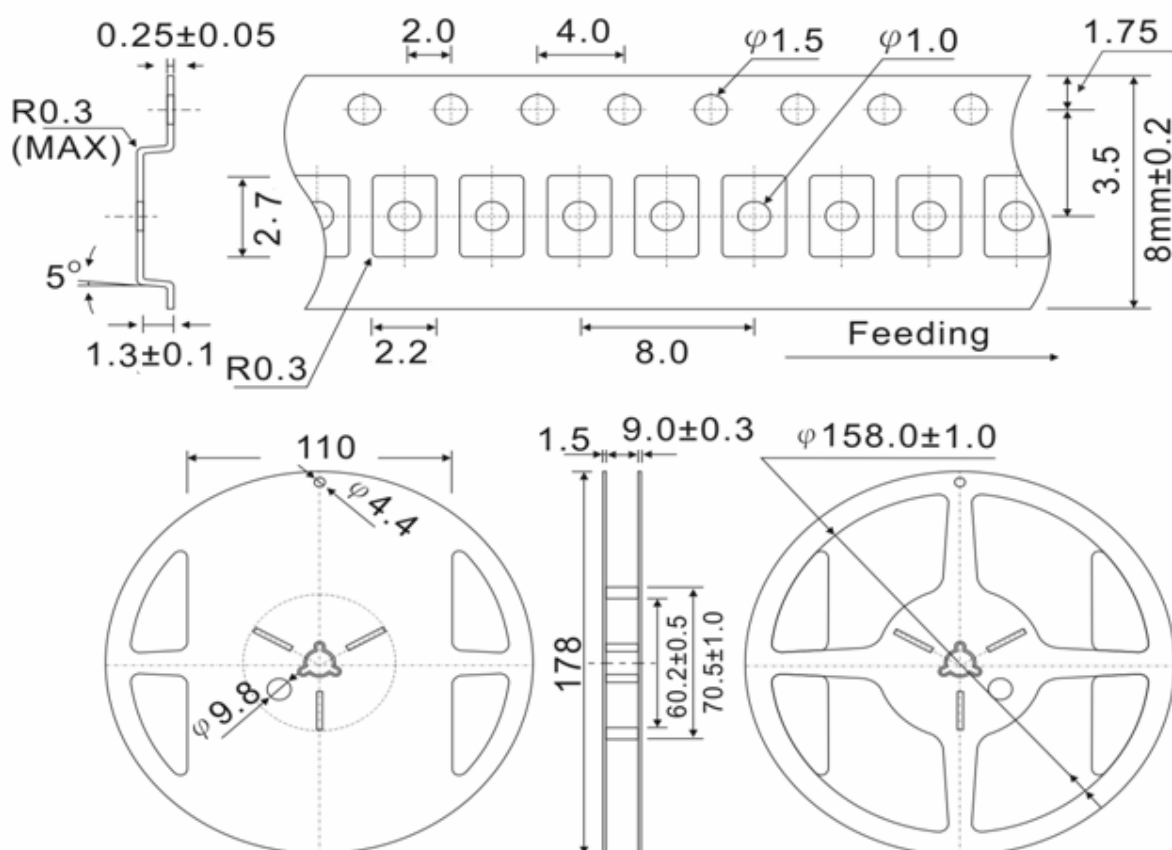
TYPE HH SEAM SEALED X'TAL

SUGGESTED IR REFLOW PROFILE



Total Time : 200 Sec.Max
Solder melting point : 185°C

PACKING



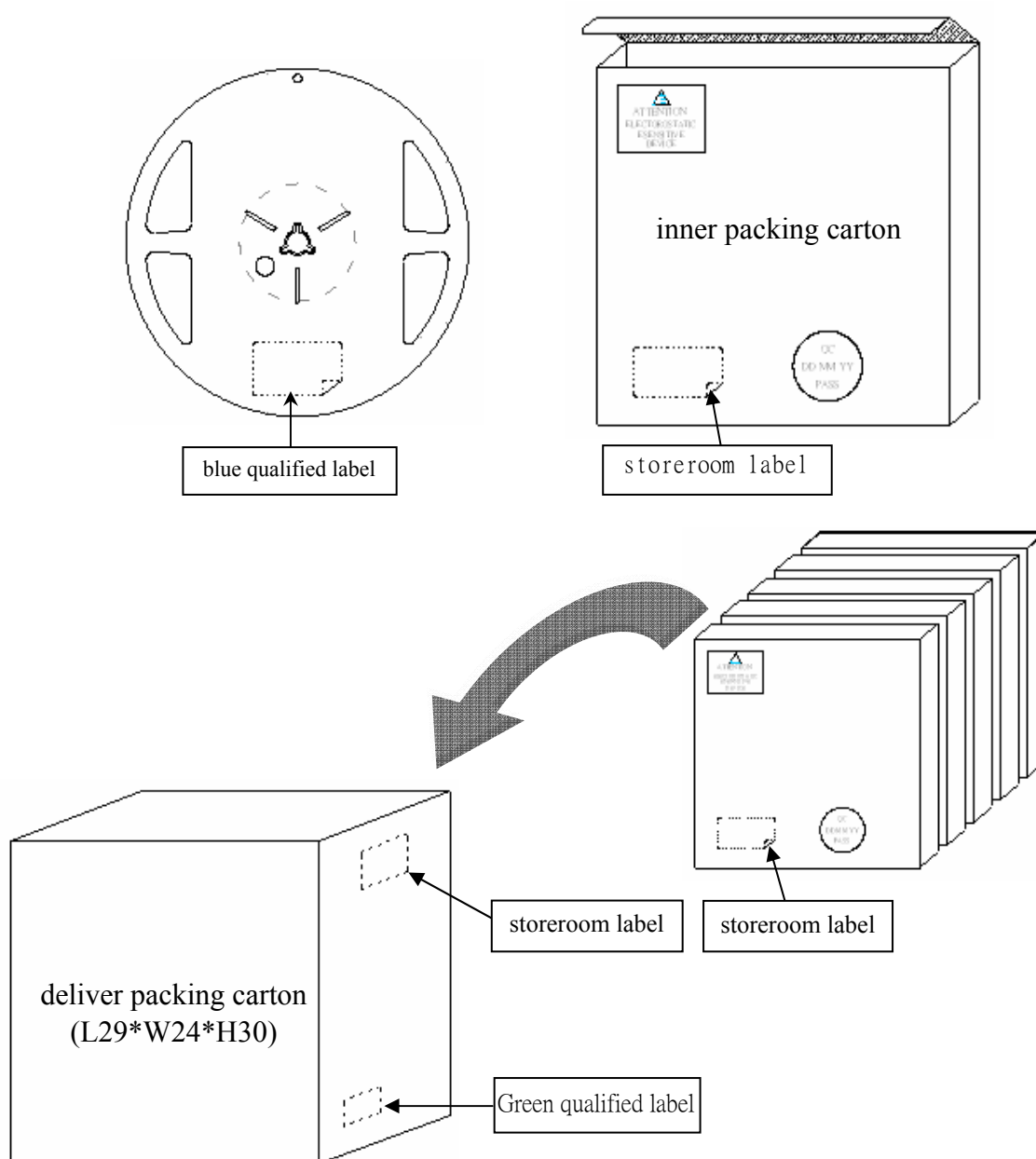
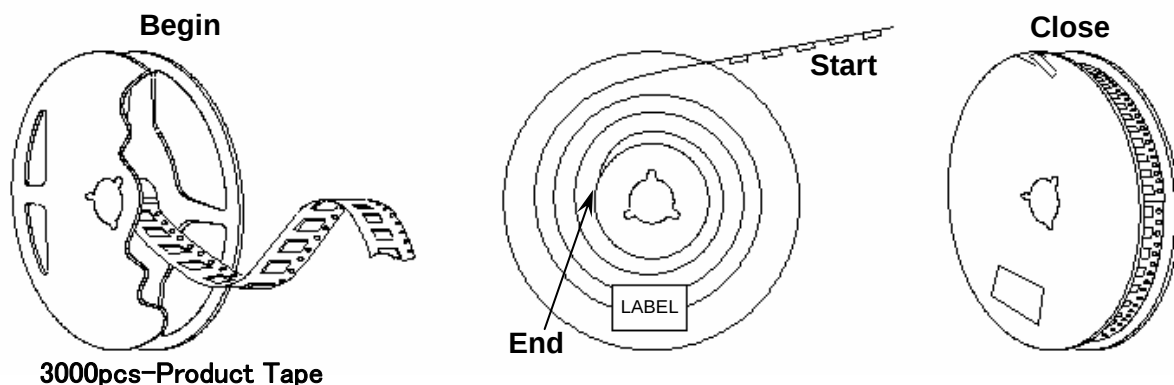
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

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TYPE HH SEAM SEALED X'TAL

PACKING



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