叠层片式高频电感
Chip high frequency inductor

OPEARATING TEMP.	1005	:55～125℃
	1608 2012	:-40～+85℃

特征 FEATURES

- 高自谐振频率
- 叠层独石结构，具有高可靠性
- 优良的焊接性和耐焊性，适合于回流焊和波峰焊
- High self-resonant frequency.
- Multilayer monolithic construction yields high reliability
- Excellent solderability and heat resistance for either wave or reflow soldering.

应用 APPLICATIONS

- 移动电话、寻呼机、PHS 和 PDA
- 各种高频回路
- 抑制各种高频杂波
- Portable telephone、Pagers、PHS and PDA
- Miscellaneous high-frequency circuits
- EMI countermeasure in high frequency circuits

规格型号表示方法 ORDERING CODE

VHF 201209 H 47N J T

① ② ③ ④ ⑤ ⑥

①

产品代号 Product Code	
VHF	叠层片式 高频电感 Very High Frequency Inductors

②

规格尺寸(L×W×T) (mm) Dimensions	
100505	1.0×0.5×0.5
160808	1.6×0.8×0.8
201209	2.0×1.2×0.9

③

材料 Material Code
H

④

感量(nH) Inductance	
1N0	1.0
10N	10
R10	100

N=0.0(nH)
R=0.0(μH)

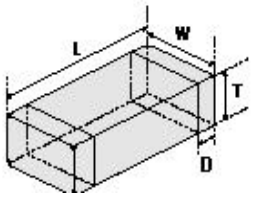
⑤

误差 Tolerance	
S	±0.3nH
D	±0.5nH
J	±5%
K	±10%
M	±20%

⑥

包装方式 Packaging Style	
T	卷带盘装 Tape&Reel
B	散装 Bulk

外形尺寸 SHAPE AND DIMENSIONS



unit：mm(inch)

Part No.	L	W	T	D
100505	1.0±0.15 (0.040±0.006)	0.5±0.15 (0.020±0.006)	0.5±0.15 (0.020±0.006)	0.25±0.10 (0.010±0.004)
160808	1.6±0.2 (0.063±0.008)	0.8±0.2 (0.031±0.008)	0.8±0.2 (0.031±0.008)	0.3±0.2 (0.01±0.008)
201209	2.0±0.2 (0.079±0.008)	1.2±0.2 (0.047±0.008)	0.9±0.2 (0.035±0.008)	0.5±0.3 (0.020±0.012)

电性能参数 ELECTRICAL CHARACTERISTICS

1005 型 TYPE

Part No.	Inductance (nH)	Q (Min)	Test Fre. (MHz)	Q Frequency (MHz)					SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
				100	300	500	800	1000			
VHF100505H1N0S	1.0	7	100	8	20	26	34	39	10000	0.17	300
VHF100505H1N2S	1.2	7	100	8	20	26	34	39	10000	0.17	300
VHF100505H1N5S	1.5	7	100	8	20	26	34	39	6000	0.18	300
VHF100505H1N8S	1.8	7	100	8	18	24	30	35	6000	0.19	300
VHF100505H2N2S	2.2	7	100	8	17	24	29	35	6000	0.21	300
VHF100505H2N7S	2.7	7	100	8	17	23	29	34	6000	0.22	300
VHF100505H3N3S	3.3	7	100	8	17	23	28	34	6000	0.25	300
VHF100505H3N9S	3.9	7	100	8	17	23	28	33	4000	0.25	260
VHF100505H4N7S	4.7	7	100	8	17	23	28	33	4000	0.30	260
VHF100505H5N6S	5.6	8	100	8	17	22	28	33	4000	0.30	260
VHF100505H6N8D	6.8	8	100	8	17	22	27	33	3900	0.37	260
VHF100505H8N2J	8.2	8	100	10	16	22	28	32	3600	0.45	260
VHF100505H10NJ	10	8	100	10	17	22	30	32	3200	0.47	260
VHF100505H12NJ	12	8	100	11	17	24	31	34	2700	0.55	260
VHF100505H15NJ	15	8	100	11	18	24	30	33	2300	0.70	260
VHF100505H18NJ	18	8	100	11	18	24	30	32	2100	0.70	260
VHF100505H22NJ	22	8	100	11	18	24	30	31	1900	0.90	260
VHF100505H27NJ	27	8	100	11	18	23	27	29	1600	1.00	260
VHF100505H33NJ	33	8	100	11	18	22	25	25	1300	1.10	200
VHF100505H39NJ	39	8	100	11	18	22	24	23	1200	1.30	180
VHF100505H47NJ	47	8	100	11	18	21	23	21	1000	1.40	180

1608 型 TYPE

Part No.	Inductance (nH)	Q (Min)	Test Fre. (MHz)	Q Frequency (MHz)					SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
				100	300	500	800	1000			
VHF160808H1N0S	1.0	8	100	10	20	30	35	50	10000	0.05	500
VHF160808H1N2S	1.2	8	100	10	20	30	35	50	10000	0.10	500
VHF160808H1N5S	1.5	8	100	10	22	37	38	68	10000	0.10	400
VHF160808H1N8S	1.8	8	100	10	21	33	35	61	9800	0.12	400
VHF160808H2N2S	2.2	8	100	10	26	40	39	60	7600	0.20	400
VHF160808H2N7S	2.7	8	100	12	23	27	37	47	7000	0.20	400
VHF160808H3N3S	3.3	8	100	12	23	27	36	47	6200	0.20	400
VHF160808H3N9S	3.9	8	100	12	25	28	38	47	5600	0.25	400
VHF160808H4N7S	4.7	8	100	12	26	30	38	49	4800	0.30	400
VHF160808H5N6S	5.6	8	100	12	26	29	35	34	4600	0.30	400
VHF160808H6N8S	6.8	8	100	12	23	27	35	40	4200	0.35	400
VHF160808H8N2J	8.2	8	100	12	22	26	33	39	3600	0.35	400
VHF160808H10NJ	10	8	100	13	25	31	38	45	3200	0.40	300
VHF160808H12NJ	12	8	100	13	24	28	35	39	2800	0.40	300
VHF160808H15NJ	15	8	100	13	22	27	34	40	2600	0.45	300
VHF160808H18NJ	18	8	100	13	24	28	35	38	2400	0.60	300
VHF160808H22NJ	22	8	100	15	27	32	38	43	2000	0.60	300
VHF160808H27NJ	27	8	100	14	26	29	36	44	1900	0.80	300
VHF160808H33NJ	33	8	100	14	26	29	35	34	1600	0.80	300
VHF160808H39NJ	39	8	100	14	22	25	28	28	1400	1.00	300
VHF160808H47NJ	47	8	100	15	25	29	30	25	1200	1.00	200
VHF160808H56NJ	56	8	100	17	28	31	31	25	1000	1.00	200

1608 型 TYPE

Part No.	Inductance (nH)	Q (Min)	Test Fre. (MHz)	Q Frequency (MHz)					SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
				100	300	500	800	1000			
VHF160808H68NJ	68	8	100	17	22	24	25	15	900	1.00	200
VHF160808H82NJ	82	8	100	17	23	24	22	13	800	1.00	200
VHF160808HR10J	100	8	100	17	25	27	24	17	700	1.00	200
VHF160808HR12J	120	8	50	15	24	23			600	1.20	150
VHF160808HR15J	150	8	50	13	19				500	1.50	150

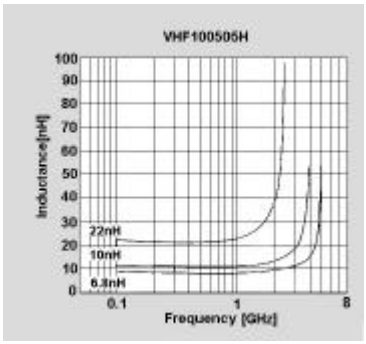
2012 型 TYPE

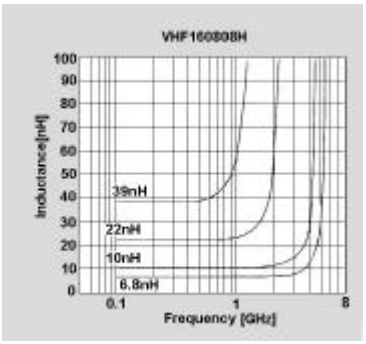
art No.	Inductance (nH)	Q (Min)	Test Fre. (MHz)	Q Frequency (MHz)					SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
				100	300	500	800	1000			
VHF201209H1N5S	1.5	10	100	10	23	46	54	85	6000	0.10	600
VHF201209H1N8S	1.8	10	100	13	24	46	55	85	6000	0.10	600
VHF201209H2N2S	2.2	10	100	13	25	46	53	85	6000	0.10	600
VHF201209H2N7S	2.7	12	100	13	25	42	45	76	6000	0.10	600
VHF201209H3N3S	3.3	12	100	15	28	48	52	85	6000	0.13	600
VHF201209H3N9S	3.9	12	100	15	28	49	55	85	6000	0.15	600
VHF201209H4N7S	4.7	12	100	15	28	48	53	85	6000	0.20	400
VHF201209H5N6S	5.6	13	100	16	30	44	45	78	5400	0.23	400
VHF201209H6N8S	6.8	13	100	16	30	40	45	69	4500	0.25	400
VHF201209H8N2J	8.2	13	100	16	28	42	45	69	4000	0.28	400
VHF201209H10NJ	10	13	100	16	28	43	45	71	3650	0.30	300
VHF201209H12NJ	12	13	100	16	28	43	45	50	3000	0.35	300
VHF201209H15NJ	15	13	100	18	30	43	43	56	2500	0.40	300
VHF201209H18NJ	18	13	100	18	26	40	42	59	2450	0.45	300
VHF201209H22NJ	22	13	100	17	31	45	45	59	2000	0.50	300
VHF201209H27NJ	27	13	100	17	31	45	45	54	1750	0.55	300
VHF201209H33NJ	33	13	100	18	27	41	40	44	1700	0.60	300
VHF201209H39NJ	39	13	100	19	31	42	31	20	1550	0.70	300
VHF201209H47NJ	47	13	100	20	24	33	31	29	1350	0.80	300
VHF201209H56NJ	56	13	100	21	34	43	35	25	1300	0.80	300
VHF201209H68NJ	68	13	100	19	28	37	29		1200	0.85	300
VHF201209H82NJ	82	13	100	19	29	30	27		1150	0.90	300
VHF201209HR10J	100	13	100	13	27	36			1000	1.00	300
VHF201209HR12J	120	10	100	19	27				850	1.20	300
VHF201209HR15J	150	10	100	19	27				600	1.50	300
VHF201209HR18J	180	10	100	19	25				500	1.80	300
VHF201209HR22J	220	10	100	19	22				500	1.80	300

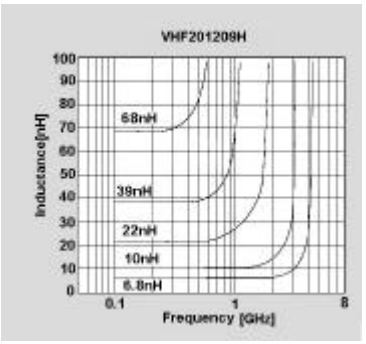
□ **感量公差** Inductance tolerance （S:±0.3nH, D:±0.5nH, J:±5%, K:±10%,M:±20%）

特性曲线 CHARACTERISTICS CURVES

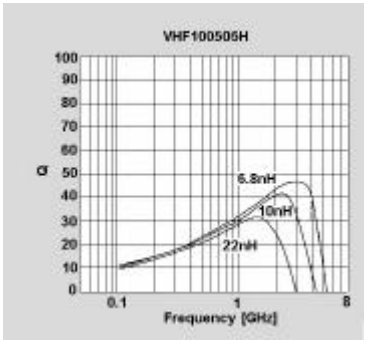
电感量频率特性 Inductance VS. Frenquency

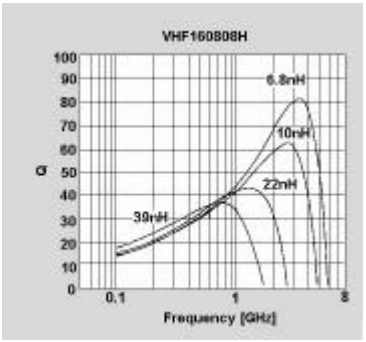


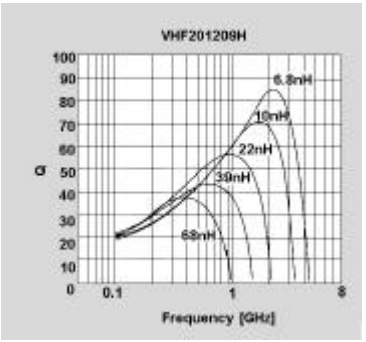




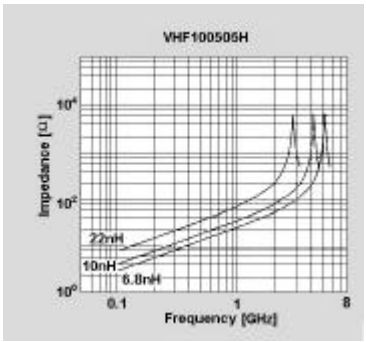
Q 值频率特性 Q Value VS. Frenquency

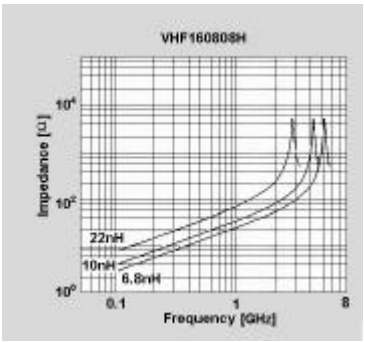


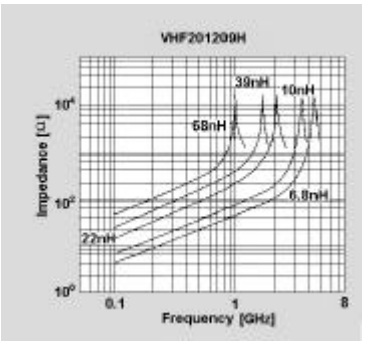




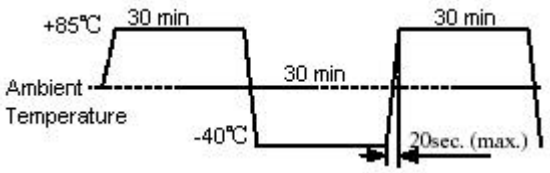
阻抗频率特性 Impedance VS. Frenquency

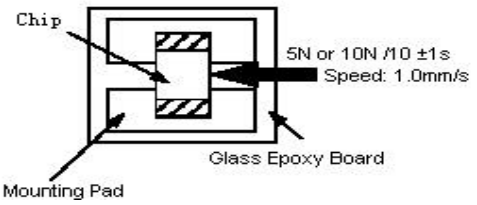
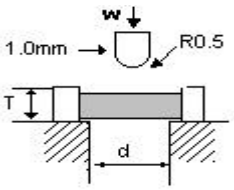






RELIABILITY TESTING **(VHF、CMI、CBG、CBW、CBH、CBY、CBA series)**

Type	Item	Specified value	Test methods
1	Operating temperature range	-40 to +125℃	
2	Storage temperature range	-40 to +125℃	
3	Solderability	At least 90% of terminal electrode is covered by new solder	Solder temperature: 230±5℃ Duration: 4±1S Preheating temperature: 120 to 150℃ Preheating time: 60S Flux: immersion into methanol solution with colophony for 3 to 5 sec. Immersion speed: 25mm/sec
4	Resistance to soldering	Appearance: No significant abnormality. At least 75% of terminal electrode is covered by new solder Impedance change: within ±20% Inductor change: within±10%	Solder temperature: 260±5℃ Duration: 10±0.5S Preheating temperature: 120 to 150℃ Preheating time: 60S Flux: immersion into methanol solution with colophony for 3 to 5 sec. Immersion speed: 25mm/sec
5	Thermal shock	Appearance: No significant abnormality. Impedance change: within ±20% Inductor change: within±10%	Temperature: -40℃ for 30±3min +85℃ for 30±3min Transforming interval :max 20 sec Number of cycles: 32 
6	Loading at low temperature	Appearance: No significant abnormality. Impedance change: within±20% Inductor change: within±10%	Temperature: -55±2℃ Duration: 500 hrs
7	Loading at high temperature	Appearance: No significant abnormality. Impedance change: within±20% Inductor change: within±10%	Temperature: 85±2℃ Duration: 1000 $^{+24}_{-0}$ hrs Applied current: Rated current
8	Loading under Damp Heat	Appearance: No significant abnormality. Impedance change: within±20% Inductor change : within±10%	Temperature: 55±2℃ Duration: 500 $^{+24}_{-0}$ hrs Humidity: 90 to 95%RH Applied current: Rated current

Type	Item	Specified value	Test methods
9	Vibration	Appearance: No significant abnormality. Impedance change: within±20%‰ Inductor change : within±10%	Amplitude: 1.5mm Directions: 2hrs each in X Y Z direction Frequency range: 10 to 55 to 10H_Z (min)
10	Adhesion of electrode	Impedance change: within±20% Inductor change : within±10% Appearance: No significant abnormality.	Applied force: 5N force for 1005 and 1608 series. 10N force for 2012、3216 、3225、4516、4532series. Keep time ：10±1S 
11	Resistance to pressure of substrate	The body shall not be damaged by forces applied on the right.	

d	1.3	1.3	2.0
w	2.0	3.0	4.0

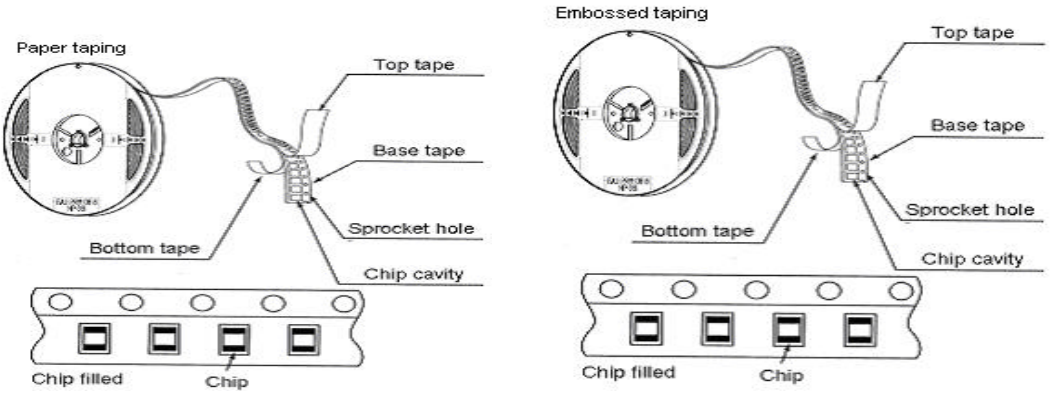
Note: When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.

包装 PACKAGING

STANDAE QUANTITY

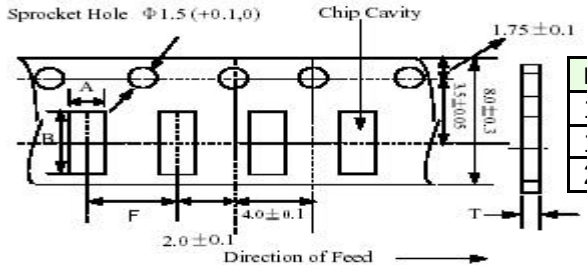
TYPE	100505	160808	201209	321609	321611	322513	451616	453215
Quantity(pcs)	10000	4000	4000	4000	3000	3000	5000	3000

TAPING DRAWINGS



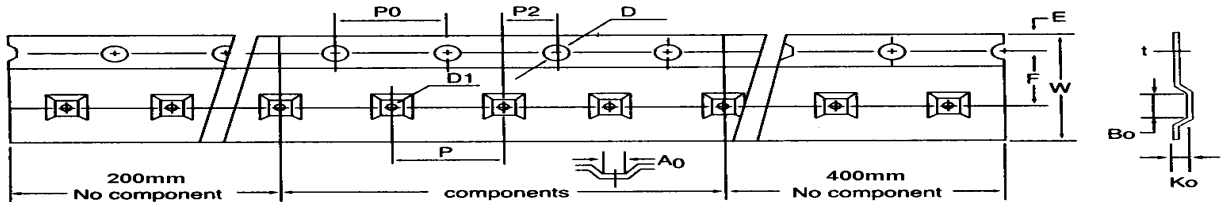
TAPING DIMENSIONS (UNIT: mm)

Paper tape



Part NO.	A	B	F	T
100505	0.65±0.1	1.15±0.1	2.0±0.05	0.8max
160808	1.0±0.2	1.8±0.2	4.0±0.2	1.1max
201209	1.5±0.2	2.3±0.2	4.0±0.2	1.1max

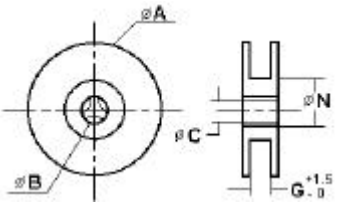
Embossed tape



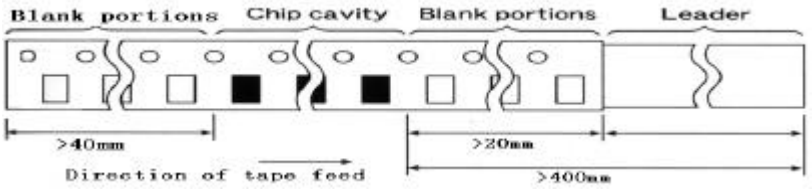
	4532	4516	3225	3216	2012
W	12.0+/-0.2	12.0+/-0.2	8.1+/-0.2	8.1+/-0.2	8.1+/-0.2
P	8.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10
E	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10
F	5.50+/-0.10	5.50+/-0.10	3.50+/-0.10	3.50+/-0.10	3.50+/-0.10
D	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05
D1	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$	$1.50^{+0.25}_{-0}$
P_0	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10
$P_0$10	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20	40.0+/-0.20
P2	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05
A_0	3.66+/-0.10	1.93+/-0.10	2.80+/-0.10	1.90+/-0.10	1.52+/-0.10
B_0	4.95+/-0.10	4.95+/-0.10	3.50+/-0.10	3.51+/-0.10	2.41+/-0.10
t	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10

■ REEL DIMENSIONS (UNIT：mm)

	A	B	C	N	G
CF-8	178±2.0	22.0±2.0	12.5±1.5	67±2.0	8
CF-12	330±2.0	22.0±2.0	12.5±1.5	110±2.0	12



■ LEADER AND BLANK PORTION



■ PEELING OFF FORCE : 0.05 to 0.7N in the direction show below.