铁氧体叠层片式电感
Ferrite chip inductors

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

特征 FEATURES

- 体积小
- 漏磁小，不产生耦合，可靠性高
- 无引线，不产生跟踪性，适合高密度表面贴装
- 优良的可焊性及耐热冲击性，适合波峰焊及回流焊

- Miniature volume.
- No cross coupling between inductors due to low magnetic shield and high reliability.
- No lead, ideal for high density SMT installation, with no directionality.
- Superior solderability and resistance to soldering heat, Ideal for wave or reflow soldering.

应用 APPLICATIONS

- VCD/DVD、数码相机、电脑、数字电视、机顶盒

- VCD/DVD、digital cameras 、personal computers etc.

产品规格型号的表示方法 ORDERING CODE

CMI	201209	V	47N	K	T
①	②	③	④	⑤	⑥

①

产品代号 Product Code	
CMI	叠层片式电感 Multilayer Chip 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
321609	3.2×1.6×0.9
322513	3.2×2.5×1.3
451616	4.5×1.6×1.6
453215	4.5×3.2×1.5

③

材料 Material Code
U 料
V 料
J 料
X 料

④

感量(μH) Inductance	
实例 Example	
47N	0.047
R10	0.10
1R0	1.0

N＝0.0(nH)
R＝0.0(μH)

⑤

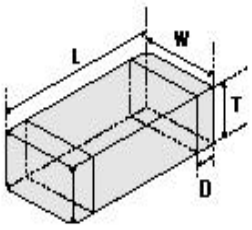
误差 Tolerance	
K	±10%
M	±20%

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 (0402)	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 (0603)	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 (0805)	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)
201212 (0805)	2.0±0.2 (0.079±0.008)	1.2±0.2 (0.047±0.008)	1.2±0.2 (0.047±0.008)	0.5±0.3 (0.020±0.012)
321611 (1206)	3.2±0.2 (0.126±0.008)	1.6±0.2 (0.063±0.008)	1.1±0.2 (0.043±0.008)	0.5±0.3 (0.020±0.012)
321609 (1206)	3.2±0.2 (0.126±0.008)	1.6±0.2 (0.063±0.008)	0.9±0.2 (0.035±0.008)	0.5±0.3 (0.020±0.012)
322513 (1210)	3.2±0.2 (0.126±0.008)	2.5±0.2 (0.098±0.008)	1.3±0.2 (0.051±0.008)	0.5±0.3 (0.020±0.012)
451616 (1806)	4.5±0.2 (0.186±0.008)	1.6±0.2 (0.063±0.008)	1.6±0.2 (0.063±0.008)	0.5±0.3 (0.020±0.012)
453215 (1812)	4.5±0.2 (0.180±0.008)	3.2±0.2 (0.126±0.008)	1.5±0.2 (0.060±0.008)	0.5±0.3 (0.020±0.012)

电性能参数 ELECTRICAL CHARACTERISTICS

1005 TYPE

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI100505V47NK	0.047	10	50	220	0.45	25
CMI100505V56NK	0.056	10	50	210	0.45	25
CMI100505V68NK	0.068	10	50	210	0.45	25
CMI100505V82NK	0.082	10	50	200	0.45	25
CMI100505VR10K	0.10	15	25	200	0.70	25
CMI100505VR12K	0.12	15	25	165	0.70	25
CMI100505VR15K	0.15	15	25	140	0.80	25
CMI100505VR18K	0.18	15	25	120	0.80	25
CMI100505VR22K	0.22	15	25	110	1.00	25
CMI100505VR27K	0.27	15	25	95	1.20	25
CMI100505VR33K	0.33	15	25	85	1.20	25
CMI100505UR39K	0.39	15	25	70	1.30	20
CMI100505UR47K	0.47	15	25	68	1.50	20
CMI100505UR56K	0.56	15	25	55	2.00	20
CMI100505UR68K	0.68	15	25	50	2.30	20
CMI100505UR82K	0.82	15	25	45	3.00	18
CMI100505U1R0K	1.0	20	10	40	0.90	25
CMI100505U1R2K	1.2	20	10	35	1.20	25
CMI100505U1R5K	1.5	20	10	30	1.30	20
CMI100505X1R8K	1.8	20	10	30	1.40	20
CMI100505X2R2K	2.2	20	10	28	1.70	20
CMI100505X2R7K	2.7	20	10	22	1.90	20
CMI100505X3R3K	3.3	20	10	20	2.00	20
CMI100505X3R9K	3.9	20	10	18	2.20	20
CMI100505X4R7K	4.7	20	10	15	2.50	18
CMI100505J5R6K	5.6	20	4	13	2.20	18
CMI100505J6R8K	6.8	20	4	11	2.40	18
CMI100505J8R2K	8.2	20	4	10	2.90	18
CMI100505J100M	10	20	2	9	3.10	10
CMI100505J120M	12	20	2	8	3.30	5
CMI100505J150M	15	20	1	8	3.50	5
CMI100505J180M	18	20	1	8	3.50	5

1608 TYPE

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI160808V47NK	0.047	15	50	260	0.30	50
CMI160808V56NK	0.056	15	50	260	0.30	50
CMI160808V68NK	0.068	15	50	250	0.30	50
CMI160808V82NK	0.082	15	50	245	0.30	50
CMI160808VR10K	0.10	20	25	240	0.30	50
CMI160808VR12K	0.12	20	25	205	0.35	50
CMI160808VR15K	0.15	20	25	180	0.35	50
CMI160808VR18K	0.18	20	25	165	0.40	50
CMI160808VR22K	0.22	20	25	150	0.50	50
CMI160808VR27K	0.27	20	25	136	0.55	50
CMI160808VR33K	0.33	20	25	125	0.60	35
CMI160808VR39K	0.39	20	25	110	0.70	35
CMI160808VR47K	0.47	20	25	105	0.80	35
CMI160808VR56K	0.56	20	25	95	0.80	35
CMI160808VR68K	0.68	20	25	90	0.90	35
CMI160808VR82K	0.82	20	25	85	1.20	35
CMI160808U1R0K	1.0	30	10	75	0.60	25
CMI160808U1R2K	1.2	30	10	65	0.80	25
CMI160808U1R5K	1.5	30	10	60	0.85	25
CMI160808U1R8K	1.8	30	10	55	0.95	25
CMI160808U2R2K	2.2	30	10	50	1.00	25
CMI160808U2R7K	2.7	30	10	45	1.15	15
CMI160808U3R3K	3.3	30	10	40	1.30	15
CMI160808U3R9K	3.9	30	10	35	1.30	15
CMI160808X4R7K	4.7	30	10	33	1.50	15
CMI160808X5R6K	5.6	35	4	22	1.55	5
CMI160808X6R8K	6.8	35	4	20	1.55	5
CMI160808J8R2K	8.2	35	4	18	1.65	5

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI160808J100K	10	30	2	17	1.75	3
CMI160808J120K	12	30	2	15	1.85	3
CMI160808J150K	15	20	1	14	2.00	1
CMI160808J180M	18	20	1	13	2.10	1
CMI160808J220M	22	20	1	11	2.10	1
CMI160808J270M	27	20	1	10	2.20	1
CMI160808J330M	33	20	1	9	2.50	1

2012 TYPE

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI201209V47NK	0.047	25	50	320	0.15	300
CMI201209V56NK	0.056	25	50	320	0.15	300
CMI201209V68NK	0.068	25	50	280	0.20	300
CMI201209V82NK	0.082	25	50	280	0.20	300
CMI201209VR10K	0.10	25	25	235	0.20	250
CMI201209VR12K	0.12	25	25	220	0.25	250
CMI201209VR15K	0.15	25	25	200	0.25	250
CMI201209VR18K	0.18	25	25	185	0.30	250
CMI201209VR22K	0.22	25	25	170	0.30	250
CMI201209VR27K	0.27	25	25	150	0.40	250
CMI201209VR33K	0.33	25	25	145	0.40	250
CMI201209VR39K	0.39	30	25	135	0.50	200
CMI201209VR47K	0.47	30	25	125	0.50	200
CMI201209VR56K	0.56	30	25	115	0.60	150
CMI201209VR68K	0.68	30	25	105	0.70	150
CMI201209VR82K	0.82	30	25	100	0.80	150
CMI201209U1R0K	1.0	45	10	75	0.40	100
CMI201209U1R2K	1.2	45	10	65	0.50	100
CMI201209U1R5K	1.5	45	10	60	0.50	50
CMI201209U1R8K	1.8	45	10	55	0.50	50
CMI201209U2R2K	2.2	45	10	50	0.60	50
CMI201209U2R7K	2.7	45	10	45	0.60	50
CMI201209U3R3K	3.3	45	10	41	0.70	50
CMI201209U3R9K	3.9	45	10	38	0.80	50
CMI201209U4R7K	4.7	45	10	35	0.90	25
CMI201209X5R6K	5.6	50	4	32	1.00	25
CMI201209X6R8K	6.8	50	4	29	1.05	25
CMI201209X8R2K	8.2	50	4	26	1.05	25
CMI201209X100K	10	50	2	24	1.10	25
CMI201209X120K	12	50	2	22	1.10	15
CMI201209J150K	15	30	1	19	1.10	5
CMI201209J180K	18	30	1	18	1.10	5
CMI201209J220K	22	30	1	16	1.20	5
CMI201209J270K	27	30	1	16	1.50	5
CMI201212J330M	33	30	1	16	1.50	5
CMI201212J390M	39	35	1	16	1.50	5
CMI201212J470M	47	35	1	15	1.60	5
CMI201212J560M	56	35	1	15	1.80	5

3216 TYPE

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI321609V47NK	0.047	30	50	320	0.15	300
CMI321609V56NK	0.056	30	50	320	0.20	300
CMI321609V68NK	0.068	30	50	280	0.25	300
CMI321609V82NK	0.082	30	50	280	0.25	300
CMI321609VR10K	0.10	30	25	235	0.25	250
CMI321609VR12K	0.12	30	25	220	0.30	250
CMI321609VR15K	0.15	30	25	200	0.30	250
CMI321609VR18K	0.18	30	25	185	0.40	250
CMI321609VR22K	0.22	30	25	170	0.40	250
CMI321609VR27K	0.27	30	25	150	0.50	250
CMI321609VR33K	0.33	30	25	145	0.50	250
CMI321609VR39K	0.39	35	25	135	0.60	200
CMI321609VR47K	0.47	35	25	125	0.60	200
CMI321609VR56K	0.56	35	25	115	0.60	150
CMI321609VR68K	0.68	35	25	105	0.60	150

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI321609VR82K	0.82	35	25	100	0.70	150
CMI321609U1R0K	1.0	45	10	75	0.40	100
CMI321609U1R2K	1.2	45	10	65	0.50	100
CMI321609U1R5K	1.5	45	10	60	0.50	50
CMI321609U1R8K	1.8	45	10	55	0.50	50
CMI321609U2R2K	2.2	45	10	50	0.60	50
CMI321609U2R7K	2.7	45	10	45	0.60	50
CMI321609U3R3K	3.3	45	10	41	0.60	50
CMI321609U3R9K	3.9	45	10	38	0.65	50
CMI321609U4R7K	4.7	45	10	35	0.70	25
CMI321609X5R6K	5.6	50	4	32	0.80	25
CMI321609X6R8K	6.8	50	4	29	0.80	25
CMI321609X8R2K	8.2	50	4	26	0.80	25
CMI321609X100K	10	50	2	24	0.80	25
CMI321609X120K	12	50	2	22	0.90	15
CMI321609X150K	15	35	1	19	1.00	5
CMI321609J180K	18	35	1	18	1.00	5
CMI321609J220K	22	35	1	16	1.00	5
CMI321609J270K	27	35	1	14	1.00	5
CMI321609J330M	33	35	1	13	1.15	5
CMI321609J390M	39	40	1	13	1.20	5
CMI321611J470M	47	40	1	12	1.40	5
CMI321611J560M	56	40	1	12	1.60	5
CMI321611J680M	68	40	1	11	1.80	5
CMI321611J820M	82	40	1	11	2.20	5
CMI321611J101M	100	40	1	9	2.60	5
CMI321611J121M	120	30	1	9	2.90	5

3225 型 TYPE

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI322513U1R0K	1.0	40	10	60	0.35	600
CMI322513U1R2K	1.2	40	10	55	0.35	600
CMI322513U1R5K	1.5	40	10	50	0.40	500
CMI322513U1R8K	1.8	40	10	40	0.40	500
CMI322513U2R2K	2.2	40	10	40	0.40	500
CMI322513U2R7K	2.7	40	10	40	0.40	500
CMI322513U3R3K	3.3	40	10	40	0.45	500
CMI322513U3R9K	3.9	40	10	30	0.45	500
CMI322513U4R7K	4.7	40	10	30	0.50	500
CMI322513U5R6K	5.6	35	10	25	0.60	450
CMI322513U6R8K	6.8	35	4	25	0.60	450
CMI322513U8R2K	8.2	35	4	20	0.70	400
CMI322513X100K	10	35	2	20	0.70	400
CMI322513X120K	12	35	2	20	0.70	400
CMI322513X150K	15	35	1	14	0.70	300
CMI322513X180K	18	35	1	14	0.70	300
CMI322513J220K	22	35	1	14	0.75	250
CMI322513J270K	27	35	1	12	0.75	250
CMI322513J330M	33	35	1	12	0.80	250
CMI322513J390M	39	35	1	12	0.80	250
CMI322513J470M	47	35	1	10	0.85	200
CMI322513J560M	56	35	1	10	1.00	200
CMI322513J680M	68	35	1	8	1.20	150
CMI322513J820M	82	35	1	8	1.30	150
CMI322513J101M	100	35	1	6	1.40	150
CMI322513J121M	120	35	1	6	1.50	150
CMI322513J151M	150	35	1	6	1.50	100
CMI322513J181M	180	35	1	5	1.50	50
CMI322513J221M	220	35	1	5	1.80	50
CMI322513J271M	270	35	1	5	2.00	50

4516 型 TYPE

Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI451616U1R0K	1.0	40	10	80	0.25	500
CMI451616U1R2K	1.2	40	10	75	0.30	500
CMI451616U1R5K	1.5	40	10	60	0.30	500

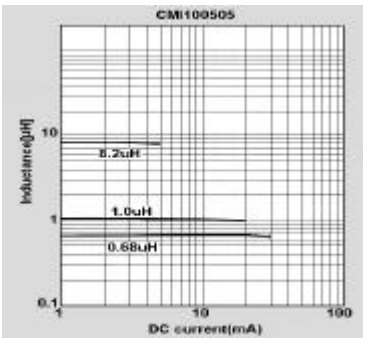
Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI451616U1R8K	1.8	40	10	55	0.35	450
CMI451616U2R2K	2.2	40	10	50	0.35	400
CMI451616U2R7K	2.7	40	10	45	0.40	400
CMI451616U3R3K	3.3	40	10	40	0.40	400
CMI451616U3R9K	3.9	40	10	35	0.45	400
CMI451616U4R7K	4.7	40	10	30	0.50	300
CMI451616U5R6K	5.6	40	4	20	0.50	300
CMI451616U6R8K	6.8	35	4	20	0.60	300
CMI451616U8R2K	8.2	35	4	15	0.70	250
CMI451616U100K	10	35	2	15	0.70	250

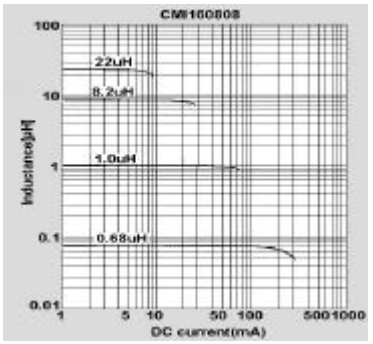
4532 型 TYPE

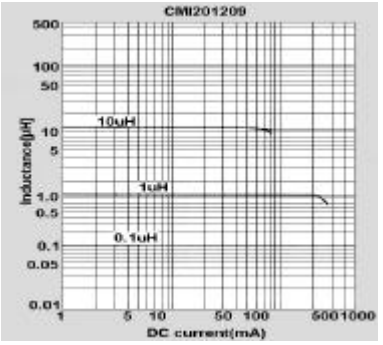
Part No.	Inductance (μH)	Q (Min)	Test Fre. (MHz)	SRF (MHz)Min	DCR (Ω)Max	Ir(mA) Max
CMI453215U1R0K	1.0	35	10	50	0.60	650
CMI453215U1R2K	1.2	35	10	50	0.60	650
CMI453215U1R5K	1.5	35	10	45	0.60	600
CMI453215U1R8K	1.8	35	10	45	0.70	600
CMI453215U2R2K	2.2	35	10	40	0.70	500
CMI453215U2R7K	2.7	35	10	40	0.75	500
CMI453215U3R3K	3.3	35	10	35	0.80	500
CMI453215U3R9K	3.9	35	10	35	0.90	500
CMI453215U4R7K	4.7	30	10	25	0.95	500
CMI453215U5R6K	5.6	30	4	20	0.95	500
CMI453215U 6R8K	6.8	30	4	18	1.00	500
CMI453215U8R2K	8.2	30	2	17	1.15	450
CMI453215U 100K	10	30	2	16	1.25	450
CMI453215U120K	12	35	2	15	1.40	400
CMI453215J150K	15	35	1	14	1.45	400
CMI453215J180K	18	35	1	13	1.50	400
CMI453215J220K	22	35	1	12	1.50	300
CMI453215J270K	27	35	1	10	1.50	300
CMI453215J330M	33	40	1	10	1.50	250
CMI453215J390M	39	40	1	10	1.50	250
CMI453215J470M	47	40	1	8	1.65	250
CMI453215J560M	56	40	1	8	1.80	250
CMI453215J680M	68	40	1	6	2.00	200
CMI453215J820M	82	40	1	6	2.00	200
CMI453215J101M	100	40	1	6	2.0	150
CMI453215J121M	120	40	1	6	2.50	150
CMI453215J151M	150	40	1	5	3.00	150
CMI453215J181M	180	40	1	5	3.00	150
CMI453215J221M	220	40	1	5	3.20	100
CMI453215J271M	270	40	1	5	3.50	50
CMI453215J331M	330	40	1	3	3.50	50

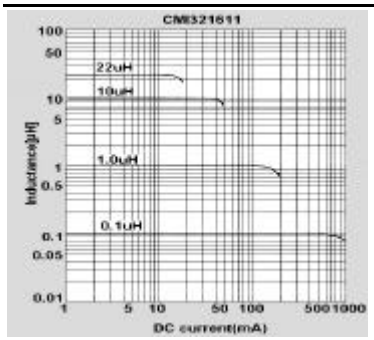
特性曲线 CHARACTERISTICS CURVES

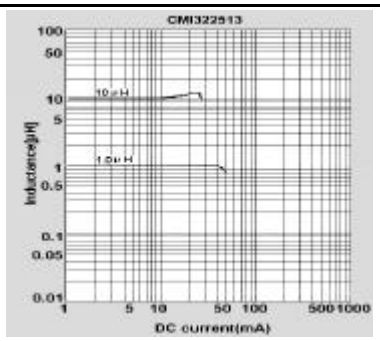
■ **电感量－直流偏置特性** Inductance VS.DC Bias



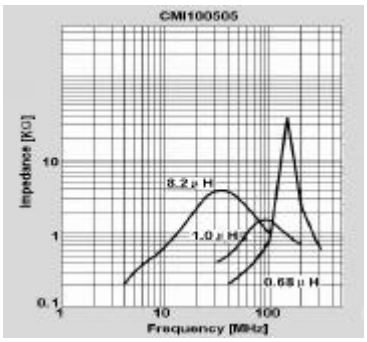


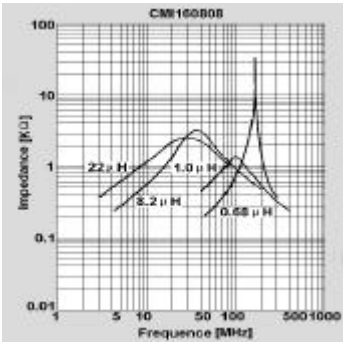


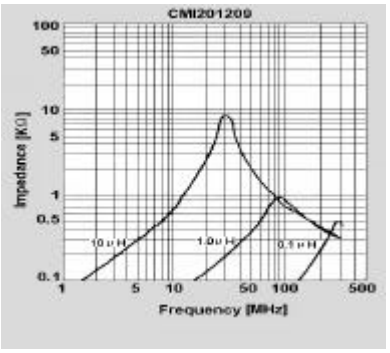


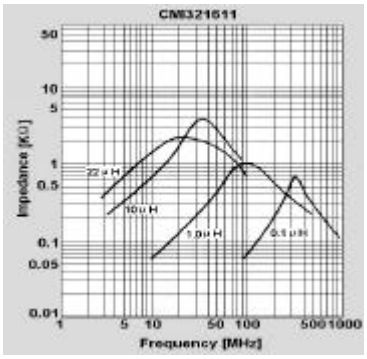


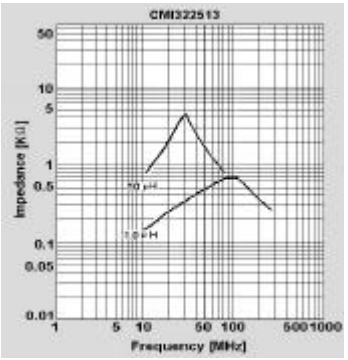
阻抗－频率特性 Impedance VS. Frequency



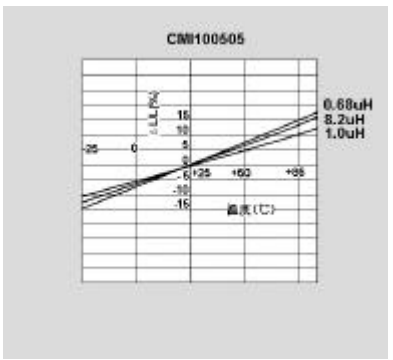


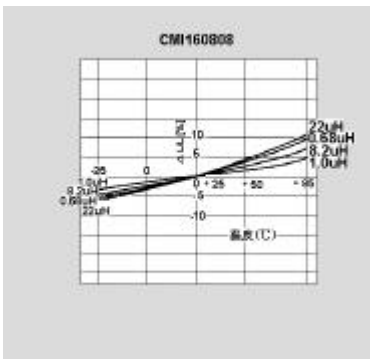


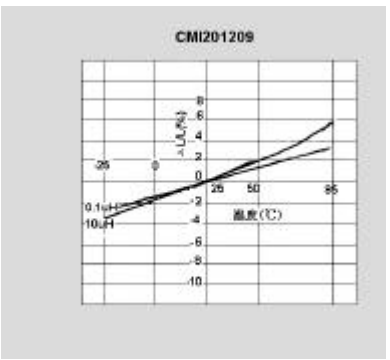


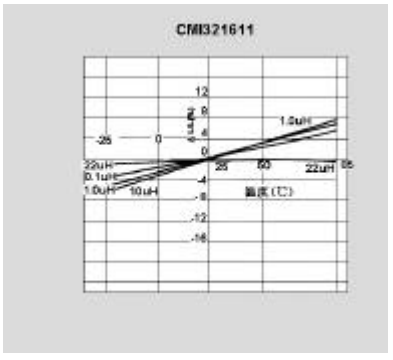


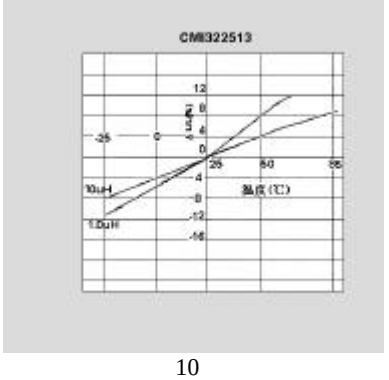
电感量－温度特性 Inductance VS. Temperature



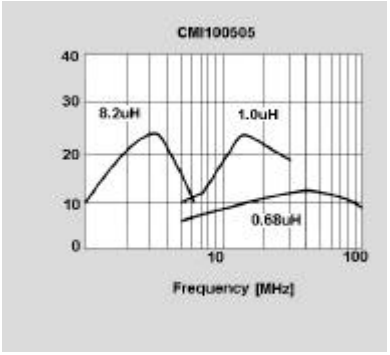


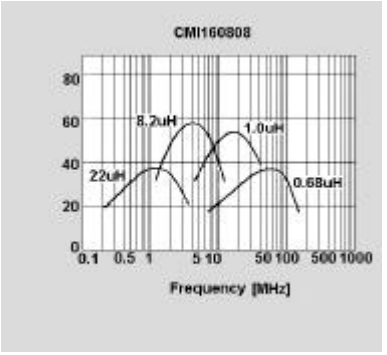


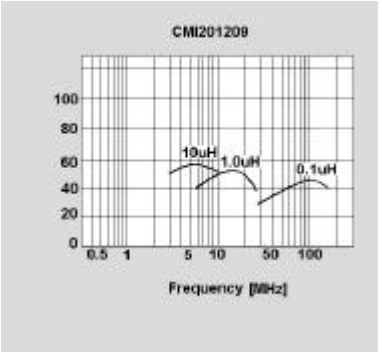


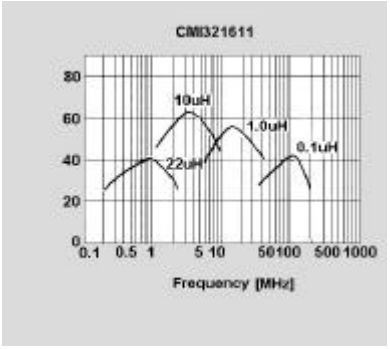


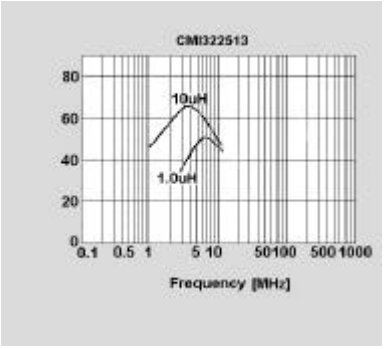
Q 值－频率特性 Q Value VS. Frequency





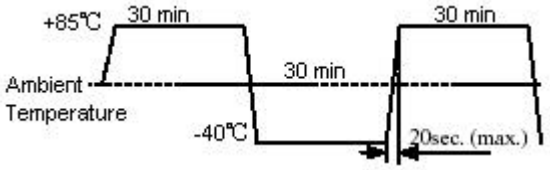
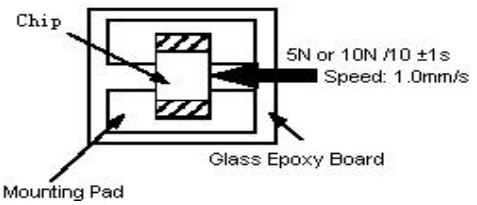
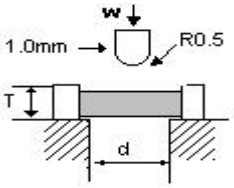






RELIABILITY TESTING (VHF、CMI、CBG、CBW、CBH、CBY、CBA series)

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

Type	Item	Specified value	Test methods
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
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	

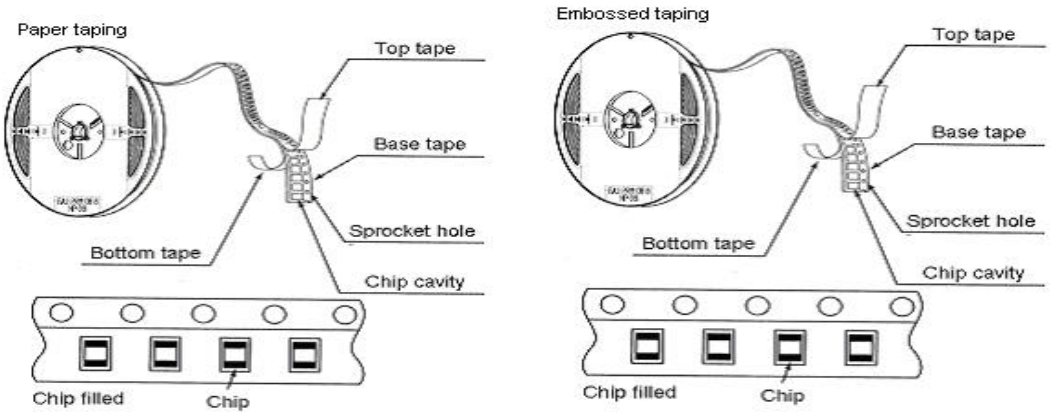
Note: When there are questions concerning, measurement shall be made after 24±2hrs of recovery under the standard condition.

包装 PACKAGING

STANDAE QUANTITY

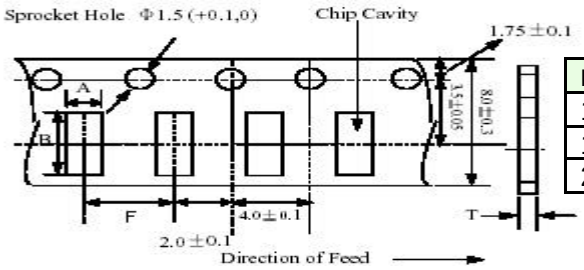
TYPE	100505	160808	201209	321609	321611	322513	451616	453215
Quantity(pcs)	10000	4000	4000	4000	3000	3000	5000	3000

TAPING DRAWINGS



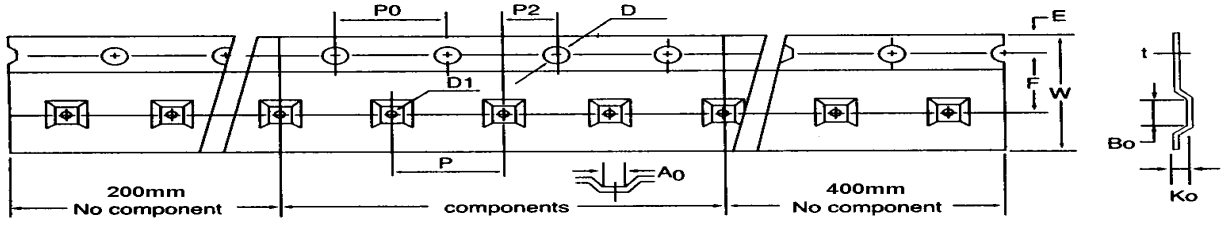
TAPING DIMENSIONS (UNIT: mm)

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

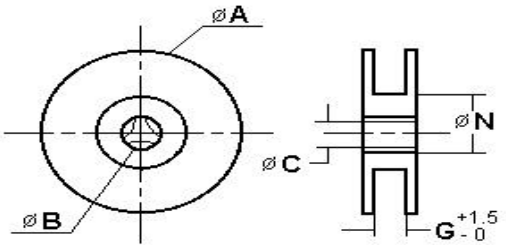
Embossed tape



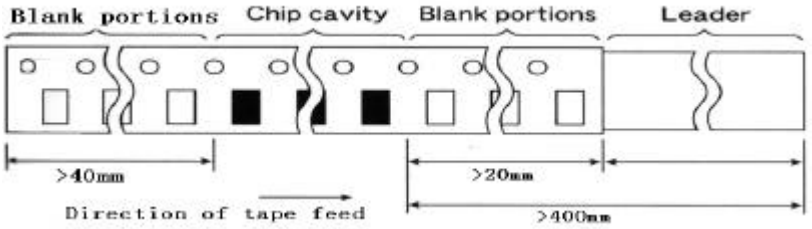
	4532	4516	3225	3216	2012
W	12.0+/-0.2	12.0+/-0.2	8.1+/-0.2	8.1+/-0.2	8.1+/-0.2
P	8.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10
E	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10	1.75+/-0.10
F	5.50+/-0.10	5.50+/-0.10	3.50+/-0.10	3.50+/-0.10	3.50+/-0.10
D	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	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.