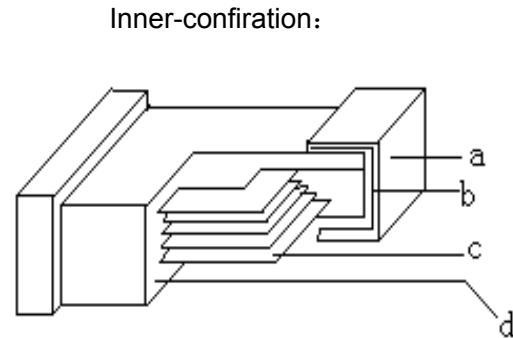
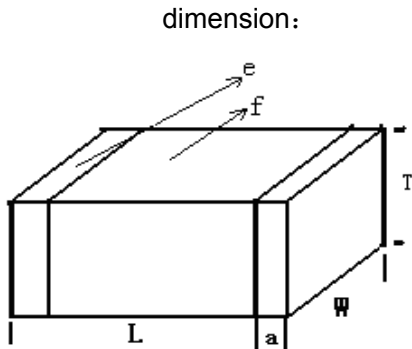


1 Dimension & Inner-configuration:



- a. Ag layer
- b. Ni/Sn plating
- c. Inner electrode
- d. Body
- e. Terminal electrode
- f. ferrite or ceramic

No.	Component		Material
1	Body		Ni-Cu-Zn
2	Inner electrode		Ag
3	Terminal electrode	Ag layer	Ag
		Ni/Sn plating	Ni-Sn

Unit: mm

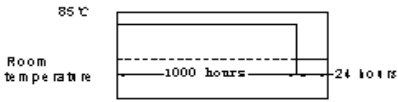
Size	L	W	T	a
100505	1.0±0.15 (0.040±0.006)	0.5±0.15 (0.020±0.006)	0.5±0.15 (0.020±0.006)	0.25±0.1(0.010±0.004)
160808	1.6±0.20 (0.063±0.008)	0.8±0.20 (0.031±0.008)	0.8±0.20 (0.031±0.008)	0.3±0.2(0.01±0.008)
201209	2.0±0.20 (0.079±0.008)	1.2±0.20 (0.047±0.008)	0.9±0.20 (0.035±0.008)	0.5±0.3(0.020±0.012)
201212	2.0±0.20 (0.079±0.008)	1.2±0.20 (0.047±0.008)	1.2±0.20 (0.047±0.008)	0.5±0.3(0.020±0.012)
252009	2.5±0.20 (0.098±0.008)	2.0±0.20 (0.079±0.008)	0.9±0.20 (0.035±0.008)	0.5±0.3(0.020±0.012)
321609	3.2±0.20 (0.126±0.008)	1.6±0.20 (0.063±0.008)	0.9±0.20 (0.035±0.008)	0.5±0.3(0.020±0.012)
321611	3.2±0.20 (0.126±0.008)	1.6±0.20 (0.063±0.008)	1.1±0.20 (0.043±0.008)	0.5±0.3(0.020±0.012)
322513	3.2±0.20 (0.126±0.008)	2.5±0.20 (0.098±0.008)	1.3±0.20 (0.051±0.008)	0.5±0.3(0.020±0.012)
453215	4.5±0.20 (0.180±0.008)	3.2±0.20 (0.126±0.008)	1.5±0.20 (0.060±0.008)	0.5±0.3(0.020±0.012)

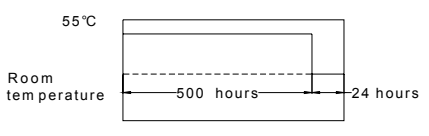
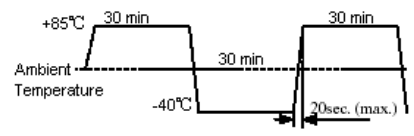
Part NO.	Tolerance (%)	Inductance (μH)	Q (min)	RDC (Ω) max	Test frequency (MHz)	Test voltage (mV)	SRF (MHz) min	Rated current (mA)max
HDMI201209V47NKT-LF	±10	0.047	25	0.15	50	50	320	300
HDMI201209V56NKT-LF	±10	0.056	25	0.15	50	50	320	300
HDMI201209V68NKT-LF	±10	0.068	25	0.20	50	50	280	300
HDMI201209V82NKT-LF	±10	0.082	25	0.20	50	50	280	300
HDMI201209VR10KT-LF	±10	0.10	20	0.20	25	50	235	250
HDMI201209VR12KT-LF	±10	0.12	20	0.25	25	50	220	250
HDMI201209VR15KT-LF	±10	0.15	20	0.25	25	50	200	250
HDMI201209VR18KT-LF	±10	0.18	20	0.30	25	50	185	250
HDMI201209VR22KT-LF	±10	0.22	20	0.30	25	50	170	250
HDMI201209VR27KT-LF	±10	0.27	20	0.40	25	50	150	250
HDMI201209VR33KT-LF	±10	0.33	20	0.40	25	50	145	250
HDMI201209VR39KT-LF	±10	0.39	25	0.50	25	50	135	200
HDMI201209VR47KT-LF	±10	0.47	25	0.50	25	50	125	200
HDMI201209VR56KT-LF	±10	0.56	25	0.60	25	50	115	150
HDMI201209VR68KT-LF	±10	0.68	25	0.65	25	50	105	150
HDMI201209VR82KT-LF	±10	0.82	25	0.70	25	50	100	150
HDMI201209U1R0KT-LF	±10	1.0	35	0.40	10	50	75	50
HDMI201209U1R2KT-LF	±10	1.2	35	0.40	10	50	65	50
HDMI201209U1R5KT-LF	±10	1.5	35	0.40	10	50	60	50
HDMI201209U1R8KT-LF	±10	1.8	35	0.40	10	50	55	50
HDMI201209U2R2KT-LF	±10	2.2	35	0.60	10	50	50	50
HDMI201209U2R7KT-LF	±10	2.7	35	0.60	10	50	45	50
HDMI201209U3R3KT-LF	±10	3.3	35	0.60	10	50	41	50
HDMI201209U3R9KT-LF	±10	3.9	35	0.80	10	50	38	50
HDMI201209U4R7KT-LF	±10	4.7	35	0.90	10	50	35	30
HDMI201209X5R6KT-LF	±10	5.6	30	1.00	4	50	32	15
HDMI201209X6R8KT-LF	±10	6.8	30	1.05	4	50	29	15
HDMI201209X8R2KT-LF	±10	8.2	30	1.05	4	50	26	15
HDMI201209X100KT-LF	±10	10	30	1.15	2	50	24	15
HDMI201209X120KT-LF	±10	12	30	1.15	2	50	22	15
HDMI201209J150KT-LF	±10	15	25	1.15	1	50	19	5
HDMI201209J180KT-LF	±10	18	25	1.20	1	50	18	5
HDMI201209J220KT-LF	±10	22	25	1.20	1	50	16	5
HDMI201209J270KT-LF	±10	27	25	1.50	1	50	16	5
HDMI201209J330MT-LF	±20	33	25	1.50	1	50	16	5
HDMI201212J390MT-LF	±20	39	25	1.50	1	50	16	5
HDMI201212J470MT-LF	±20	47	25	1.70	1	50	15	5

Part NO.	Tolerance (%)	Inductance (μH)	Q (min)	RDC (Ω) max	Test frequency (MHz)	Test voltage (mV)	SRF (MHz) min	Rated current (mA)max
HDMI321609V47NKT-LF	±10	0.047	30	0.15	50	50	320	300
HDMI321609V56NKT-LF	±10	0.056	30	0.20	50	50	320	300
HD-LFMI321609V68NKT	±10	0.068	30	0.25	50	50	280	300
HDMI321609V82NKT-LF	±10	0.082	30	0.25	50	50	280	300
HDMI321609VR10KT-LF	±10	0.10	25	0.25	25	50	235	250
HDMI321609VR12KT-LF	±10	0.12	25	0.25	25	50	220	250
HDMI321609VR15KT-LF	±10	0.15	25	0.25	25	50	200	250
HDMI321609VR18KT-LF	±10	0.18	25	0.30	25	50	185	250
HDMI321609VR22KT-LF	±10	0.22	25	0.30	25	50	170	250
HDMI321609VR27KT-LF	±10	0.27	25	0.30	25	50	150	250
HDMI321609VR33KT-LF	±10	0.33	25	0.30	25	50	145	250
HDMI321609VR39KT-LF	±10	0.39	30	0.50	25	50	135	200
HDMI321609VR47KT-LF	±10	0.47	30	0.50	25	50	125	200
HDMI321609VR56KT-LF	±10	0.56	30	0.50	25	50	115	150
HDMI321609VR68KT-LF	±10	0.68	30	0.50	25	50	105	150
HDMI321609VR82KT-LF	±10	0.82	30	0.60	25	50	100	150
HDMI321609U1R0KT-LF	±10	1.0	35	0.30	10	50	75	100
HDMI321609U1R2KT-LF	±10	1.2	35	0.40	10	50	65	100
HDMI321609U1R5KT-LF	±10	1.5	35	0.40	10	50	60	50
HDMI321609U1R8KT-LF	±10	1.8	35	0.40	10	50	55	50
HDMI321609U2R2KT-LF	±10	2.2	35	0.50	10	50	50	50
HDMI321609U2R7KT-LF	±10	2.7	35	0.50	10	50	45	50
HDMI321609U3R3KT-LF	±10	3.3	35	0.50	10	50	41	50
HDMI321609U3R9KT-LF	±10	3.9	35	0.60	10	50	38	50
HDMI321609U4R7KT-LF	±10	4.7	35	0.65	10	50	35	25
HDMI321609U5R6KT-LF	±10	5.6	35	0.80	4	50	32	25
HDMI321609X6R8KT-LF	±10	6.8	35	0.80	4	50	29	25
HDMI321609X8R2KT-LF	±10	8.2	35	0.80	4	50	26	25
HDMI321609X100KT-LF	±10	10	35	0.80	2	50	24	25
HDMI321609X120KT-LF	±10	12	35	0.90	2	50	22	15
HDMI321609J150KT-LF	±10	15	30	1.00	1	50	19	5
HDMI321609J180KT-LF	±10	18	30	1.00	1	50	18	5
HDMI321609J220KT-LF	±10	22	30	1.20	1	50	16	5
HDMI321609J270KT-LF	±10	27	30	1.20	1	50	14	5
HDMI321609J330KT-LF	±10	33	30	1.30	1	50	13	5
HDMI321609J390KT-LF	±10	39	30	1.30	1	50	13	5
HDMI321611J470KT-LF	±10	47	30	1.60	1	50	12	5
HDMI321611J560MT-LF	±20	56	30	1.80	1	50	12	5
HDMI321611J680MT-LF	±20	68	30	2.00	1	50	11	5
HDMI321611J820MT-LF	±20	82	30	2.40	1	50	11	5
HDMI321611J101MT-LF	±20	100	30	3.00	1	50	8	5

5 Reliability Testing Items

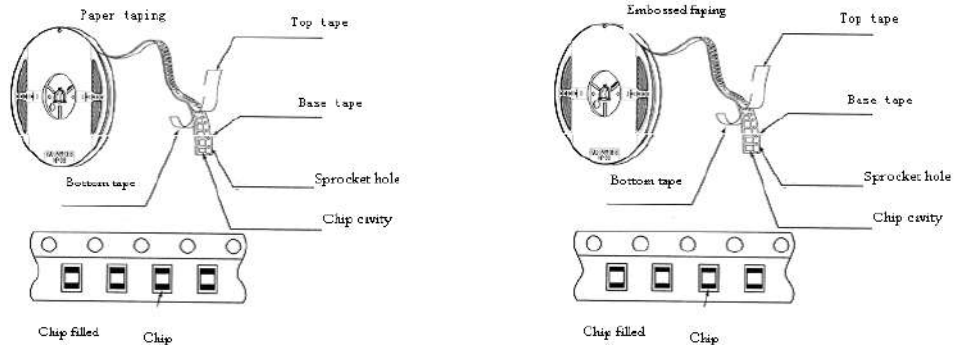
No.	Items	Requirements	Test Methods and Remarks
1	Operating Temperature Range	-40°C~+85°C	
2	Solder ability	At least 90% of terminal electrode should be covered with solder	Preheating temperature:120 to 150°C Preheating time: 60s Solder 96.5Sn/3.0Ag/0.5Cu of the Sn solder. Solder temperature: 245±5°C Duration : 5±1s Immersion into the colophony flux for 3 to 5 sec. Immersion speed: 25mm/sec
3	Resistance to Soldering	At least 75% of terminal electrode should be covered with solder. No mechanical damage. Inductance : V、U : change within ±20% X : change within ±25% J : change within ±30% Q value change(ferrite): within ±30%	Preheating temperature: 120 to 150°C Preheating time: 60s Solder 96.5Sn/3.0Ag/0.5Cu of the Sn solder. Solder temperature: 260±5°C Duration : 10±1s Immersion into the colophony flux for 3 to 5 sec. Immersion speed: 25mm/sec

No.	Items	Requirements	Test Methods and Remarks
7	Drop	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	Drop 10 times on a concrete floor from a high of 1m.
8	Vibration	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	Amplitude modulation: 1.5mm Test time: A period of 2h in each of 3 mutually perpendicular directions. Frequency range: 10Hz to 55Hz to 10Hz for 1min.
9	High temperature resistance	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	 <p>Applied current: rated current(CBW Series)</p> <p>Testing time: $1000 \frac{+24}{0}$</p> <p>Temperature: $85 \pm 2^\circ\text{C}$</p>

No.	Items	Requirements	Test Methods and Remarks
10	Static Humidity	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	Humidity: 90 to 95% RH Temperature: $55 \pm 2^\circ\text{C}$ Testing time: $500 \begin{matrix} +24 \\ -0 \end{matrix} \text{h}$  <p>The diagram shows a temperature profile for static humidity testing. It starts at 'Room temperature' (indicated by a dashed line), then rises to a constant 55°C for a duration of 500 hours. After this, the temperature returns to 'Room temperature' for a 24-hour recovery period.</p>
11	Thermal Shock	No mechanical damage. Inductance change: within $\pm 10\%$ Q value change(ferrite): within $\pm 30\%$	Temperature: -40°C for $30 \pm 3\text{min}$ $+85^\circ\text{C}$ for $30 \pm 3\text{min}$ Transforming interval :max 20 sec Number of cycles: 32  <p>The diagram illustrates the thermal shock test cycle. The ambient temperature starts at a baseline, then ramps up to $+85^\circ\text{C}$ and is held for 30 minutes. It then ramps down to -40°C and is held for 30 minutes. The transition between the two temperature levels is limited to a maximum of 20 seconds. This cycle is repeated 32 times.</p>
<p>Note:When there are questions concerning, measurement shall be made after 24 ± 2hrs of recovery under the standard condition.</p>			

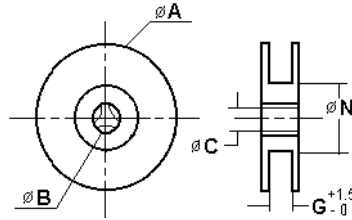
6 Packaging

1) Taping drawings

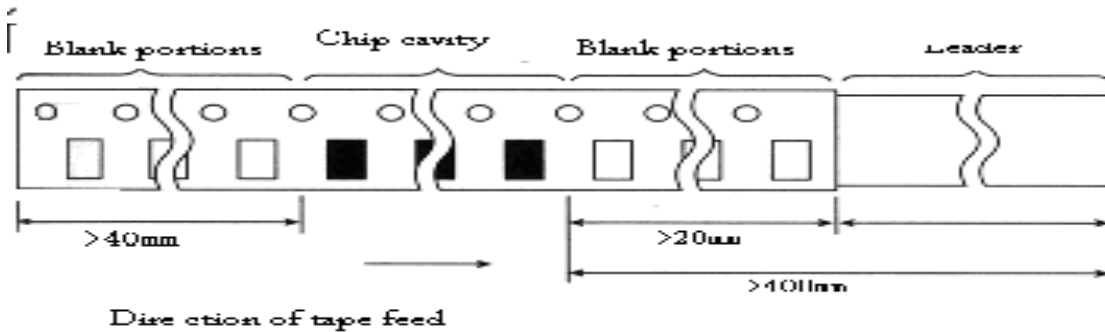


2) Reel dimensions (Unit:mm)

	A	B	C	N	G	
CF-8	178	22.0	12.5	57	8	
	±2.0	±2.0	±1.5	±2.0		
CF-12	330±2	22.0±	12.5±	98	1	
	.0	2.0	1.5	±2.0	2	

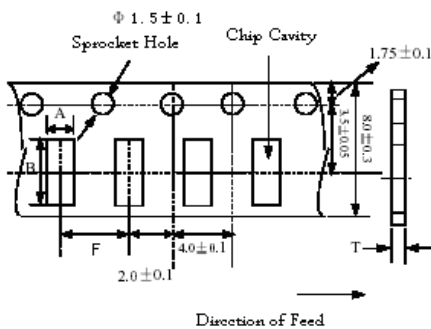


3) Leader and blank portion



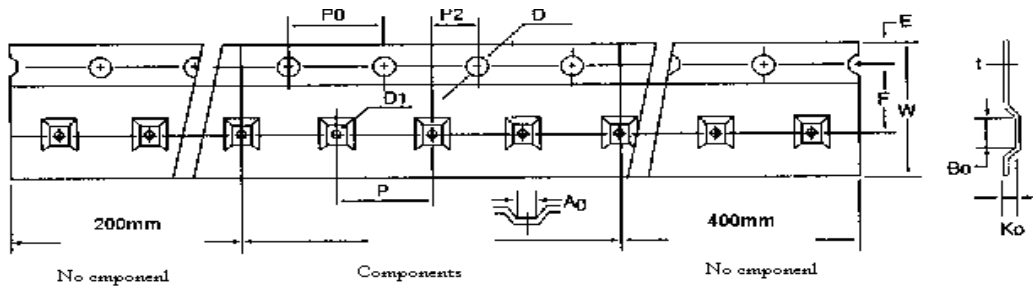
4) Taping dimensions (Unit: mm)

Paper tape



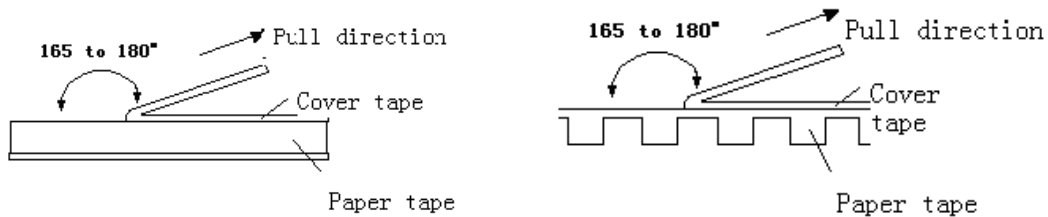
Part NO.	A	B	F	T
100505	0.65±0.1	1.15±0.1	2.0±0.05	0.8max
160808	1.1±0.2	1.9±0.2	4.0±0.2	1.1max
201209	1.5±0.2	2.3±0.2	4.0±0.2	1.1max
321609	1.9±0.2	3.5±0.2	4.0±0.2	1.1max

5) Embossed tape



	4532	3225	3216	2012	2520
W	12.0+/-0.2	8.1+/-0.2	8.1+/-0.2	8.1+/-0.2	8.00+/-0.2
P	8.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.00+/-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	3.50+/-0.10	3.50+/-0.10	3.50+/-0.10	3.50+/-0.05
D	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.55+/-0.05	1.50+/-0.10
D1	1.50+/-0.10	1.00+/-0.10	1.00+/-0.10	1.00+/-0.10	1.00+/-0.10
P ₀	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.0+/-0.10	4.00+/-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
P ₂	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.05	2.0+/-0.10
A ₀	3.66+/-0.10	2.80+/-0.10	1.90+/-0.10	1.52+/-0.10	2.20+/-0.10
B ₀	4.95+/-0.10	3.50+/-0.10	3.51+/-0.10	2.41+/-0.10	2.75+/-0.10
t	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.10	0.23+/-0.05
K ₀	1.74+/-0.10	1.55+/-0.10	1.27+/-0.10	1.35+/-0.10	1.05+/-0.01

6) Peeling off force



- Peeling force should be 0.1~0.7N pulling in the direction of arrow.
- Speed of peeling off: 300mm/min.
- The cover bond should not be damaged and bond the tape when it peeled off.

7 Recommend Soldering Conditions

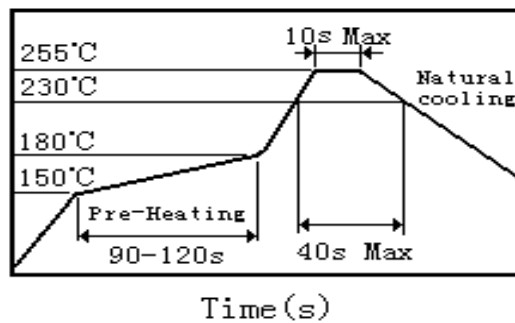
1) Soldering Conditions

Products can be applied to reflow and flow soldering.

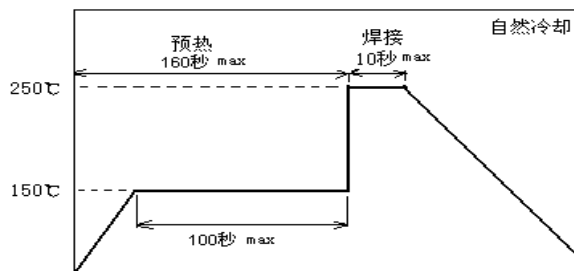
① Soldering conditions

- Pre-heating should be in such a way that the temperature difference between solder and ferrite surface is limited to 150°C max. Also cooling into solvent after soldering should be in such way that the temperature difference is limited to 100°C max. Un-enough pre-heating may cause cracks on the ferrite, resulting in the deterioration of product quality.
- Products should be soldered within the following allowable range indicated by the slanted line. The excessive soldering conditions may cause the corrosion of the electrode. When soldering is repeated, allowable time is the accumulated time.

2) Reflow soldering profile



3) Flow soldering profile



4) Iron soldering

Perform soldering at 350°C on 30W max

Time: < 5S

Take care not to apply the tip of the soldering iron to the terminal electrodes



8 Cleaning

1) Cleaning Conditions

Cleaning temperature : 60°C max

Cleaning time: 1 minute min.

Ultrasonic output power: 200W max

9 Storage Requirements

1) Storage period

Products which inspected in HONGDA over 6 months ago should be examined and used, which can be Confirmed with inspection No. marked on the container. Solder ability should be checked if this period is exceeded.

2) Storage conditions

(1) Products should be storage in the warehouse on the following conditions:

Temperature : -10~+40°C Humidity: 30~70% relative humidity

(2) Don't keep products in corrosive gases such as sulfur, chlorine gas or acid , or it may case oxidization of Electrodes resulting in poor solder ability.

(3) Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.

(4) Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.

(5) Products should be stored under the airtight packaged condition.

10 Usage Of ODS

1) For ODS listed below , we don't use in process。

ODS: CCl₄, HCFC, etc.

11 Notes

(1) If the parcel label on product is "Unitary lead free" that indicate the products in accord with ROHS appointed requests.

(2) This product specification guarantees the quality of our product as a single unit, Please make sure that your product has been evaluated and confirmed against your specific ations when our product is mounted to your product.

(3) We can't warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.